IOWA

STATE HYGIENIC LAB ENVIRONMENTAL GUIDEBOOK

2024 Version 10.0

Coralville

Ankeny

Milford

2024 Version 10.0

Click each section box that is color coded - it will link you to the section

Laboratory Information

Click the title of the section and it will link you back to the index.

The State Hygienic Laboratory at the University of Iowa protects and improves quality of life by providing reliable environmental and public health information through the collective knowledge and capabilities of our organization.

Michael Pentella, Ph.D., Director
Michael Schueller, Environmental Health Division Associate Director

Questions

For all general inquiries, or for assistance in contacting State Hygienic Lab staff, please call the main operator at:
1-800-421-IOWA
or email shl-ask-shl@uiowa.edu

Locations

CORALVILLE LABORATORY
UI Research Park
2490 Crosspark Road
Coralville, IA 52241-4721

800-421-4692 (toll-free)
319-335-4500 (local)
319-335-4555 (fax)

Hours:
Mon-Fri 8:00 a.m. - 5:00 p.m.
Saturday 9:00 a.m. - Noon

ANKENY LABORATORY
Iowa Laboratories Facility
2220 South Ankeny Boulevard
Ankeny, IA 50023-9093

800-421-4692 (toll-free)
515-725-1600 (local)
515-725-1642 (fax)

Hours:
Mon-Fri 8:00 a.m. - 5:00 p.m.
Saturday Appointment Only

IOWA LAKESIDE LABORATORY
1838 Highway 86
Milford, IA 51351-7267

712-337-3669 Ext. 6 (local)
712-337-0227 (fax)

Hours:
Mon-Fri 8:30 a.m. - 5:00 p.m.
Saturday Appointment Only

Emergencies After Business Hours/Holidays

A State Hygienic Laboratory Duty Officer is on-call during after-business hours (365 days of the year) to assist you. Please contact University Police at 319-335-5022 to initiate contact with the SHL Duty Officer. The Duty Officer will contact you directly at the phone number you provided.

Holidays

SHL observes official University of Iowa holidays. The SHL holiday schedule is posted on our website.

Sample Receiving

Hand-Delivered Samples: Samples may be delivered directly to each of our laboratory locations during normal business hours (as listed previously).

Administration

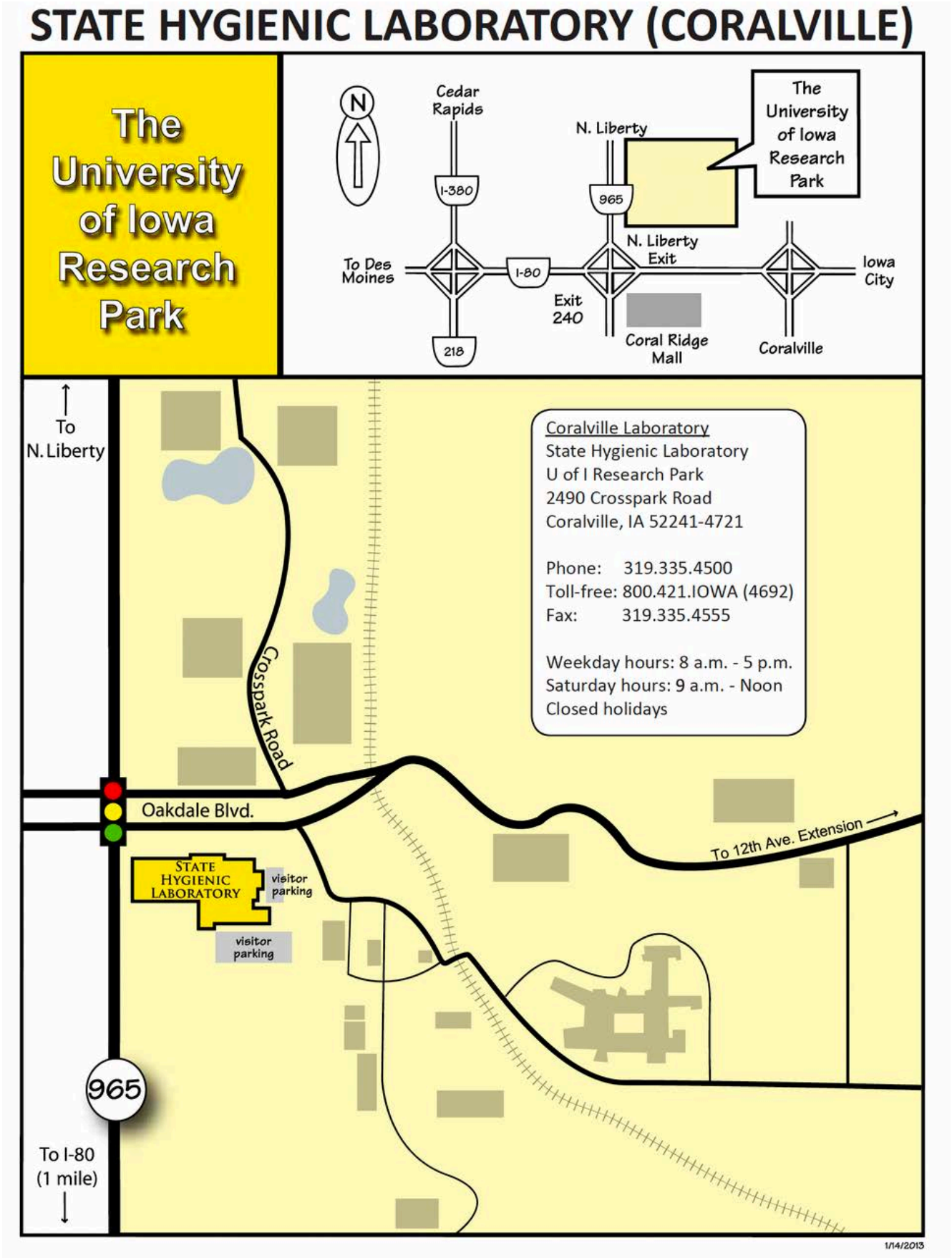
Environmental Health Division				
Coralville	EHD Associate Director	Michael Schueller	michael-schueller@uiowa.edu	
Biological Monitoring and Environmental Analytical Services				
Ankeny	Chief Chemist	Don Simmons, PhD	donald-simmons@uiowa.edu	
Laboratory Support Services (Price quotes, bottle orders, sample results, etc.)				
Coralville	Lab Support Services Director	Sherri Marine	sherri-marine@uiowa.edu	
Coralville	SHL Environmental Client Services		shl-environmental-services@iowa.uiowa.edu	319-467-1589
Coralville	Accessioning (Sample Receiving)		supportservicesaccessioning@iowa.uiowa.edu	319-335-4137
Ankeny	Accessioning (Sample Receiving)		shl-ankeny-labsupport@uiowa.edu	515-725-1600
IT (online reports, technical issues)				
Coralville	Director Office of IT	Frank Delin	frank-delin@uiowa.edu	
Coralville	Web Portal Support		shl-webportalsupport@uiowa.edu	
Quality Management				
Ankeny & Lakeside	Quality Systems Manager	Rebecca Blair	rebecca-blair-1@uiowa.edu	
Coralville	Quality Systems Manager	Molly Bradshaw	molly-bradshaw@uiowa.edu	

Analytical Services

Environmental Microbiology			
Ankeny	Environmental Lab Manager	Jessica Elliott	jessica-elliott@uiowa.edu
Ankeny	Analytical Chemist	Dawn Jones	dawn-jones@uiowa.edu
Lakeside	Environmental Lab Manager	Dennis Heimdal	dennis-heimdal@uiowa.edu
Coralville	Environmental Microbiology Manager	Ryan Jepson	ryan-jepson@uiowa.edu
Inorganics/Nutrients (BODs, Ammonia, TSS)			
Ankeny	Environmental Lab Manager	Jessica Elliott	jessica-elliott@uiowa.edu
Coralville	Environmental Lab Manager	Dustin May, PhD	dustin-may@uiowa.edu
Lakeside	Environmental Lab Manager	Dennis Heimdal	dennis-heimdal@uiowa.edu
Limnology (sample collection, algae, WETT, etc.)			
Ankeny	Environmental Lab Supervisor	Jim Luzier	james-luzier@uiowa.edu
Coralville	Environmental Lab Supervisor	Todd Hubbard	todd-hubbard@uiowa.edu
Lakeside	Environmental Lab Manager	Dennis Heimdal	dennis-heimdal@uiowa.edu
Minerals & Metals			
Ankeny	Environmental Lab Analyst	Brian Wels PhD	brian-wels@uiowa.edu
Organics			
Coralville	Environmental Lab Supervisor	Terry Cain	terence-cain@uiowa.edu
Coralville	Environmental Lab Manager	Dustin May, PhD	dustin-may@uiowa.edu
Radiation Chemistry			
Coralville	Environmental Lab Manager	Dustin May, PhD	dustin-may@uiowa.edu

Analytical Services			
	Performed at Coralville Lab	Performed at Ankeny Lab	Performed at Lakeside Lab
Matrix			
Drinking Water (DW)	*	*	*
Surface Water (SW)	*	*	*
Wastewater (WW)	*	*	*
Soil	*	*	
Sludge	*	*	
Analytics			
Algal Toxins	*		
Bacteria	*	*	*
BOD	*	*	*
Ammonia and TSS		*	*
Environmental Microbiology	*	*	*
Inorganics	*	*	*
Limnology	*	*	*
Minerals & Metals		*	
Organics	*		
Radiation Chemistry	*		

Maps and Directions - Coralville



Maps and Directions - Coralville

Directions from Eastern Iowa Airport - Cedar Rapids, IA

2121 Wright Brothers Blvd. W
Cedar Rapids, IA 52404-9084

Information desk 319/362-8336

1. Go East on Wright Brothers Blvd. SW for 1.4 mi
2. Turn RIGHT on the ramp to I-380 S (US-218, IA-27) and continue I-380 for 9.2 mi. Take Exit 4 to 250th St. NW (Penn St.) for 0.4 mi
3. Turn LEFT onto 250th St. NW (Penn St.) for 0.2 mi
4. Continue onto Penn St. for 1.7 mi
5. Turn RIGHT onto Highway 965 NE for 3 mi
6. Turn LEFT onto Oakdale Blvd. for 0.1 mi
7. You will enter the UI Research Park Campus
8. The State Hygienic Laboratory is the first building on the right.
9. To enter, take the first right off Oakdale Blvd and the next immediate right into the Laboratory parking area.

Total Distance: 17 miles
Total Estimated Time: 22 minutes

Directions from the State Capitol - Des Moines, IA

Depart Des Moines on E Grand Ave. (East) for 0.4 mi

1. Go Southwest on Pennsylvania Ave. for 0.2 mi
2. Bear RIGHT for 0.3 mi
3. Turn LEFT (North) onto the I-235 E entry ramp for 5.0 mi
4. Bear RIGHT onto the I-80 E ramp to Davenport for 102 mi
5. Take Exit 240 to Coralville / US-6 / North Liberty for 0.4 mi
6. Turn LEFT (North) onto Coral Ridge Ave. [27th Ave.] for 1.1 mi
7. Turn RIGHT (East) onto Oakdale Blvd. for 0.2 mi
8. You will enter the UI Research Park Campus
9. The State Hygienic Laboratory is the first building on the right.
10. To enter, take the first right off Oakdale Blvd and the next immediate right into the Laboratory parking area.

Total Distance: 110 mi
Total Estimated Time: 1 hour, 33 minutes

Maps and Directions - Coralville

Directions from Moline Airport, IL

2200 69th Ave.
Moline, IL 61265

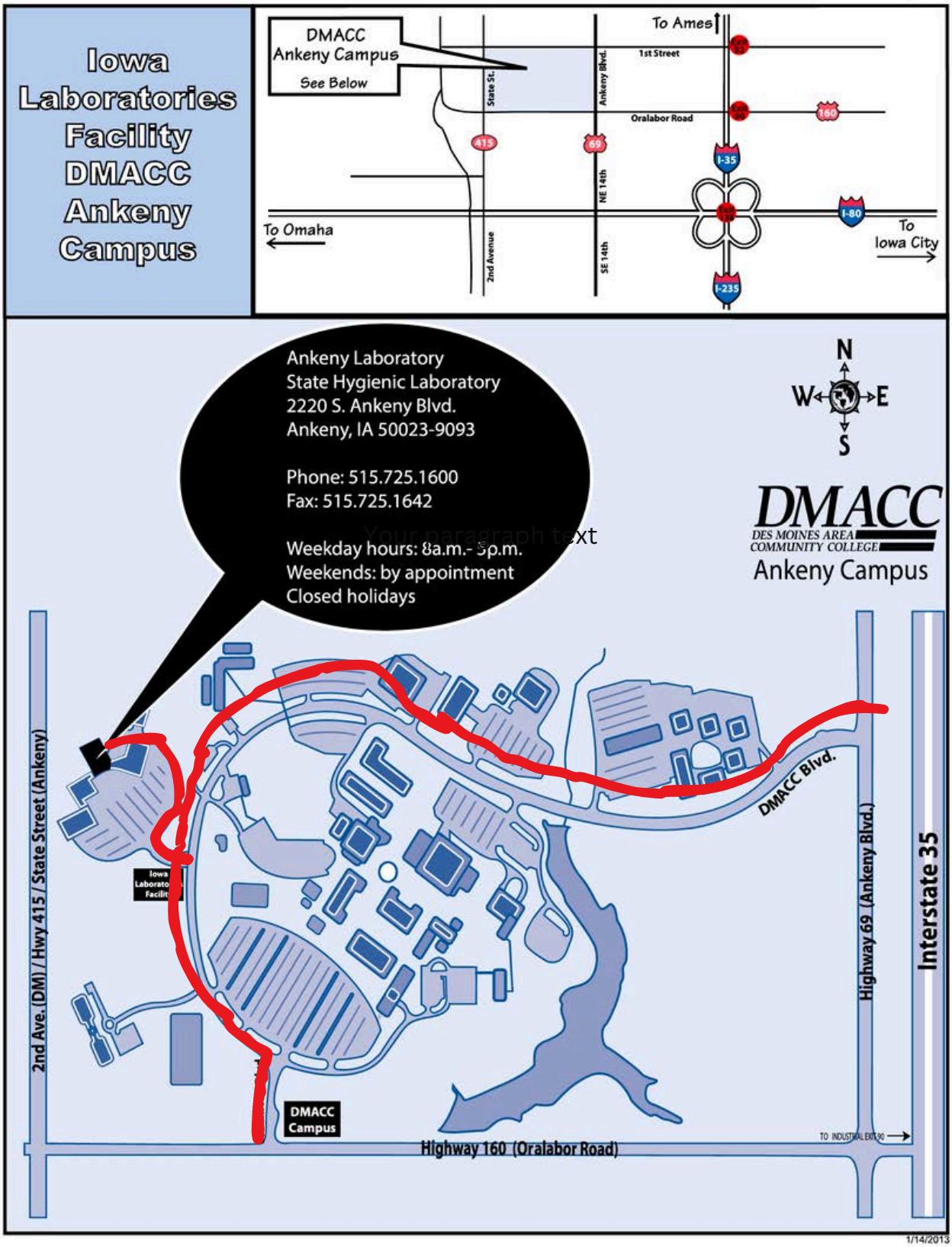
Information desk 319/764-9621

1. Go West on Airport Rd. for 1.8 mi
2. Continue E 1st Ave. for 0.7 mi
3. Turn LEFT onto the I-280 entry ramp for 14 mi
4. At exit 123 B, take the I-80 W ramp to Des Moines for 49 mi
5. At exit 240, take the ramp to Coralville / US-6 / North Liberty for 0.4 mi
6. Turn RIGHT onto Coral Ridge Ave. [27th Ave.] for 0.9 mi
7. Turn RIGHT (East) onto Oakdale Blvd. for 0.2 mi
8. You will enter the UI Research Park Campus
9. The State Hygienic Laboratory is the first building on the right.
10. To enter, take the first right off Oakdale Blvd and the next immediate right into the Laboratory parking area.

Total Distance: 68 miles
Total Estimated Time: 60 minutes

Maps and Directions - Ankeny

** Google Maps may not be accurate **



Maps and Directions - Ankeny

Directions from Des Moines International Airport

1. Go north on Fleur Dr.
2. Turn RIGHT onto the I-235
3. Continue north on I-35 N
4. Take Exit 90 at Ankeny
5. Turn LEFT at Oralabor Rd.
6. Turn RIGHT onto the DMACC Campus at S. DMACC Blvd.
7. Take the second LEFT into the Iowa Laboratory Facility

Directions from Iowa City, IA

1. Take I-80 West and continue for 105 mi
2. Turn north onto I-35 (Exit 137B)
3. Take Exit 90 at Ankeny
4. Turn LEFT at SE Oralabor Rd.
5. Turn RIGHT onto the DMACC Campus at S. DMACC Blvd.
6. Take the second LEFT into the Iowa Laboratory Facility

Total Distance: 113 mi
Total Estimated Time: 1 hour, 35 minutes

Directions from Omaha, Nebraska

1. Take I-80 East to I-35 North.
2. Take Exit 90 at Ankeny
3. Turn LEFT at SE Oralabor Rd.
4. Turn RIGHT onto the DMACC Campus at S. DMACC Blvd.
5. Take the second LEFT into the Iowa Laboratory Facility

Total Distance: 143 mi
Total Estimated Time: 2 hours

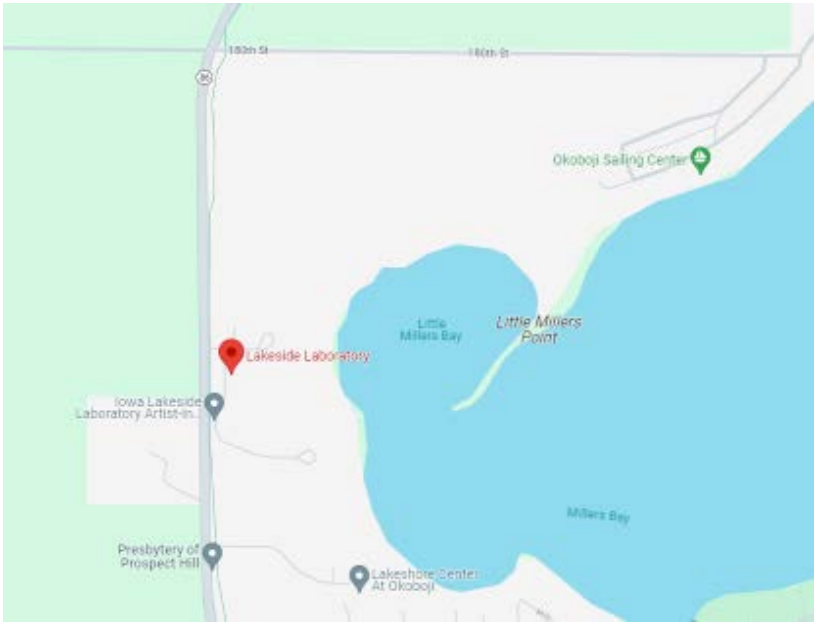
Maps and Directions - SHL (Milford)

Lakeside Lab

1838 Highway 86
Milford, IA 51351-7267

Phone: 712.337.3669 /ext. 6
Fax: 712.337.0227

Weekday hours: 8:30 a.m - 5 p.m.
Weekends: by appointment Closed holidays



Directions from Omaha, Nebraska

1. Take Interstate 29 North to Sioux City.
2. Take Highway 75 North to Le Mars.
3. Take Highway 60 North to Sheldon.
4. Take Highway 18 East to Spencer.
5. Take Highway 71 North to Milford.
6. Take Highway 86 West.

Directions from Des Moines, IA

1. Take Interstate 35 North to Highway 20.
2. Take Highway 20 West to Fort Dodge.
3. Take Highway 169 North to Algona.
4. Take Highway 18 West to Spencer.
5. Take Highway 71 North to Milford.
6. Take Highway 86 West.

Directions from Sioux Falls, SD

1. Take Interstate 90 East to Lakefield, MN.
2. Take Highway 86 South into Iowa.

Directions from Minneapolis, MN

1. Take Interstate 35 South to Interstate 90.
2. Take Interstate 90 West to Lakefield, MN.
3. Take Highway 86 South into Iowa.

IDNR Sample Collection Forms and Project Codes

Click the title of the section and it will link you back to the index.

Single Site Sample Collection Form

A **Single Site** sample collection form is designed to be used by sample collectors that will be traveling to a single site. Please use the **single site** form to record the sample information.

Please complete all **REQUIRED** fields on the sample collection form.

Collector Information – Required on each form submitted.

- Sample Type/Matrices:
- DNR Project Code:
- Report To:
- Bill To:

If sampling a public water supply (PWS): (skip this section if not sampling a PWS)

- PWS Name:
- PWS ID:
- Water Facility ID:
- Sampling Point ID:
- Sample Category:
- Sample Type:
- Chlorine Residual:

Analysis Information – Required for the sample submitted.

- Analysis and Method Requested:
- Collection Site:
- Number of bottles submitted per collection site:
- Collection Location:
- Collection Date/Time: (Year/Month/Day) (Military Time)
- Client Reference:
- Collector's Name:
- Collector's Phone:
- Collector's Signature:

Chain of Custody/Tracking Signatures

- Relinquished by:
- Date/Time:

If you have any questions about this form, please call Client Services for assistance.
Client Services:
319-467-1589
or
1-800-335-IOWA (4692)

Sample Type/Matrices: *(Must check one)*

▼Water	▼Solids
☐ Waste Water	☐ Soil
☐ Drinking Water	☐ Foliage
☐ Surface Water	☐ Sludge
☐ Ground Water	☐ Sediment
☐ Other_____	

DNR Project Codes: *(Must check one)*

☐ 17WSTECH	☐ 07WQER
☐ 04WQFS	☐ WMSF
☐ 05WQFK	☐ WQSWR
☐ Ammonia	☐ 16WSCOMP

REPORT TO:
Name of Person: _____
IDNR & Office: _____
Street Address: _____
City, State, Zip: _____
Phone Number: _____
Fax Number: _____
E-MAIL:

BILL TO: ☐ same as Report to:
_____
_____
_____
_____
_____
_____

Complete the following information only for public water supply

PWS Name: _____

PWS ID: _____ **Water Facility ID #**: _____ **Sampling Point ID**: _____

Sample Category: ☐CH ☐TC ☐RA ☐PB **choose one*
CH–Chemical, TC–Coliform, RA–Radionuclides, PB–Lead

Sample Type: ☐RT ☐SP ☐RP **choose one*
RT – Routine, SP – Special, RP– Repeat

Chlorine Residual: Free _____mg/L Total _____mg/L

Requested Analyses

Analysis and Method Requested: _____
_____
_____

Complete the following information. Please use one form per site.

Collection Site: _____ Number of bottles submitted per collection site: _____
Specific sample location/SHL bottle #(s)

Collection Location: _____
(Town, County, GPS, Township, Section, Road Intersection, etc)

Collection Date/Time: ____/____/____/_____ Client Reference: _____
Year mm dd Military time Additional client information if needed

Collector's Name: _____ Collector's Phone #: _____
Please print

Collector's Signature: _____

Chain of Custody/Tracking Signatures

Relinquished by: _____ Date/Time ____/____/____/_____
Received by: _____ Date/Time ____/____/____/_____
Relinquished by: _____ Date/Time ____/____/____/_____
Received by: _____ Date/Time ____/____/____/_____
SHL Custodian

For SHL use only. Please do not write below here.

SAMPLE INTACT: ☐ Yes ☐ No pH: _____ TEMPERATURE: _____

Comments: _____

Place Label Here | Place Label Here | Place Label Here

Environmental Sample Collection Form

State Hygienic Laboratory

Lakeside Laboratories
1838 Highway 86
Milford, IA 51351
Phone #: 712-337-3669 ext: 6
Fax #: 712-337-0227

2220 S. Ankeny Blvd
Ankeny, IA 50021
Phone #: 515-725-1600
Fax #: 515-725-1642

U of I Research Park
Iowa City, IA 52242-5002
Phone #: 319-335-4500
Fax #: 319-335-4555

http://www.uhl.uiowa.edu

Multi-Site Sample Collection Form

A **Multi-Site** sample collection form is designed to be used by sample collectors that will be traveling to multiple sites for a specific IDNR sampling project or contract.

Please complete all REQUIRED fields on the sample collection form:
(See Section 2.2 Multi Form Crosswalk for details on where to locate this information on the SHL Order Request Form.)

Collector Information – Required on each form submitted.

- Report To:
- Bill To:
- SHL Project CODE/(name):
- Contract #:
- IDNR Project Contact/Phone:
- SHL Order No.:
- Collector Name:
- Collector Phone:

Analysis Information – Required on each form submitted.

- SHL Bottle No.:
- Location:
- Collected Date:
- Collected Time:
- Client Reference:
- Description:
- Analysis Requested:

Chain of Custody/Tracking Signatures

- Relinquished by:
- Date:
- Time:

If you have any questions about this form, please call Client Services for assistance.
Client Services:
319-467-1589
or
1-800-335-IOWA (4692)

IOWA | State Hygienic Laboratory

Chain of Custody

Report To and Bill To: IDNR Contaminated Sites Section (WMSF) - 7537									Collector Comments
IDNR Project Contact/Phone									
Collector Name:		Sample Matrix Codes SW = Surface Water; DW = Drinking Water; WW=Wastewater; S = Soil/Sed; F= Foliage; O=Other						Test name and method	
Collector Phone:									
Collector Email:									
Project Name:									
Sample ID/Description	Date	Time	Matrix						Sample Labels - SHL USE ONLY
Relinquished by			Date/T ime		Comments				
Sample receiving custodian			Date/T ime		Sample Receipt Comments				

State Hygienic Laboratory
2490 Crosspark Rd
Coralville IA 52241
319-335-4500

State Hygienic Laboratory
2220 S Ankeny Blvd
Ankeny IA 50021
515-725-1600

Lakeside Lab
1838 Hwy 86
Milford IA 51351
712-337-3669 ext 6

IDNR Use Only

IOWA | State Hygienic Laboratory

Asbestos
Test Request Form

Bulk Asbestos, EPA 600/R93/116, CV #391

IDNR Air Quality Bureau 502 E 9th St. Des Moines, Iowa 50319 (ID #514)				Order # 350265 Comments
Collector Name:	Project Name/Location:			
Collector Phone:	Project Code: AQAB			
Sample Description	Sample ID/Location	Date	Time	Sample Labels - SHL USE ONLY
1				
2				
3				
4				
5				
6				
7				
8				
Relinquished By		Date	Time	Comments
Received By		Date	Time	Sample Receipt Comments
Sample(s) Intact: Yes / No				

State Hygienic Laboratory
2490 Crosspark Rd
Coralville IA 52241
319-335-4500

State Hygienic Laboratory
2220 S Ankeny Blvd
Ankeny IA 50021
515-725-1600

Lakeside Lab
1838 Hwy 86
Milford IA 51351
712-337-3669 ext 6

Order Request for SHL

Date: **Contract Name:** **Contract #:**

Project Contact:

Client Reference:

Project CODE (Name):

Project Year:

Billed to:
Client ID#:
Client Name:

Results to be sent to:
Client ID#:
Client Name:

Sample Collector Name:

Sample Collector Phone Number:

Sample Collector Email:

Ship bottles to:
Client Name:
Client Address 1:
Client Address 2:
Client e-mail/phone#:

Number of Sites to be Sampled and timeframe:

Parameters to be Analyzed:

Bottle Order Number:	
TEST	**METHOD**

Sampling Frequency:

Sampling Start Date:

Sampling End Date:

Shipping Instructions:

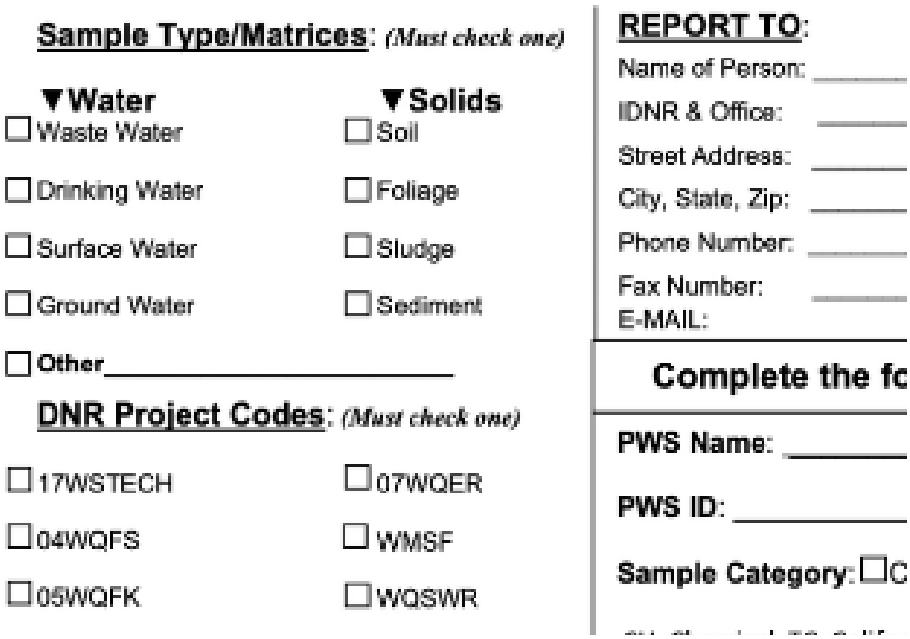
Quality Assurance Bottles Needed:

Other Instructions/Comments:

IDNR Project Codes

IMPORTANT * KNOW YOUR CODE!

An IDNR Project Code is **REQUIRED** on **EVERY** Sample Collection Form. The **sample collector** is responsible for selecting the correct project code. IDNR project codes are in the upper left - hand corner of the Sample Collection Form (example below). Project code definitions are provided below to assist you.



Sample Type/Matrices: *(Must check one)*

▼Water
- ☐ Waste Water
- ☐ Drinking Water
- ☐ Surface Water
- ☐ Ground Water
- ☐ Other_____

▼Solids
- ☐ Soil
- ☐ Foliage
- ☐ Sludge
- ☐ Sediment

DNR Project Codes: *(Must check one)*

- ☐ 17WSTECH
- ☐ 04WQFS
- ☐ 05WQFK
- ☐ 07WQER
- ☐ WMSF
- ☐ WQSWR

REPORT TO:

Name of Person: _____
IDNR & Office: _____
Street Address: _____
City, State, Zip: _____
Phone Number: _____
Fax Number: _____
E-MAIL:

Complete the fc

PWS Name: _____

PWS ID: _____

Sample Category: ☐C

NOTE: QA Samples Do Not Require Project Codes

Why do I need to choose an IDNR Project Code?

The project code assigns the charges for a sample analysis to a specific contract or funding agreement.

Project Code — *Wastewater Sampling*

04WQFS

Wastewater Quality Field Sample - samples collected during compliance evaluation inspections of wastewater treatment plants, sanitary landfills, investigation of feedlot complaints and other sources of *surface water contamination* not covered by other codes.

05WQFK

Wastewater Quality Fish Kill –
Samples collected during the investigation of fish kills not related to emergency response spills.

07WQER

Wastewater Quality Emergency Response –
Samples collected during emergency response investigations.

WQSWR

Wastewater Quality Stormwater Runoff –
Samples collected during evaluations of storm water runoff from industrial activities or municipal storm sewer systems.

Project Code ***Water Supply Sampling***

17WSTECH

Water Supply Technical–
Public water supply samples collected for the purpose of technical assistance. Including samples collected during the investigation of complaints by the public regarding aesthetic problems.

16WSCOMP

Water Supply Compliance–
Public water supply samples collected for the purpose of determining compliance. Samples collected during sanitary survey visits and during the investigation of complaints by the public not involving spills or non aesthetic problems.

IDNR Ammonia

IDNR Ammonia–
Sample taken for the Ammonia Project

Project Code ***Uncontrolled Site Monitoring***

WMSF

Water Monitoring Super Fund–
Samples of water, soils, soil-gas, solvents and solid wastes collected during uncontrolled sites investigations.

Project Code	*Asbestos Sampling*
AQAB	**Abestos Sample Analysis–** Samples submitted for asbestos analysis. Unless otherwise directed, the analysis shall use the published polarized light microscopy method from 40 CFR Part 763 Appendix A to Subpart F. These samples will be collected during NESHAP compliance evaluation inspections of asbestos abatement contractor work.

NOTE: QA SAMPLES

DO NOT REQUIRE PROJECT CODES

Know your Code		
IDNR Project Codes Quick Guide		
Wastewater Quality	04WQFS	Wastewater Quality - Field Sample
	05WQFX	Wastewater Quality - Fish Kill
	07WQER	Wastewater Quality - Emergency Response
	WQSWR	Wastewater Quality - Stormwater Runoff
Water Supply Sampling	17WSTECH	Water Supply - Technical
	16WSCOMP	Water Supply - Compliance
	IDNR Ammonia	Water Supply - Ammonia Project
Uncontrolled Site Monitoring	WMSF	Water Monitoring - Superfund
Air Quality	AQAB	Air Quality - Asbestos Analysis

Sample Collection Information

Click the title of the section and it will link you back to the index.

TWO COLLECTION TYPES/TECHNIQUES ARE NORMALLY USED WHEN COLLECTING SAMPLES

Grab and Composite

Grab Sample

A Grab sample is an individual sample collected over a period of time not to exceed 15 minutes, preferably less, when conditions are constant. A grab sample is normally associated with water or wastewater sampling. However, liquid hazardous waste samples and non-aqueous samples (soil, solid, oil, and sediment) may also be considered grab samples.

Typical grab sampling is required for parameters such as hexavalent chromium, cyanide, oil and grease, pH, total phenols, residual chlorine, bacterial analyses, and volatile organics.

The collection of a grab sample is appropriate when it is desired to:

- Characterize water or wastewater stream at a particular instant in time.
- Provide information about minimum & maximum concentrations.
- Allow collection of variable sample volumes.
- Comply with the NPDES permit monitoring requirements .
- Corroborate with composite sample.

The most precise and accurate analytical measurements are worthless, and even detrimental, if performed on a sample that was improperly collected and stored or was contaminated in the process (OEPA, 1978).

Composite Sample

A composite sample is prepared by combining a series of grab samples over known time or flow intervals for the purpose of analysis. The composite sample should contain a number of discrete samples taken at equal time intervals over the compositing period. Composite samples can be collected manually, mixed together, or collected by automatic sampling equipment. Typical composite sampling is required for parameters such as biochemical oxygen demand (BOD), suspended solids, ammonia, and total phosphorus.

Use composite sampling to:

- Determine average concentration over a given time span.
- Calculate mass/unit time loading.

Sample Types

Sample - A sample is defined as a discrete portion of material to be analyzed that is contained in a single or multiple containers and identified by a unique sample number. A sample includes duplicates and QC samples.

Duplicate Sample - A second aliquot of the same sample to determine the precision of the method, to check the accuracy and precision of analyses.

QC Sample - An additional volume of an existing sample used to detect contamination or error.

Matrix Spike (MS) Sample - An aliquot of a sample (water or soil) that is fortified (spiked) with known quantities of a specific compound and subjected entire analytical procedure.

Matrix Spike Duplicate (MSD) Sample - A second aliquot of the same matrix as the Matrix Spike (MS) that is spiked to determine the precision of the method.

Blank Sample – A blank sample is used to identify potential sources of contamination during sampling, shipping, storage and analysis. It is recommended that field blanks accompany sample sets. Each blank is assigned its own unique sample number.

Types of blank samples:

Sample Matrix ("Field") Blank - The field blank is used to determine whether contamination has been introduced during sample collection, storage, and shipment, as well as sample handling in the analytical laboratory.

Field blanks are prepared by passing analyte-free water through any sampling equipment used and collecting that water in the appropriate sample containers. The field blank should be analyzed for the same parameters as the site-specific samples collected from potentially contaminated media.

Trip Blank - A trip blank consists of a sample container filled at the laboratory with water demonstrated to be free of target analytes. The trip blank travels to the sampling site with empty containers and instructions and returns from the site with filled sample containers.

Trip blanks should be prepared and should include preservatives prior to the sampling event. Trip banks are not exposed to field conditions. They will be furnished by SHL and will consist of certified analyte-free water provided in the appropriate container.

Trip blanks should be collected at a frequency of:

- One per each cooler used to store/transport site-specific samples designated for VOC analyses, or
- One for each day that VOCs are collected

Note: Trip blanks are **not** required for VOCs in air.

Holding Time

Holding time is the elapsed time from the **date/time of collection of the sample** until the **date/time of its analysis and/or digestion or extraction**. This is not the date/time of receipt at the lab. Samplers must be aware of the holding times for all analyses requested and must ship samples to the State Hygienic Laboratory as quickly as possible. To ensure that SHL can meet the required holding time, it may be necessary to ship samples at the end of each collection day.

NOTE: Planning should be done so that samples are collected, shipped and analyzed within holding times.

Grab Sample: Holding time begins at the time of collection.

Composite Samples: Holding time begins at the time of the end of collection of the composite sample.

Keys to Proper Sampling in Field Operations

- Collection of Representative Samples
- Proper Handling
- Proper Preservation of Samples
- Appropriate Chain of Custody Records

Sample Collection

Collection location for samples is determined by the purpose of the analysis:

Routine Monitoring - Routine monitoring samples should be representative of the material being sampled.

Unknown Contaminants - Collection location for samples is determined by the purpose of the analysis.

Compliance - If samples are being collected for compliance purposes, the appropriate regulatory agency must be consulted to determine:

- the required analytes
- the number of samples
- the sampling location
- whether the samples need to be composited, etc.

This information must be forwarded to SHL.

Sample Contamination

SHL's analytical instruments have the capability to detect trace amounts of compounds within samples. Therefore, use **extreme care** while collecting the sample **to avoid contamination**.

- **Do not smoke** immediately before or during the sampling process.
- **Do not touch** the inside of the sample container or cap.
- **Do not collect** samples near a motor vehicle.
- **Please note** any noticeable odors on the sampling information sheet.
- **Do not store** sample containers in areas where contamination could occur.

If sample containers are accidentally contaminated, please call SHL for assistance.

Two Types of Forms

- Test Request Form: completely fill out an individual form for each sample and include with sample(s) located in Section 2.0.
- Sample Collections Instructions: refer to specific sample collection instructions located in Section 4 of the Guidebook.

Sample Storage *- To minimize receipt of samples outside of thermal preservation requirements when possible,* **REFRIGERATE** samples before packing them for shipping.

Sample Packaging

- Carefully package all samples for shipping using bubble wrap, paper or Styrofoam holders to avoid container breakage during transport and handling.
- Unless otherwise instructed, samples should be packed on **ice** or with **frozen freeze-packs to keep samples cold during shipping**. *Additional wet ice/freeze packs should be included in shipments during periods of high temperatures.* Refer to Wet Ice Packaging instructions included in Section 4 of the guidebook.
- During cold weather, water samples must be protected from freezing while in transit to prevent breakage.

Sample Shipping

Ship samples promptly after collection to arrive during normal business hours **Monday - Friday**. Certain analytical methods require that samples be received and analyzed at SHL within *24-48 hours of collection* due to very short holding times. Please always read and follow the corresponding sample bottle instructions. (see Section 4: Sampling Instructions).

Note: Weekends - Do **NOT** ship samples to arrive on Saturday or Sunday unless **PRIOR** arrangements have been approved by SHL. Call Client Services to make special sample delivery arrangements.

For Additional Assistance

Please contact Client Services if you have any questions regarding sample collection, shipping/delivery, analysis, or fees.

Client Services: 319-467-1589 or 1-800-335-IOWA (4692)

Sample Submission Information

Step #1

Obtain/print a Sample Collection Form (see Section 2.0 Sample Collections Forms).

Step #2

Complete all REQUIRED fields on the Sample Collection Form:

The following 12 fields of the Sample Collection Form MUST be completed for each sample form submitted (missing information can delay testing):

- Report To
- Bill To
- Sample Type/Matrices
- DNR Project Code (see Section 2.1 IDNR Project Codes)
- Public Water Sample (PWS) information - If the sample is from a PWS, you must fill out PWS Information completely.
- Requested Analysis (list each test individually)
- Collection Site (specific sample location)
- Collection Location (town, county, gps, township, section, road intersection, etc.)
- Collection Date/Time
- Collector's Name and Phone Number
- Chain of Custody/Tracking Signatures if needed
- Contact Person's Name and Phone Number if different than collector

Step #3

Label Each Sample Container -REQUIRED

The following 3 items MUST be written on the label affixed to the sample container(s):

- Sample Location/Nearest City or Town
- Date and Time Collected
- Collector's Initials

Step #4

Sample Storage

Follow the appropriate sample bottle instruction sheet for detailed sample storage and shipping (see Section 4 Sample Bottle Instructions). To minimize receipt of samples outside of thermal preservation requirements when possible, REFRIGERATE samples before packing them for shipping.

Packaging

Step #5

- Carefully package all samples for shipping using bubble wrap, paper, or styrofoam holders to avoid container breakage during transport and handling.
- Unless otherwise instructed, samples should be packed on **ice** or with **frozen freeze-packs to keep samples cold during shipping**. ***Additional wet ice/freeze packs should be included in shipments during periods of high temperatures.*** Refer to Wet Ice packaging instruction in Section 4 of the guidebook.
- During cold weather, water samples must be protected from freezing while in transit to prevent breakage.

Step #6

Shipping

Weekdays (Mon-Fri): Ship samples promptly after collection to arrive during normal business hours **Monday - Friday.** Certain analytical methods require that samples be received and analyzed at SHL within 24-48 hours of collection due to very short holding times. Please always read and follow the corresponding sample bottle instructions. (see instructions in Section 4 of the guidebook.).

Weekends (Sat-Sun): Do **NOT** ship samples to arrive on Saturday or Sunday unless PRIOR arrangements have been approved by SHL. Call Client Services to make special sample delivery arrangements.

Transport Options:

- **Hand-Delivery:** Deliver directly to the sample receiving area at one of our three laboratory locations during normal business hours.

- **UPS/FedEx: *Note:* Weekends** - Do **NOT** ship samples to arrive on Saturday or Sunday unless PRIOR arrangements have been approved by SHL. Call Client Services to make special sample delivery arrangements.

Please contact Client Services if you have any questions regarding sample collection, shipping/delivery, analysis, or fees.

Client Services: 319-467-1589 or 1-800-335-IOWA (4692)

Fish Tissue Collection Instructions

Please contact SHL prior to collecting and submitting fish tissue samples.

- Below are general instructions for collecting fish tissue samples. Collection methods can vary; please follow your organization's collection procedures.

- Before processing, record the length (millimeters), weight (grams), and species of each individual fish.

- All equipment that will come in to contact with fish tissue during processing requires thorough cleaning with soap and water or isopropyl alcohol, followed by a distilled water rinse. Repeat this procedure between samples.

- To prevent cross-contamination the processor should wear disposable gloves when preparing the tissue samples, making sure to change gloves between each fish. Avoid handling food, drinks, bug spray, and sunscreen prior to processing samples.

- Prepare the fish tissue on a cutting board wrapped with heavy-duty aluminum foil. Change the aluminum foil between specimens.

- SHL will accept whole fish, skin-off fillets, or tissue plugs. Ensure that the samples submitted have sufficient mass for the analyses requested. Please contact the lab if you have questions regarding the amount of sample required.
  - Whole fish samples can be wrapped individually or collectively in heavy-duty aluminum foil. Three to five fish are usually collected.
  - Skin-off fillets are usually collected from 3-5 fish. Fillets can be wrapped collectively or individually in heavy-duty aluminum foil.
  - Tissue plugs are usually taken with a biopsy tool from the area between the dorsal fin and lateral line. Scrape scales from the area with a scalpel before collecting the plug; skin my be removed from the plug depending on protocol. Samples should be placed in a metal-free tube.

- For whole fish and skin-off fillets, include a label inside the foil wrap indicating species, date collected, sampling location, collector, etc.
- Vials containing fish tissue plugs should be labeled with species, date collected, sampling location, collector, etc.
- Place the samples in heavyweight Ziploc plastic bags. Include a second label with the same information as the label inside the foil wrap and seal the bag completely to avoid any potential leaking. Fish from multiple sites may be stored in the same cooler if each sample is stored in separate, clean Ziploc plastic bag.
- Freeze samples as soon as possible. Samples may be stored on wet ice for no more than forty-eight hours.
- Deliver the frozen fish and applicable paperwork either to the lab in person or ship using an overnight service maintaining an acceptable Chain-of-Custody.
- UPS and FedEx (ground) are examples of shipment options to ensure rapid delivery. Sample(s) may also be hand delivered directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

For Additional Assistance

Please contact Client Services if you have any questions regarding sample collection, shipping/delivery, analysis, or fees.

Client Services: 319-467-1589 or 1-800-335-IOWA (4692)

Inorganic Samples

Sample Preservation

Sample preservation should be performed immediately upon sample collection. For composite samples each aliquot should be preserved at the time of collection.

When use of an automated sampler makes it impossible to preserve each aliquot, samples may be preserved by maintaining at 4°C until compositing and sample splitting is complete.

Sample Shipping

When any sample is to be shipped by common carrier or sent through the United States Postal Service, it must comply with the Department of Transportation Hazardous Materials Regulations (49 CRF Part 172). The person offering such material for transportation is responsible for ensuring compliance.**

Holding Times

Samples should be analyzed **as soon as possible after collection**. The holding times listed are the maximum times that samples may be held before analysis and still considered valid. Samples exceeding holding times may be analyzed but the results must be qualified.

Some samples may not be stable for the maximum time period given in the table.

**For the preservation requirements of Table 1, the Office of Hazardous Materials, Materials Transportation Bureau, Department of Transportation has determined that Hazardous Materials Regulations do not apply to the following materials: Hydrochloric acid (HCl) in water solutions at concentrations of 0.04% by weight or less (pH about 1.96 or greater); Nitric acid (HNO_3) in water by weight or less (pH about 1.62 or greater); Sulfuric Acid (H_2SO_4) in water solutions at a concentration of 0.35% by weight or less (pH about 1.15 or greater); Sodium hydroxide (NaOH) in water solutions at concentrations of 0.080% by weight or less (pH about 12.30 or less).

Organic Samples

VOC Sampling Instructions

A sampling kit for volatile organics contains the following:

- Three (3) 40 ml vials.
- One (1) 40 ml Trip Blank filled with organic-free water.

- Run water for at least 2 minutes.
- Carefully fill each vial by allowing water to trickle down the inside of the vial. (If HCl acid preservative is needed, put three drops in each vial when the vial is nearly full). Overfill vial so that a bead of water forms above the lip of the vial, so there are no air bubbles in the sample. Carefully screw cap on vial.
    - If sample is wastewater the HCl acid must be added, or a #45 pre-preserved bottle needs to be used. If samples are not acidified, results may be questionable.
    - If sample is drinking water vial #15 contains ascorbic acid. Fill the vial to almost full and add the HCl acid. The HCl acid **must** be added to meet the method requirements. If samples are not acidified, results may be questionable.
- Trip vials upside down to check that no air bubble remains in the vial. If an air bubble does appear, unscrew cap and add a little more water.
- For municipal drinking water samples, carefully unscrew cap of the Trip Blank and add three drops of HCl acid and then replace the cap.
- Fill out information on the labels of the vials.
- Fill out information on the sample information forms.
- Cool samples with ice packs and/or ice.
- Ship promptly to SHL.

SPECIAL NOTE:
DO NOT aerate water. If vials are labeled "preserved," be careful not to overflow the vials and flush out the preservative.

Sampling Instructions for Bottles

Click the title of the section and it will link you back to the index.

By Bottle Number

Bottle #	Name/Description
1	BOD, Settable Solids
1	Inorganic and/or Organic Compounds
1	Solids (TSS, TDS, TVSS, etc)
2	Miscellaneous Nutrient Analysis: Ammonia, Nitrate + Nitrite as N, TKN, Organic Nitrogen, Total Phosphorous, Chemical Oxygen Demand
3	Oil and Grease in Water (EPA 1664)
4	Cyanide
5	Total Phenol
6	Total Trihalomethanes (TTHMs)
7	Metals
8	Sulfide
9	Chlorophyll in Periphyton and Sediment
9	Dissolved Organic Carbon (DOC)
9	Inorganic Parameters
9	Orthophosphate
10	Inorganic and/or Organic Parameters
11	Total Phenol
13	Volatile Organic Compounds
14	Algal Toxin Microcystins
14	Neonicotinoids in Water
14	PCBs in Oil
14	Pharmaceuticals
15	Volatile Organic Compounds
17	Soil or Sludge or Foliage
18	General Organic Compounds
18	TCLP or SPLP Parameters
19	Ethylene Glycol, Prophylene Glycol
19	Tritium (urine)
19	Tritium
20	Iron Bacteria
22	Radionuclides Gamma Emitters, Iodine-131, Strontium-89/90 Milk
22	Radionuclides Gross Alpha, Gross Beta, Gamma Emitters, Radium - 226/228 (Combined), Strontium-89/90, Uranium
24	Fluoride
25	Gallon Cubitainer for WET Testing
26	SDWA Lead and Copper

By Bottle Number

Bottle #	Name/Description
27	Radon
29	Metals
29	Private Lead
29	UCMR5 Metals Lithium EPA 200.7
31	SDWA Glyphosate
33	Heterotrophic Plate Count For ICE or WATER Samples
34	Chlorophyll, Periphyton-sediment
34	Chlorophyll in Water
34	Inorganic Compounds
35	SDWA SOCs
35	Sterols and Hormones by GC/MS
37	Inorganic Parameters
37	Nitrate Drinking Water Collection Instructions
37	Nitrate or Nitrite (SDWA & Non SDWA Drinking Water)
37	Nitrate or Nitrite Wastewater
39	Diquat/Paraquat in Water
43	EZ ReachTM Sponge Sampling Kit
44	Sealed Source Leak Wipe RadChem
45	VOCs in Wastewater, surface water
46	Soil Samples TEH and BTEX
49/81/83	*Legionella* Testing
51	*Legionella* Testing
58	Chlorite, Chlorate, Bromate
59	Lead in Dust
59	Lead in Paint
59	Lead in Soil
62	*E. coli* and/or Fecal Coliform in Sediment or Soil
62	Fecal Coliform Sludge (7 samples) Analyzed in Coralville Laboratory only
62	Fecal Coliform Sludge (7 samples) Analyzed in Coralville and/or Ankeny Laboratories only
64	Phytoplankton
65	5 oz IDEXX Sodium Thiosulfate Pool Kit
66	5 oz IDEXX Sodium Thiosulfate Spa

By Bottle Number

Bottle #	Name/Description
67	5 oz IDEXX Sodium Thiosulfate Spa Recheck
70	Arsenic Speciation Analysis - Arsenic (III), Arsenic (V)
74	Total Organic Carbon (TOC)
76	PFAS in Drinking Water
77	PFAS in Drinking Water
81	*E.coli* and Fecal Coliform in Surface Water
81	*E.coli* and Fecal Coliform for NPDES Compliance
81	Heterotrophic Plate Count For Dental Offices
81	Heterotrophic Plate Count
81	Drinking Water Collection Instructions Total Coliform and *E.coli* Bacteria
81	SDWA Bacterial *(Repeat Sample Type)*
81	SDWA Bacterial *(Routine and Special Sample Types)*
81	SDWA Bacterial *(Groundwater Rule: Triggered Source Monitoring)*
81	Pool and/or Spa Testing
83	*Legionella* Swabs
86	Hexavalent Chromium
87	Haloacetic Acids (HAA5)
88	Algal Toxins (Microcystins) in Water by Immunoassay
98	Drinking Water Collection Instructions Total Coliform Bacteria and Nitrate
101	Neonicotinoids in Water
106	Pathogen Wastewater Grab Sample
107	Pathogen Wastewater Composite Sample
?	Bulk Asbestos Sample
?	Fish Tissue Sample Collection
?	General Food Allergy Instructions
?	Ortho Phosphate Filtering Instructions
?	Sediment sampling for Rad Chem Ziploc Bag
?	Wet Ice Packing Instructions

By Test Name

Bottle #	Name/Description
65	5 oz IDEXX Sodium Thiosulfate Pool Kit
66	5 oz IDEXX Sodium Thiosulfate Spa
67	5 oz IDEXX Sodium Thiosulfate Spa Recheck
14	Algal Toxins (Mycrocystins)
88	Algal Toxins (Mycrocystins)
70	Arsenic Speciation – Arsenic (III), Arsenic (V)
1	BOD, Settable Solids
?	Bulk Asbestos Sample Collection
58	Chlorite, Chlorate, Bromate
9	Chlorophyll in Periphyton and Sediment
34	Chlorophyll in Periphyton and Sediment
34	Chlorophyll in Water
4	Cyanide
39	Diquat or Paraquat in Water
9	Dissolved Organic Carbon (DOC)
81	Drinking Water Collection Instructions Total Coliform and *E.coli* Bacteria
98	Drinking Water Collection Instructions Total Coliform Bacteria and Nitrate
19	Ethylene Glycol, Prophylene Glycol
81	*E.coli* and/or Fecal Coliform in Sediment for NPDES Compliance
62	*E.coli* and/or Fecal Coliform in Sediment or Soil
81	*E.coli* and/or Fecal Coliform in Surface Water
43	EZ ReachTM Sponge Sampling Kit
62	Fecal Coliform Sludge (7 samples) Analyzed in Coralville Laboratory only
62	Fecal Coliform Sludge (7 samples) Analyzed in Coralville and/or Ankeny Laboratories only
24	Fluoride
?	Fish Tissue Sample Collection
25	Gallon Cubitainer for WET Testing
?	General Food Allergy Instructions
18	General Organic Compounds
87	Haloacetic Acids (HAA5)
81	Heterotrophic Plate Count
81	Heterotrophic Plate Count for Dental Office
33	Heterotrophic Plate Count for ICE or WATER Samples
86	Hexavalent Chromium
1	Inorganic and/or Organic Compounds

By Test Name

Bottle #	Name/Description
10	Inorganic and/or Organic Compounds
9	Inorganic Compounds
34	Inorganic Compounds
37	Inorganic Parameters
20	Iron Bacteria
59	Lead in Dust
59	Lead in Paint
59	Lead in Soil
83	*Legionella* Swab
49/81/83	*Legionella* Testing
51	*Legionella* Testing
7	Metals
29	Metals
2	Miscellaneous Nutrient Analysis: Ammonia, Nitrate + Nitrite as N, Total Kjeldahl Nitrogen, Organic Nitrogen, Total Phosphorous, Chemical Oxygen Demand
14	Neonicotinoids in Water Collection
101	Neonicotinoids in Water Collection
37	Nitrate Drinking Water Collection Instruction
37	Nitrate or Nitrite (SDWA & Non SDWA Drinking Water)
37	Nitrate or Nitrite Wastewater
3	Oil and Grease in Water (EPA 1664)
9	Ortho Phosphate
?	Ortho Phosphate Filtering Instructions
107	Pathogen Wastewater Composite Sample
106	Pathogen Wastewater Grab Sample
14	PCBs in Oil
76	PFAS in Drinking Water
77	PFAS in Drinking Water
14	Pharmaceuticals
64	Phytoplankton
81	Pool and/or Spa Testing
29	Private Lead
22	Radionuclides Gamma Emitters, Iodine-131, Strontium-89/90
22	Radionuclides Gross Alpha, Gross Beta, Gamma Emitters, Radium -226/228 (Combined), Strontium-89/90, Uranium

By Test Name

Bottle #	Name/Description
27	Radon
81	SDWA Bacterial *(Groundwater Rule: Triggered Source Monitoring)*
81	SDWA Bacterial *(Repeat Sample Type)*
81	SDWA Bacterial *(Routine and Special Sample Type)*
31	SDWA Glyphosate
26	SDWA Lead and Copper
35	SDWA SOCs
44	Sealed Source Leak Wipe Rad/Chem
[illegible]	Sediment sampling for Rad Chem
46	Soil Samples TEH & BTEX
17	Soil, Sludge, Foliage
1	Solids (TSS, TDS, TVSS, etc)
35	Sterols and Hormones by GC/MS
8	Sulfide
18	TCLP or SPLP Parameters
74	Total Organic Carbon
5	Total Phenol
11	Total Phenol
6	Total Trihalomethanes (TTHMs)
19	Tritium
19	Tritium (Urine)
29	UCMR Metals - Lithium EPA 200.7
13	Volatile Organic Compounds
15	Volatile Organic Compounds
45	VOCs in Wastewater, surface water
37	Wastewater Nitrate or Nitrite
[illegible]	Wet Ice Packing Instructions

Ankeny					
Bottle #	**Lab**	**Matrix**	**Type**	**Chemical Parameter**	**Holding Time**
#1	Ankeny	Water	Quart Plastic	BOD	48 hrs.
				CBOD	48 hrs.
				Fluoride, Total	28 days
				TSS only	7 days
				Solids; Dissolved, Suspended, Total Volatile	7 days
				Surfactants	48 hrs.
#2	Ankeny	Water	8 oz. plastic w/Sulfuric acid	Ammonia	28 days
				COD	28 days
				Total Kjeldahl Nitrogen	28 days
				Nitrate + Nitrite as	28 days
				Total Phosphorus	TP (28 days)
#4	Ankeny	Water	500ml 4-6 pellets NaOH	Cyanide, Cyanide amendable to chlorination	14 days
#5	Ankeny	Water	Glass quart	Phenols, Total	28 days
#7	Ankeny	Water	Plastic pint with nitric acid	Metals *See Test Menu Section*	28 days to 6 Months
#9	Ankeny	Water/Soil	8oz. Plastic	Nitrate (NO_3-N)	48 hrs.
		Water		Nitrite (NO_2-N)	48 hrs.
#1 x 2	Ankeny	Water	Quart Plastic x2	Settleable matter	48 hrs.
				pH **Field Analysis Only**	
#81	Ankeny Coralville	Water	IDEXX 4 or 5 oz. plastic	Total Coliform Fecal Coliform *E. coli*	30 hrs.

Coralville					
Bottle #	**Lab**	**Matrix**	**Type**	**Chemical Parameter**	**Holding Time**
#3	Coralville	Water	Amber Quart Glass	Oil & Grease	14 days
#6	Coralville	Water	3 vials w/ ascorbic powder --- SDWA Total THM	Chloroform Bromodichloromethane Dibromochloromethane Bromoform Total Trihalomethanes	14 days
#9	Coralville	Sediment Periphyton	8oz. plastic	Chlorophyll A in Sediment & Periphyton	24 hrs. to Filter
#15	Coralville	Water	3 vials w/ ascorbic powder	VOCs (SDWA)	14 days
#17	Ankeny	Soil/Sludge	Pint glass	Metals	6 mos.
	Coralville			Total Extractable Hydrocarbons (TEH)	14 days
#18	Coralville	Water	Quart Glass	Total Extractable Hydrocarbons (TEH)	7 days
				Pest Residues	7-14 days
#19	Coralville	Water	1 120cc glass	Ethylene Glycol Prophylene Glycol	14 days
#34	Coralville	Water	500 ml Plastic	Chlorophyll	24 hrs. to Filter
#35	Coralville	Water	SDWA SOC (A/S #1, 3)	Pest Residue	14 days
#45	Coralville	Water	3 vials w/ HCL	**BTEX,** Benzene, Ethylbenzene, Toluene Total Xylenes, MtBE, Gasoline	7 days not preserved <2 pH/ 14 days preserved <2 pH
#46	Coralville	Soil/Sludge	Glass Jar 4oz.	**BTEX,** Benzene, Ethylbenzene, Toluene Total Xylenes, MtBE, Gasoline	7 days
#87	Coralville	Water	25mL glass vial w/ ammonium chloride granules ---- SDWA Total HAA5	HAA5, Chloroacetic acid, Bromacetic acid, Dichloroacetic acid, Dibromoacetic acid, Trichloroacetic acid, Total Haloacetic Acids	14 days

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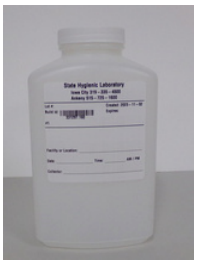
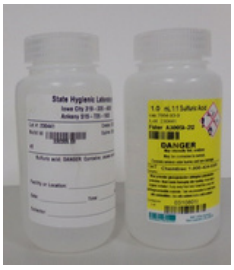
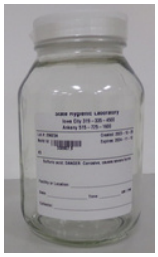
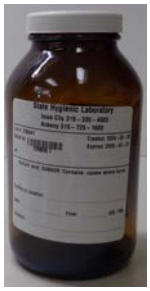
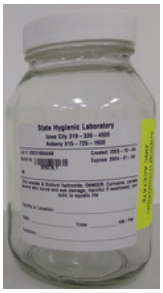
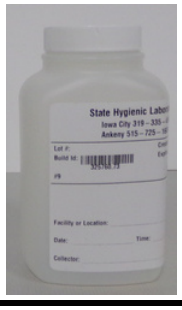
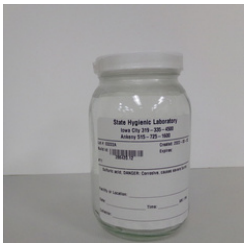
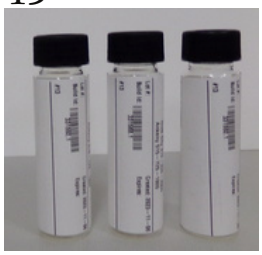
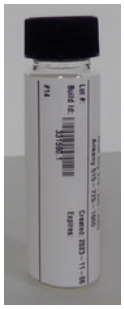
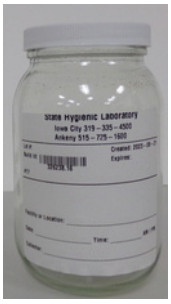
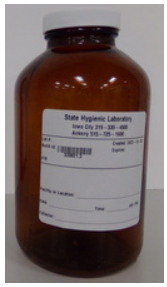
1 	2 	3 	4 
5 	6 	7 	8 
9 	10 	11 	13 
14 	15 	17 	18 

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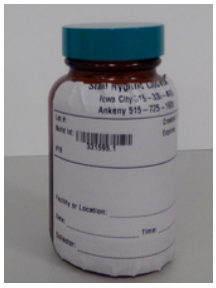
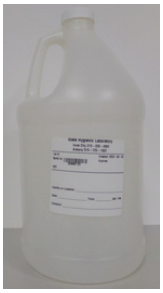
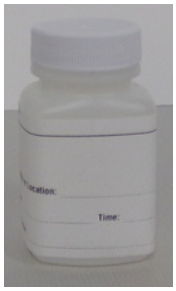
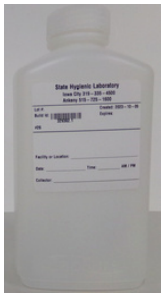
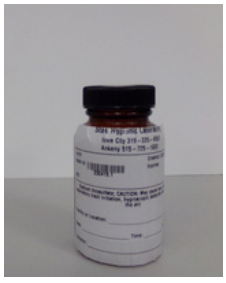
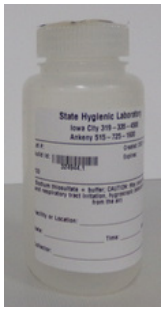
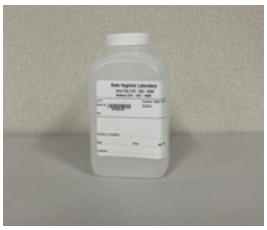
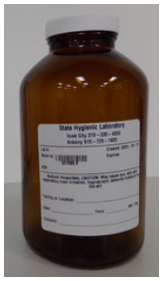
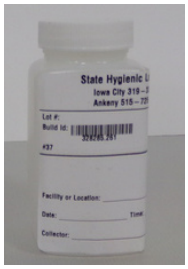
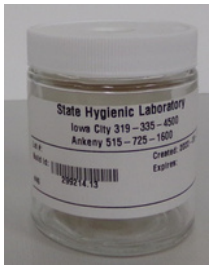
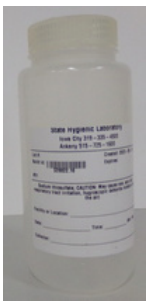
19 	20 	22 	24 
25 	26 	27 	29 
31 	33 	34 	35 
37 	39 	43 	44 
45 	46 	49 	51 

State Hygienic Laboratory Bottle Guide

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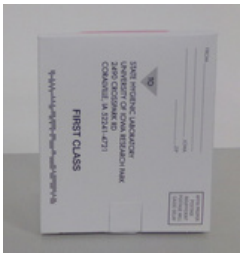
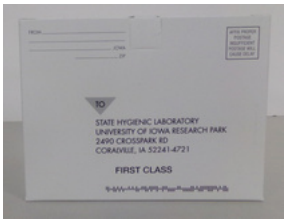
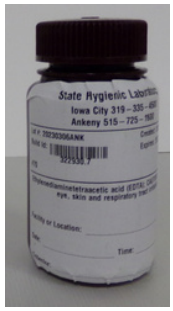
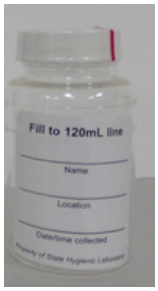
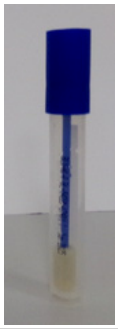
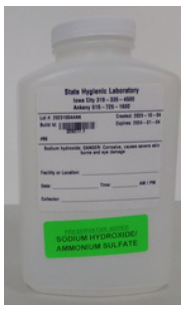
65 	66 	67 	70 
74 	76 	77 	81 
83 	86 	87 	88 
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Sampling Scenarios FISH KILL

Analytes	Sample Bottle (Water)	Sample Bottle (Solids)	Special Notes
Fish Kill-Manure			
Ammonia	#2 - 8 oz. plastic with Sulfuric acid	#17 - 500 mL glass	
BOD	#1 - 1 L plastic *(BOD needs its own bottle)*		
E. coli	#81- 5 oz IDEXX plastic	#62 - 4 oz plastic specimen cup	
Fish Kill- Pesticides			
Acid Herbicides	#35 - 1 L amber glass with Sodium thiosulfate	#46 - 4 oz. glass jar or #17- 500 mL glass	The number of containers for herbicides and/or insecticides analysis will depend on chemicals needed.
Nitrogen Containing Herbicides	#18 - 1 L amber glass	#46 - 4 oz. glass jar or #17- 500 mL glass	
Chlorinated Hydrocarbon Insecticides	#18 - 1 L amber glass	#46 - 4 oz. glass jar or #17- 500 mL glass	
Miscellaneous Pesticides and Other Tests	Contact SHL	Contact SHL	
Fish Kill- Petroleum			
BTEX by OA-1 or 8260	#45 - 3 (40 mL) vials with HCl	#46 - 4 oz glass jar	Must have separate container for each test (one for BTEX)
Total Extractable Hydrocarbons (TEH)	#18 - 1 L amber glass	#46 - 4 oz glass jar or #17 - 500 mL glass	

Sampling Scenarios WATER

Analytes	Sample Bottle (Water)	Sample Bottle (Solids)	Special Notes
Water-Private Well			
Private Well Bacteria Only	#81 - 5 oz., IDEXX plastic		
Bacteria/Nitrate-Private Well Chlorinated/Non-Chlorinated	Private Well Kit with 2 IDEXX plastic bottles*		*One preserved, one non-preserved
Water-SDWA			
SDWA Bacteria Only	#81 – 5 oz clear IDEXX with Sodium thiosulfate		
SDWA Regulated VOCs	#15 - 3 (40 mL) vials with HCl		
SDWA Regulated IOCs	#7 - 16 oz. plastic with Nitric acid, #24 - 2 oz. plastic unpreserved		
SDWA Regulated SOCs Acid Herbicides	#35 - 1 L amber glass with Sodium thiosulfate		
SDWA Regulated SOCs Nitrogen Herbicides & GC MS Semivolatiles	#18 - 1 L amber glass		
SDWA Regulated SOCs Glyphosate	#31 - 120 mL Amber glass		
SDWA Regulated SOCs Diquat	#39 - 1 L Amber glass		
SDWA Gross Alpha (including Uranium) and/or Radium 226 & 228	#22 - gallon plastic jug		
SDWA Gross Alpha (excluding Uranium and Radium)	#22 - gallon plastic jug		
Water Quality Parameters*	#1 - 2 (1 L) plastic bottles, #2 - 8 oz. plastic with Sulfuric acid, #9 - 8 oz. plastic unpreserved		*Use primarily for new wells.
Wastewater/Bypass			
E. coli	#81 - 5 oz., IDEXX plastic		
Ammonia and/or TKN	#2 - 8 oz. plastic w/ Sulfuric acid		
BOD	#1 - 1 L plastic (BOD needs its own bottle)		
TSS	#1 - 1 L plastic		
Pharmaceuticals-Caffeine*	#18 - 1 L glass		*GLOVES REQUIRED! If chlorinated use #35, 1 L amber glass with Sodium thiosu lfa te

Sampling Scenarios SPILL

Analytes	Sample Bottle (Water)	Sample Bottle (Solids)
Spill Ethanol		
Ethanol	#13 - 3 (40 mL) vials non- preserved	#13 - 3 (40 mL) vials non-preserved or #46- 4 oz. glass jar
Spill Manure		
Am m oni a	#2 - 8 oz. plastic with Sulfuric Acid	#17 - 500 mL glass
BOD	#1 - 1 L plastic *(BOD needs its own bottle)*	
E. coli	#81 - 5 oz. IDEXX plastic	#62 - 4 oz. plastic specimen cup
Spill - Petroleum		
BTEX plus MTBE by OA-1	#45 - 3 (40 mL) vials with HCl	#46 - 4 oz. glass jar
Total Extractable Hydrocarbons (TEH) by OA-2	#18 - 1 L amber glass	#46 - 4 oz. glass jar or #17 - 500 mL glass
Spill - Unknown, recommend calling lab for bottle information		
BOD	#1 - 1 L plastic *(BOD needs its own bottle)*	
E. coli	#81 - 5 oz. , IDEXX plastic	#62 - 4 oz. plastic specimen cup
GC/MS Volatiles	#45 - 3 (40 mL) vials with HCl	#46 - 4 oz. glass jar
GC/MS Semivolatiles (Ex tractabl es)	#18 - 1 L amber glass	#46 - 4 oz. glass jar or #17 - 500 mL glass
Acid Herbicides	#35 - 1 L amber glass with Sodium th iosulfate	#46 - 4 oz. glass jar or #17 - 500 mL glass
Nitrogen Containing Herbi ci des	#18 - 1 L amber glass	#46 - 4 oz. glass jar or #17 - 500 mL glass
Chlorinated Hydrocarbon Insecticides	#18 - 1 L amber glass	#46 - 4 oz. glass jar or #17 - 500 mL glass
Miscellaneous Pesticides and Other Tests	Contact SHL	Contact SHL
Metals	#7 - 16 oz. plastic with Nitric acid	#17 - 500 mL glass
TSS	#1 - 1 L plastic	#17 - 500 mL glass
Am m oni a	#2 - 8 oz. plastic with Sulfuric acid	#17 - 500 mL glass

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BOD, Settleable Solids

Container # 1

Collection and Shipping Instructions

Collection and Handling

- Collect sample on Tuesday, Wednesday, or Thursday (see NOTE: below)
- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label to match the sample collection form paper.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly.
- **NOTE:** Sample must be received and analyzed at the Lab within 48 hours of collection.
- Any sample arriving after 3:00 pm on Friday and Saturday will be rejected, unless special permission has been arranged by a previous phone call.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Collection and Shipping Instructions

Inorganic and/or Organic Parameters

Container #1

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to ≤ 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

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Solids (TSS, TDS, TVSS, etc.)

Container # 1

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly.
- **NOTE:** Sample must be received at the Lab within 5 days of collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Miscellaneous Nutrient Analysis

Ammonia, Nitrate+Nitrite as N, Total Kjeldahl Nitrogen, Organic Nitrogen, Total Phosphorous, Chemical Oxygen Demand

Container #2

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Collection and Handling

- Be sure ice packs are frozen prior to sample collection
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6oC (43oF).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Oil and Grease in Water (EPA 1664)

Container #3

Contains Sulfuric Acid preservative
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection. If sample is held overnight prior to shipment, immediately cool to < 6°C (43°F)

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Cyanide

Container # 4

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Total Phenol

Container # 5

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with container.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

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Total Trihalomethanes (TTHM)

Container #6

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Collection and Handling

- Be sure ice packs are frozen prior to sample collection.
- Do not rinse the vials as they contain ascorbic acid preservative.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- When collecting drinking water samples, remove any aerator and run water for at least 2 minutes.
- Fill each sample vial with water almost to overflowing so there is no air space.
- Add three drops of 1:1 hydrochloric acid to each vial including the trip blank using the dropper bottle.
- Seal each vial tightly.
- Complete information on each sample vial label.
- Begin cooling sample to < 6oC (43oF).
- Fill out the sample collection form provided.
- Do not return acid dropper bottle with samples; return outer bottle.
- Ship sample vials with the trip blank promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Metals

Container # 7

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Collection and Handling

- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.

Shipping Instructions

- Ship to Ankeny Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Sulfide

Container #8

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.
- **NOTE:** Sample must be received by Laboratory within 5 days of collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container # 9

Chlorophyll in Periphyton and Sediment

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Collect sample according to the Field Sampling Procedures below.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6ºC (43ºF).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Field Sampling Procedures

Chlorophyll in Periphyton

- Choose substrate from a shallow area of the stream (< 1 foot) having slight to moderate current velocity.
- Course substrate preference is as follows: cobble, small boulder, large gravel, bedrock/large boulder, wood, rootwad, submersed vascular vegetation, rip-rap, junk
- Select a substrate with a representative periphyton community.
- Carefully remove substrate from water, and place substrate in pan. Place PVC ring on area to be subsampled and use a brush to loosen algae. Use distilled water to rinse the brush and sampling area into pan. Place the contents of the pan into the sample container.
- Select two more substrates and repeat the sampling procedure. The three subsamples will be combined in one sample container.
- Place the sample container in a cooler with ice.
- Record the number of substrates sampled and the diameter of the PVC ring on the field form.

Chlorophyll in Fine Sediments

- Sample from a depositional area of stream.
- Fine substrate includes fine sand, muck and silt.
- Place PVC ring gently into the sediment in water less than the height of the PVC ring, being careful not to disturb the periphyton.
- Aspirate the top layer of fine sand, muck, and/or silt (about 0.5 cm) into sample bottle. Rinse aspirator tubing with distilled water into sample bottle after each use. Repeat procedure 2 more times.
- Place the sample container in a cooler with ice.
- Record the number of samples collected and the diameter of the PVC ring on the field form.

Shipping Instructions

- Package sample with **frozen ice packs** or **wet ice** for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.
- **Contact Information:** Environmental Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Dissolved Organic Carbon (DOC)

Container # 9

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.
- **NOTE**: Sample must be received within 48 hours of collection by Ankeny Laboratory.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Inorganic Parameters

Container #9

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to ≤ 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Orthophosphate

Container # 9

Collection and Shipping Instructions

Collection and Handling

- Be sure ice packs are frozen prior to sample collection
- Rinse sample collection equipment and non-preserved sample containers with sample water before taking the actual sample. EPA approved methods require the non-potable water sample to be field filtered (0.45 µm membrane filter) before filling the sample container. Fill the sample bottle with filtered sample. When field filtration is impractical samples may be filtered in the laboratory. When filtered in the laboratory results will be qualified to state "Sample was filtered for analysis after receipt by the laboratory."
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6oC (43oF).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.
- NOTE : Sample must be received by Laboratory within 48 hours of collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Inorganic and/or Organic Parameters

Container #10

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to ≤ 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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4.0

Collection and Shipping Instructions

Total Phenol

Container #11

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Volatile Organic Parameters

Container #13

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- When collecting drinking water samples, remove any aerator and run water for at least 2 minutes.
- Fill each sample vial with water almost to overflowing so there is no airspace.
- Seal each vial.
- Complete information on each sample vial label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample vials with the trip blank promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and FedEx (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford), or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Algal Toxins (Microcystins/Cylindrospermopsin) in Water by Immunoassay

Container #14

Collection and Shipping Instructions

Collection and Handling

- Immediately freeze the reusable ice packs provided in the cooler.
- For surface water, partially immerse the bottle in the water source.
- Fill container with water up to the shoulder (within ½ inch of top).
- Replace lid and carefully tighten.
- Complete information on the container label.
- Fill out the sampling information form provided.
- Ship sample and completed information form promptly after collection.
- If sample is held overnight prior to shipment, immediately cool to ≤6°C (42.8°Fahrenheit).

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Neonicotinoids in Water

Container #14

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Run water for at least 2-3 minutes to flush the line.
- Fill container slowly with water to near the top.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection. If sample is held overnight prior to shipping, immediately cool to < 6°C (43°F).

Shipping Instructions

A. Package sample with protective materials to help minimize breakage and with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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PCBs in Oil

Container # 14

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Do not rinse vials prior to sample collection.
- Fill container slowly to within ½ inch from the top.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Pharmaceuticals

Container # 14

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2-3 minutes to flush the line.
- **Wear gloves while collecting water in the #14 vials**. It is extremely important to wear gloves to minimize contamination from the sample collector since the test for pharmaceuticals detects chemicals present in commonly used products such as pain relievers (Acetaminophen, Ibuprofen), Caffeine (often found in coffee and some soda pops), Triclosan (antibacterial soaps), Cotinine (metabolite of cigarette smoke), and a number of prescription drugs.
- Fill container slowly with water to near the top.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6ºC (43ºF).
- Fill out the sample collection form provided.
- Ship sample promptly after collection. If sample is held overnight prior to shipping, immediately cool to < 6ºC (43ºF).

Shipping Instructions

- Package sample with protective materials to help minimize breakage and with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Volatile Organic Parameters

Container #15

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- **When collecting Safe Drinking Water Act (SDWA) samples (container #15):**
  - remove any aerator and run water for at least 2 minutes to flush the line.
  - fill each vial with water almost to overflowing so there is no airspace.
  - add three drops of 1:1 hydrochloric acid to each vial including the trip blank using the dropper bottle provided.
  - Do not return acid dropper bottle with samples; return outer bottle.
- Seal each vial tightly.
- Complete information on each sample vial label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample vials with the trip blank promptly after collection.

Wet Ice Packing Instructions - on separate page.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and FedEx (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford), or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Soil, Sludge or Foliage

Container # 17

Collection and Shipping Instructions

Collection and Handling

- Be sure ice packs are frozen prior to sample collection.
- For soil, be sure sample is representative of area of interest. If the area is large, take multiple portions of soil across the entire area and mix thoroughly. Fill sample container with mixed soil and seal the container.
- For sludge, collect a sample that is representative of the entire contents of the digester. Fill container up to the shoulder (within ½ inch of top) and seal the container.
- Complete information on the container label.
- Begin cooling sample to < 6oC (43oF).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

General Organic Parameters

Container # 18

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2-3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from the top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and FedEx (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford), or Coralville laboratories.

Contact Information

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TCLP or SPLP Parameters

Container # 18

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- To sample the waste, collect a sample that is representative of the entire waste area. If the area is large, take multiple portions of the waste and mix thoroughly before filling container.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

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Collection and Shipping Instructions

Tritium (urine)

Container #19

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Carefully fill the container from the collected urine cup.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the biohazard bag provided and seal bag.
- Place this bag in another biohazard bag and seal.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Iowa Lakeside Laboratory
1838 Highway 86
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(712)337-3669 ext. 6

http://www.shl.uiowa.edu

IOWA | State Hygienic Laboratory

Collection and Shipping Instructions

Tritium

Container # 19

Collection and Handling

- Municipalities should fill from the source entry point.
- Homeowners should not collect sample from a home water softener system.
- Run water for at least 2-3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Coralville or Lakeside (Milford) laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Iron Bacteria

Container # 20

Collection and Handling

- If collecting from faucet, remove any aeration devices or hoses from the spigot.
- Collect the water or material you wish tested.
  - Since iron bacteria are commonly present in orange/brown colored precipitate (iron), do not flush the line but collect the first draw sample.
- Open and handle container carefully – do not touch inside sterile lid or container.
- Fill container slowly with water to within 1 inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label, including NAME and COLLECTION LOCATION.
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions: 319-335-4366

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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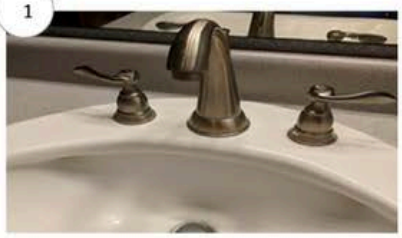
Drinking Water Collection Instructions

NITRATE

CAUTION

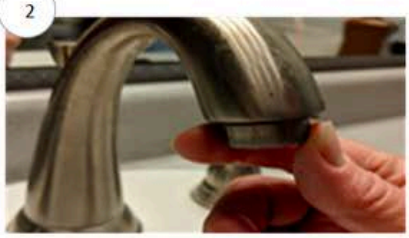
Bottles are sterile.
DO NOT TOUCH INSIDE BOTTLES OR LIDS.

1



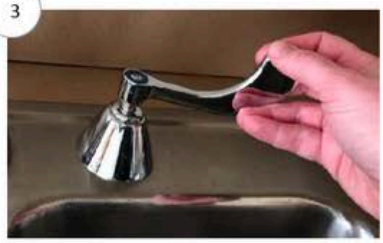
Choose a faucet.
Choose an indoor faucet without a sprayer or swivel. Do not use a leaking faucet.

2



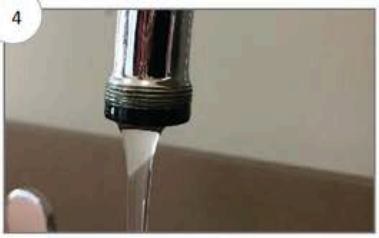
Remove the aerator screen.
Not all faucets have aerators. If there is an aeration screen, remove it. If it does not come off, choose a different faucet.

3



*Flush the cold water line. **
Turn the cold water to a moderate flow so it doesn't splash. Let the water run for 2 – 3 minutes to flush out the line.

4



Reduce the water stream.
Reduce the water flow to a slow, gentle stream so it does not splash out of the bottle.

5

Fill bottle: to shoulder.
Hold the cap and slowly fill the bottle to the shoulder. **Do not overfill or pour out.**

6

Fill in the label on bottle, complete form.
The owner name, location, date and time of collection must be on the label. Complete the sample collection form.

BEFORE SAMPLE COLLECTION

* When outside sample collection is necessary, longer flushing (10-15 minutes) is required, and possibly faucet disinfection (flame or chlorine; one tsp bleach/one gallon water)

48hr

Prepare to promptly ship sample to ensure its arrival at the laboratory within 48 hours of collection. Plan accordingly for sample delivery during business hours; avoid Friday, weekend and holiday mailings.

AFTER SAMPLE COLLECTION

Immediately return to the lab. Samples must arrive within 48 hours.

Mailing/Shipping:
Send immediately by USPS, UPS or FedEx (ground)

In-Person Delivery:
8:00 a.m. – 5:00 p.m., Monday to Friday
Coralville, Ankeny, or Lakeside Lab

9:00 a.m. – 12:00 p.m., Saturday
Coralville Lab only

State Hygienic Laboratory- **Coralville**, 2490 Crosspark Road, Coralville, IA 52241
State Hygienic Laboratory- **Ankeny**, 2220 S. Ankeny Blvd, Ankeny, IA 50023
State Hygienic Laboratory- **Lakeside**, 1838 Hwy 86, Milford, IA 51351

Questions? 1.800.421.4692 or shl.uiowa.edu
Effective Date: February 2, 2024

IOWA | State Hygienic Laboratory

Collection and Shipping Instructions

Radionuclides

Gamma Emitters, Iodine-131, Strontium – 89/90

Container # 22

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Fill container with milk.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided.
- Begin cooling sample to < 6°C (43°F).
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Collection and Shipping Instructions

Radionuclides

Gross Alpha, Gross Beta, Gamma Emitters,
Radium-226/228 (Combined), Strontium-89/90, Uranium

Container # 22

Collection and Handling

- Municipalities should fill from the source entry point.
- Homeowners should not collect sample from a home water softener system.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided.
- Ship sample promptly.
- **NOTE**: Sample must be received by Laboratory within 3 days of collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Fluoride in Drinking Water

Container #24

Collection and Handling

- Always collect a representative sample.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided.
- Place the sample in the shipping container.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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'/2024

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STATE HYGIENIC LABORATORY
TOXICITY TEST CONFIRMATION

Facility Name	
Toxicity Test Type	Iowa Toxicity Test Using Fathead Minnows & *Ceriodaphnia dubia*
Sample Type	24 Hour Composite
Sample Collection Date(s)	
Sample Shipment Date	
Expected Date of Arrival	

***NOTICE* - NOT COMPLYING WITH THE FOLLOWING REQUIREMENTS MAY RESULT IN SAMPLE REJECTION**

INCLUDE A PHOTOCOPY OF THE PAGE IN YOUR NPDES PERMIT THAT SPECIFIES THE EFFLUENT DILUTION RATIO FOR YOUR FACILITY. PLEASE NOTE THAT THIS RATIO IS DIFFERENT FOR EACH EFFLUENT.

Sample must be kept as close as possible to **4°C during and after** sample collection. Sample temperature will be measured upon receipt at the laboratory and **frozen** samples or samples with temperatures **exceeding 6°C** may be subject to sample rejection.

****Please take a temperature reading of the sample at time of collection and record it on the sample information form.**

Please note that there is a **36 HOUR time limit** from the time that the sample is removed from the sampler until the toxicity test is begun. Therefore the sample MUST be shipped to the laboratory using an overnight courier.

Also note that sample needs to be shipped with minimal headspace, therefore any **excess air needs to be expelled** from the cubitainer prior to sample shipment

Because of the toxicity test culturing requirements, any changes in test scheduling MUST be approved in advance. For changes please call TIM BLAKE, JIM LUZIER, OR LIZZY OBERHOFFER at 515-725-1648.

Iowa Tox Test Confirmation Form - Version: 1.0. Index: LIMNO 1908. Printed: 01-Oct-2020 10:40

Iowa Tox Test Confirmation Form - Version: 1.0. Index: LIMNO 1908. Printed: 01-Oct-2020 10:40
Authorized on: 08-Sep-2020. Authorized by: Rebecca Blair. Document Unique Reference: 773-74712073. Due for review on: 08-Sep-2021
Author(s): James Luzier

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Collection and Shipping Instructions

SDWA Lead and Copper

Container # 26

Collection and Handling

- Sampling site may not include faucets that have point-of-use (attached to the faucet) or point-of-entry (water softeners, RO system, etc.) treatment devices designed to remove inorganic contaminants. Contact your utility if you have any questions.
- Sample is to be collected from the COLD water tap in the kitchen or bathroom.
- Sample must be collected from water that has been standing undisturbed in the pipes for at least 6 hours.
- Sample should be "first draw". Do not run the water or rinse the container before collection.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided and in the enclosed plastic bag.
- Samples must be received by the laboratory within 14 days of their collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

Rev: 2/2/2024

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Collection and Shipping Instructions

Radon

Container #27

Do not aerate or agitate collection water

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Collect 2 vials per sampling site.
- Homeowners should not collect sample from a home water softener system.
- Collect the sample on Monday, Tuesday or Wednesday only, to ensure delivery in time for analysis.
- Remove any aerator connected to the faucet or water outlet.
- Run water for at least 30 seconds to flush the line.
- Fill container slowly with water. Allow the water to trickle or flow without disturbance into the vial.
- Overfill so excess water forms a bead over the lip of the vial.
- Check the cap to make sure the thin layer of Teflon on the rubber seal is in contact with the water side.
- Seal the container tightly.
- Invert the vial to ensure no air bubbles are in the vial.
- If bubbles are present empty the vial and repeat the collection process.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly.
- **NOTE**: Sample must be received by Laboratory within 48 hours of collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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IOWA | State Hygienic Laboratory

Collection and Shipping Instructions

Metals

Container #29

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Collection and Shipping Instructions

Private Lead

Container # 29

Collection and Handling

- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Sampling site may not include faucets that have point-of-use (attached to the faucet) or point-of-entry (water softeners, RO system, etc.) treatment devices designed to remove inorganic contaminants.
- Sample is to be collected from the COLD water tap in the kitchen or bathroom.
- Sample must be collected from water that has been standing undisturbed in the pipes for at least 6 hours.
- Sample should be "first draw". Do not run the water or rinse the container before collection.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided and in the enclosed plastic bag.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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EPA 200.7: Lithium UCMR5

Container #29 (125ml plastic)
Contains: Nitric Acid

DO NOT RINSE OUT PRESERVATIVE WHEN FILLING CONTAINER WITH SAMPLE
Samples must be chilled during shipment and must be at or below 10 °C when they are received at the laboratory.

Collection and Shipping Instructions

Collection and Handling Instructions

- Freeze ice packs prior to sample collection.
- Remove any aerators and run water for approximately 3-5 minutes to flush the line.
- DO NOT RINSE OUT PRESERVATIVE WHEN FILLING CONTAINER WITH SAMPLE.
- Fill container slowly with water to within ½ inch from the top – Do not overflow.
- Seal the container and gently agitate by hand until the preservatives are dissolved.
- Complete information on the container label.
- Immediately cool sample to less than 10°C (50°F) using refrigeration, ice, or freezer packs.
- Fill out the sample collection form provided.
- Ship sample promptly via overnight delivery for arrival at the lab within 48 hours after sample collection.
- Ensure there is adequate ice packs/ice to keep the sample temperature at 10°C (50°F) or less during shipment.
- Samples must be received within 48 hours after collection and must not exceed 10°C (50°F).
- Samples should be shipped so they arrive at the laboratory on Monday-Friday (excluding holidays).

- **Any sample submitted on behalf of the UCMR5 program that does not meet the 48 hour receipt time or the 10°C (50°F) or less temperature will require the submitter to recollect and resubmit.**

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Iowa City laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting temperature and/or holding time requirements will not be analyzed and will require the submitter to resample and submit according to the sample collection/submittal instructions.

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Collection and Shipping Instructions

Glyphosate in Drinking Water
Regulated SOCs A/S #8

Container #31

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Heterotrophic Plate Count For ICE or WATER Samples

Container #33

Preservative Added
DO NOT RINSE OUT
PRESERVATIVE

Sample Collection and Shipping Instructions

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- Open and handle bottle aseptically. Container is sterile so do not touch inside bottle or lid.
- Fill container with ice or water. For water collection, fill slowly to avoid splashing and to within 1 inch from top – Do not overflow.
- Seal and label bottle with SITE LOCATION (e.g. ice or water).
- Fill out the sample collection form provided.
- Place the bottle(s) in cooler and surround the bottle(s) with bubble wrap or newspaper on all sides. Remove the ice packs from the freezer and place in cooler surrounding the bubble-wrapped bottles (place on opposite sides). Make sure ice packs are not in direct contact with the bottle and the bottles and ice packs are packed tightly (minimal air space).
- Ship sample promptly, **sample must be received in the Lab within 24 hours of collection and still cool or frozen (<10°C).**

Shipping Instructions

- Ship sample same day as collected, **sample must be received in the Lab within 24 hours of collection and still cool or frozen (<10°C).**
- UPS and Fed Ex (ground) are examples of acceptable shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions: 319/335-4366

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

Rev: 2/2/2024 CV EnvMicro 1930 v1.0

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Collection and Shipping Instructions

Inorganic Parameters

Container #34

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to ≤ 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and FedEx (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford), or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Collection and Shipping Instructions

Container # 34

Chlorophyll in Periphyton and Sediment

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Collect sample according to the Field Sampling Procedures below.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Field Sampling Procedures

Chlorophyll in Periphyton

- Choose substrate from a shallow area of the stream (< 1 foot) having slight to moderate current velocity.
- Course substrate preference is as follows: cobble, small boulder, large gravel, bedrock/large boulder, wood, rootwad, submersed vascular vegetation, rip-rap, junk
- Select a substrate with a representative periphyton community.
- Carefully remove substrate from water, and place substrate in pan. Place PVC ring on area to be subsampled and use a brush to loosen algae. Use distilled water to rinse the brush and sampling area into pan. Place the contents of the pan into the sample container.
- Select two more substrates and repeat the sampling procedure. The three subsamples will be combined in one sample container.
- Place the sample container in a cooler with ice.
- Record the number of substrates sampled and the diameter of the PVC ring on the field form.

Chlorophyll in Fine Sediments

- Sample from a depositional area of stream.
- Fine substrate includes fine sand, muck and silt.
- Place PVC ring gently into the sediment in water less than the height of the PVC ring, being careful not to disturb the periphyton.
- Aspirate the top layer of fine sand, muck, and/or silt (about 0.5 cm) into sample bottle. Rinse aspirator tubing with distilled water into sample bottle after each use. Repeat procedure 2 more times.
- Place the sample container in a cooler with ice.
- Record the number of samples collected and the diameter of the PVC ring on the field form.

Shipping Instructions

- Package sample with **frozen ice packs** or **bagged ice** for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.
- **Contact Information:** Environmental Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Chlorophyll in Water

Container # 34

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to Laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

SDWA SOCs A/S 1 or 3

Container #35

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection or use bagged ice.**
- Do not rinse the bottle as it contains sodium thiosulfate preservative.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- When collecting drinking water samples, remove any aerator and run water for at least 2 minutes.
- Fill the container with water up to the shoulder (within ½ inch of top) and seal.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Sterols and Hormones by GC/MS

Container #35

Contains sodium thiosulfate dechlorinating agent.

DO NOT RINSE OUT DECHLORINATING AGENT

Collection and Shipping Instructions

Collection and Handling

- Immediately freeze the reusable ice packs provided in the cooler.
- To collect a representative sample run water for at least 30 seconds to flush the line (if collecting water from a tap).
- Fill container with water up to the shoulder (within ½ inch of top).
- Replace lid and carefully tighten.
- Complete information on the container label.
- Fill out the sampling information form provided.
- Ship sample and completed information form promptly after collection.
- If sample is held overnight prior to shipment, immediately cool to ≤6°C (42.8°Fahrenheit).

Shipping Instructions

- Package sample with frozen ice packs for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Iowa City laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container #37

Inorganic Parameters

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to ≤ 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and FedEx (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Coralville, or Lakeside (Milford) laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Container #37

Nitrate or Nitrite

(Private Drinking Water)

Collection and Shipping Instructions

Collection and Handling

- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Fill out the sample collection form provided.

Shipping Instructions

- **Sample must arrive at the laboratory within 36 hours of collection.**
- Collect sample on Monday thru Thursday. Do not ship on Friday, also avoid weekends and holidays. UPS and FED Ex (ground) are examples of acceptable shipment options to ensure rapid delivery within Iowa borders.
- Samples may be brought directly to the Ankeny, Milford, or Coralville laboratories Monday – Thursday 8 am–5 pm. The laboratory will accept drop offs until noon Friday.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container #37

Nitrate or Nitrite

(SDWA & Non SDWA Drinking Water)

Collection and Shipping Instructions

See Water Supply Operation Permit.
Collect sample as early as possible during IDNR scheduled monitoring time period.

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- If public water supply, sample must be collected from the designated source entry point as indicated on your Water Supply Operation Permit. Contact your DNR regional field office if you have permit questions.
- **Collect sample as early as possible during IDNR scheduled monitoring time period. See your Water Supply Operation Permit.**
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- **Sample must arrive at the laboratory within 36 hours of collection and received at < 6°C.**
- Collect sample on Monday thru Thursday. Ship samples with frozen ice packs, immediately after collection to the Ankeny Laboratory. Do not ship on Friday, also avoid weekends and holidays. UPS and FED Ex (ground) are examples of acceptable shipment options to ensure rapid delivery within Iowa borders.
- Samples may be brought directly to the Ankeny, Lakeside (Milford), or Coralville laboratories Monday – Thursday 8 am–5 pm. Ankeny Laboratory Only: will accept drop offs until noon Friday.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Container # 37

Wastewater Nitrate or Nitrite

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6ºC (43ºF).
- Fill out the sample collection form provided.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- **Sample must arrive at the laboratory within 36 hours of collection and received at < 6ºC.**
- Collect sample on Monday thru Thursday. Ship samples with frozen ice packs, immediately after collection to the Ankeny Laboratory. Do not ship on Friday, also avoid weekends and holidays. UPS and FED Ex (ground) are examples of acceptable shipment options to ensure rapid delivery within Iowa borders.
- Samples may be brought directly to the Ankeny, Lakeside (Milford), or Coralville laboratories Monday – Thursday 8 am–5 pm. Ankeny Laboratory Only: will accept drop offs until noon Friday.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Diquat or Paraquat in Water

(Regulated SOCs A/S #9)

Container #39

Sodium thiosulfate preservative pre-added
DO NOT RINSE OUT PRESERVATIVE
After filling sample bottle, add entire contents of SULFURIC ACID preservative vial to water sample

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
  CAUTION: Use extra care when handling any container with preservative. Strongly recommend wearing neoprene or nitrile gloves when handling sulfuric acid. If any acid spills on skin or clothing, immediately rinse with copious amounts of water. Do not breathe sulfuric acid preservative fumes.
- Run water for at least 2 – 3 minutes to flush the line. For surface water, partially immerse the bottle in the water source.
- Fill container slowly with water to shoulder – Do not overflow.
- After filling sample bottle; make sure you have your gloves on and CAREFULLY pour the entire contents of the small vial of sulfuric acid into the water sample. Take great care to avoid spilling the sulfuric acid. Dispose of the sulfuric acid vial after use. Return the outer container to SHL.
- Seal the sample container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.
- **NOTE**: Sample must be received by Laboratory within 3 days of collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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4.0

Container #43

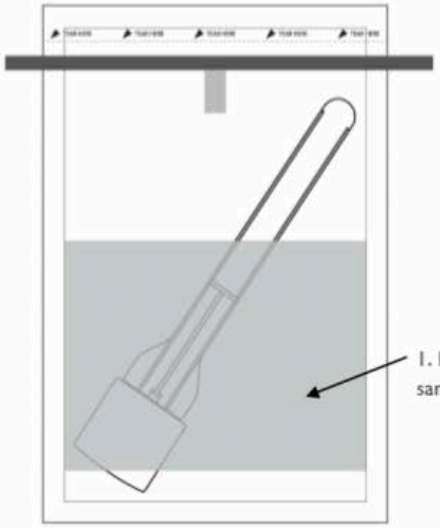
EZ Reach™ Sponge Sampling Kit

Collection and Shipping Instructions

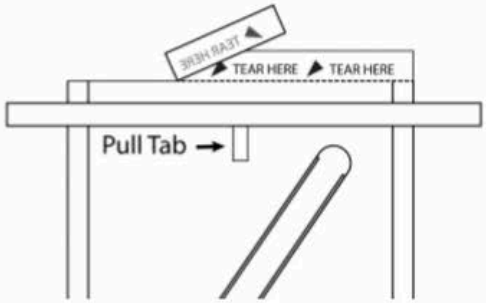
Collection:

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid prior to use.

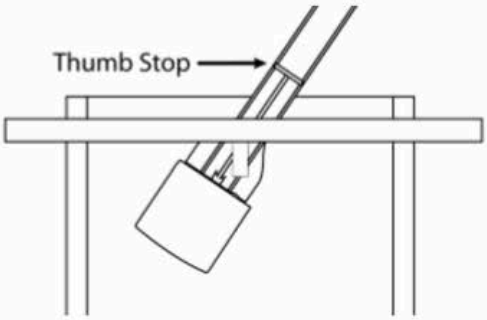
Sampling Instructions:
Demonstration Video: http://www.worldbioproducts.com/demo.html



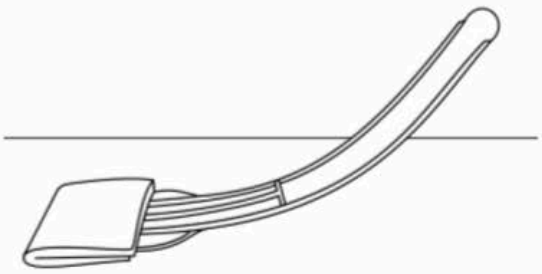
1. Label the sample bag.



2. Tear off the top of the bag where indicated. Pull tabs to open bag. If needed, add a collection solution to hydrate the dry sponge device.



3. Keeping hands outside the bag, guide the handle out the top of the bag. Grasp the handle above the thumb stop and remove the device.



4. Press down firmly and flex the handle to ensure the entire sponge head makes full contact with the sample surface.

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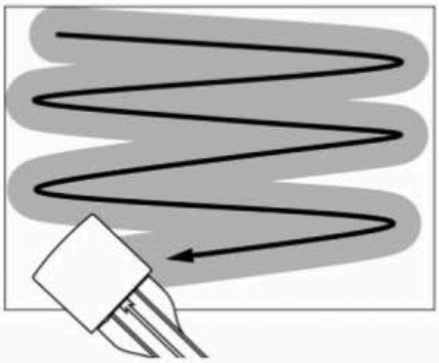
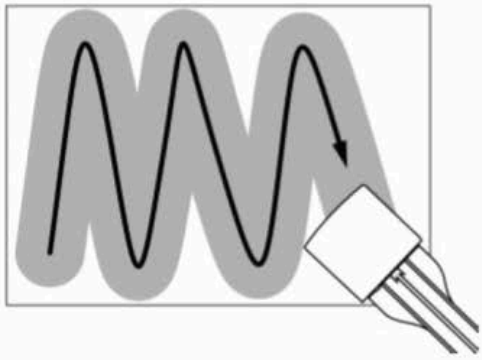
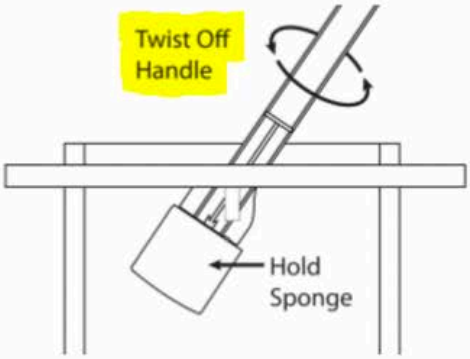
Collection and Shipping Instructions



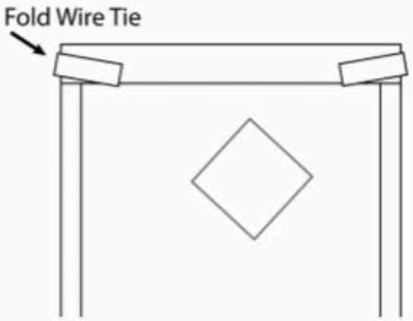
5. Vigorously scrub back and forth in one direction across the sample surface.



6. FLIP the sampling device over. Change direction 90° and vigorously scrub back and forth across the same surface area.



7. Return sampling device to the bag. Do not insert past the thumb stop. Hold sponge from the outside of the bag and twist off the handle by turning counter-clockwise.



8. Roll down the top of the sample bag several times and fold wire ties over to securely close. Send to a laboratory for analysis.

Handling and Shipping Instructions:

- Wrap the sponge(s) with bubble wrap or newspaper on all sides and place in cooler. Remove ice pack(s) from the freezer. Surround the bubble-wrapped sponges with ice packs (place on opposite sides) in cooler. Do not place ice packs in direct contact with the sponge. Fill the cooler with either bubble wrap, newspaper, or other paper so the sponges and ice packs are packed tightly (minimal air space). Secure cooler lid and place shipping label on the cooler.
- Mail or ship sample with completed form(s) the **same day** collected.
- Samples should be received in laboratory the next day after collection. Avoid Friday, weekend, and holiday mailings unless prior arrangements have been made. UPS ground or FED EX -ground, or other carrier services may be necessary to insure rapid delivery from your area. Sample(s) may be directly brought to Coralville Laboratory.
- Do not send payment with sample; you will be billed.

Contact Information: Client Services: 800-421-4692 or 319-335-4500

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Sealed Source Leak Wipe

Container #44

Collection and Shipping Instructions

Collection and Handling

- To take a wipe of the surface or exposure area, determine if the cotton applicator swab or the circular cotton smear (each included) will work best.
- Use a separate swab or wipe for each instrument or wipe item.
- Remove the swab from the container or open the flap covering the round cotton smear. Gently wipe the instrument exposure area, or item with either the swab or smear. Pay particular attention to joints or seams.
- If using a swab, place cotton swab back in tube. If using a smear, fold envelope closed over the smear.
- Fill out the sample collection form provided.
- Wrap the information form with the swab or smear, together, and enclose in the plastic mailer.
- On the return label fill in the "From" information and peel the paper backing from the return label. Stick label on the outside of the mailer.
- Ship sample promptly.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Collection and Shipping Instructions

Volatile Organic Parameters

Container #45

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- **When collecting non drinking water samples (container #45):**
  - remove any aerator and run water for at least 2 minutes to flush the line.
  - fill container slowly with water completely to the top so there is no airspace.
  - do not open the vial labeled "Trip Blank"; return it to the lab with samples.
- Seal each vial tightly.
- Complete information on each sample vial label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample vials with the trip blank promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford), or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Soil, Sludge or Foliage

Container # 46

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- For soil, be sure sample is representative of area of interest. If the area is large, take multiple portions of soil across the entire area and mix thoroughly. Fill sample container to the top with mixed soil and seal the container.
- For sludge, collect a sample that is representative of the entire contents of the digester. Fill container up to the top and seal the container.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container #49 and/or #81 and/or #83

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Legionella Testing

Sample Collection and Shipping Instructions

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- **Call the Lab to schedule analysis time prior to collecting sample(s).**
- If you wish to take the water temperature, you will need to provide a thermometer for this purpose.
- **Faucets (Drinking Water: Container #49):** Turn on the hot water (or cold-water tap), immediately collect the first liter (or 500mL) of water into the container provided. Leave approximately 1-inch headspace for mixing at the laboratory. Be careful not to touch the inside of the lid or sterile bottle. Record water temperature on the form or in your records.
- **Hot Water Tanks (Drinking Water: Container #49 and or #81):** For sediment testing, open drain valve and immediately fill small bottle (#81 120mL). For bulk hot water tank water, let the water continue to drain a few minutes and then collect one liter of water. Leave approximately 1-inch headspace in bottle for mixing.
- **Cooling Towers (Container #81):** Fill container to approximately 120ml of cooling water.
- **Swabs (Surfaces: Container #83):** At the sampling faucet, remove strainers, screens, diffusers, or shower heads before collection. Moisten the outlet by briefly turning on the hot water. At each site, take the swab out of the container, being careful not to touch the swab and ream out the inside surface of the faucet as far as the swab will reach (four times around the inner circumference). Also swab inside the removed showerhead (rotate over the entire surface of the showerhead four times). Place swab back into tube and label appropriately.
- Record **Sample Location**, **Collection Date**, and **Water Temperature** on the collection form and respective bottles.
- Place the bottles and swabs in the bottom of cooler. Avoid direct contact between sample and ice packs by insulating samples with bubble-wrap or crumpled paper. Package samples with frozen ice packs for shipment to the laboratory. Secure cooler lid, and place shipping label on the cooler.

Shipping Instructions

- Ship sample same day as collected. **Sample should be received in the Lab within 2 days of collection and received cool but not frozen.**
- Ship overnight avoiding Friday, weekend and holiday mailings. Iowa facilities can use UPS and Fed Ex (ground) for shipment to arrive in laboratory next day.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions and scheduling: 319-335-4366

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Legionella Testing

Container #51

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Sample Collection and Shipping Instructions

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- **Please call the Lab prior to collecting sample to schedule analysis time.**
- If you wish to take the water temperature, you will need to provide a thermometer for this purpose.
- **Faucets/shower heads -Drinking Water Sample:** Turn on the hot or cold water tap (depending on which water you wish to investigate), and immediately collect the first 500mL of water into the container provided (fill to neck of bottle). Be careful not to touch the inside of the lid or sterile bottle. Record hot water temperature on the form or in your records..
- **Hot Water Tank Water Sample:** Open the drain valve at the base of the tank slowly until sediment from the boiler appears. Continue flushing until the sediment disappears and then collect the water sample. Fill to neck of bottle and secure lid.
- Place the bottles in the bottom of the cooler. Remove ice packs from the freezer, and place them in the cooler but NOT in direct contact with the sample bottles. Use bubble-wrap or crumpled newspaper between bottle and ice packs. Secure cooler lid, and place shipping label on the cooler.

Shipping Instructions

- Ship sample promptly, **sample must be received in the Lab within 48 hours of collections and received cooled but not frozen.**
- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of acceptable shipment options to ensure rapid delivery.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions and scheduling: 319-335-4366

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container #58

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Chlorite, Chlorate, Bromate

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Coralville or Lakeside (Milford) laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Lead in Dust

Container #59

Collection and Shipping Instructions

Collection and Handling

- Latex or nitrile gloves should be worn.
- Mark and measure area to be sampled e.g.,12'X12" square on a floor.
- Open wipe and unfold completely. Completely wipe the area marked from side to side.
- Fold wipe in half dirty side in. Wipe same area completely up and down.
- Fold again dirty side in and put the wipe in the tube.
- Complete information on the container label.
- Fill out the sample collection form provided. Be sure to include the area of measurement.
- When submitting multiple samples be sure tube labels correlate to information on sheet.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Lead in Paint

Container #59

Collection and Shipping Instructions

Collection and Handling

- Be sure sample is representative of area of interest.
- Different paints should be submitted in separate containers.
- Lift paint using sharp knife taking a minimum of the underlying surface.
  If paint chips are mixed in soil, minimize amount of soil included in the sample.
- Collect one half teaspoon of paint, if possible.
- Complete information on the container label.
- Fill out the sample collection form provided.
- When submitting multiple samples, be sure tube labels correlate to information on sheet.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Lead in Soil

Container #59

Specimen Collection and Shipping Instructions

Collection and Handling

- Be sure sample is representative of area of interest. If the area is large, take multiple portions of soil across the entire area, and mix thoroughly in a large bucket.
- Fill sample tube with thoroughly mixed soil.
- Complete information on the container label.
- Fill out the sample collection form provided.
- When submitting multiple samples, be sure tube labels correlate to information on sheet.
- Ship sample promptly after collection.

Shipping Instructions

- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Container #62

E.coli and/or Fecal Coliform in Sediment or Soil

Collection and Shipping Instructions

Collection and Handling

- **Please call the lab prior to collecting multiple samples to schedule analysis time.**
- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- Complete the sample collection form and label sample bottle with NAME and SITE LOCATION BEFORE collection. Please use pencil or waterproof ink.
- While holding the sample collection bottle in one hand, remove and hold the cap with the other hand, taking care not to touch the inside of the cap. Container is sterile so do not touch inside lid or bottle. Gloves may be worn if necessary.
- In a single motion, scoop the collection bottle through the sediment/soil, submerging the sample bottle to the depth in question (e.g., surface scrapings or deeper). Always keep mouth of bottle in front of hand during collection. Only fill container half full to ensure proper mixing at lab. Replace the cap.
- **Immediately begin cooling sample to <10°C (50°F).**
- Place the bottle in cooler and wrap the bottle with bubble wrap or newspaper on all sides. Remove the ice packs from the freezer and place in cooler surrounding the bubble-wrapped bottles (place on opposite sides). Make sure ice packs are not in direct contact with the bottle. Fill the remaining cooler space with either bubble wrap, newspaper or other paper so the bottles and ice packs are packed tightly (minimal air space). One bottle requires two ice packs, two bottles require three and three bottles require four, etc. Secure cooler lid and place shipping label on the cooler.

Shipping Instructions

- Hand deliver samples ASAP, **samples must arrive at the laboratory within 7 hrs of collection and received cooled but not frozen (< 10° C).**
- Sample may be brought directly to either Coralville (7am-5pm M-F and Sat 9-12), Ankeny or Lakeside laboratories (8-5 M-F).
- Avoid weekend and holiday collections unless prior arrangements have been made.

Contact Information

- Client Services section for general questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions or scheduling: 319-335-4366

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Container #62

Collection and Shipping Instructions

Fecal Coliform Sludge (7 samples) - Coralville Lab Only

Collection and Handling

- **You must schedule testing by calling the Laboratory at least 2 days prior to collecting/shipping sample(s).** Notify lab if prior arrangements change. If sample testing is not scheduled, there may be an additional cost for the analysis.
- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- Open and handle bottle aseptically. Container is sterile so do not touch inside lid or bottle. Gloves may be worn if necessary.
- Place sludge material in container; only fill container half-way to allow mixing in the lab
- Seal the container tightly and label with name and site location.
- Place sludge-filled containers in zip-lock bags provided.
- **Immediately** begin cooling sample to <10°C (50°F).
- Fill out the sample collection form provided.
- Place the containers in cooler and surround the containers with bubble wrap or newspaper on all sides. Remove the frozen ice packs from the freezer and place in cooler surrounding the bubble-wrapped containers (place on opposite sides). Make sure ice packs are **NOT** in direct contact with the containers and the containers and ice packs are packed tightly (minimal air space) to avoid breakage in transit.

Shipping Instructions

- Samples must arrive at the **Coralville** laboratory **within 8 hours of collection** and received <10° C and not frozen. Note: holding time for Class A fecal coliform MPN testing is 24 hrs.
- Hand deliver samples ASAP to the **Coralville** lab after collection; laboratory requests sample receipt before 2pm to allow a couple hours for processing.
- Avoid weekend and holiday collections unless prior arrangements have been made.

Contact Information

- Client Services section for general questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions or scheduling: 319-335-4366

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Container #62

Fecal Coliform Sludge (7 samples)

Analyzed in Coralville and/or Ankeny Laboratories only

Collection and Shipping Instructions

Collection and Handling

- **Must schedule testing by calling the Laboratory you are taking the samples to, at least 2 days prior to collecting/shipping sample(s).** Notify lab if prior arrangements change. If sample testing is not scheduled, there may be an additional cost for the analysis.
- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- Open and handle bottle aseptically. Container is sterile so do not touch inside lid or bottle. Gloves may be worn if necessary.
- Place sludge material in container; only fill container half-way to allow mixing at Laboratory.
- Seal the container tightly and label with name and site location.
- Place sludge-filled containers in zip-lock bags provided.
- **Immediately** begin cooling sample to <10°C (50°F).
- Fill out the sample collection form provided.
- Place the containers in cooler and surround the containers with bubble wrap or newspaper on all sides. Remove the frozen ice packs from the freezer and place in cooler surrounding the bubble-wrapped containers (place on opposite sides). Make sure ice packs are **NOT** in direct contact with the containers and the containers and ice packs are packed tightly (minimal air space) to avoid breakage in transit.

Shipping Instructions

- Samples must arrive at the laboratory **within 7 hours of collection** and received <10° C and not frozen.
- Hand deliver samples ASAP to the laboratory after collection; laboratory requests sample receipt before 2pm to allow for processing.
- Collect and deliver samples on Monday, Tuesday, Wednesday, or Thursday. Avoid weekend and holiday collections unless prior arrangements have been made.
- Note: holding time for Class A fecal coliform MPN testing is 24 hrs.

Contact Information

- Environmental Microbiology-technical questions and scheduling: Coralville:319-335-4366 or Ankeny 515-725-1600
- Environmental Client Services-general questions, orders, etc., 800-421-4692 or 319-335-4500

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Phytoplankton

Container # 64

Collection and Shipping Instructions

Collection and Handling

- Exercise care in opening the container so that preservative (Lugol's Solution and formalin) is not spilled.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Fill container to the bottle neck with water and reseal the container.
- Be careful not to stir up the sediment when collecting sample. Excessive sediment can make sample processing impossible.
- Complete information on the container label.
- Store at room temperature. Extreme heat can be damaging to the sample.
- Fill out the sample collection form provided.
- Ship sample after collection at your earliest convenience.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Collection and Shipping Instructions

Arsenic Speciation Analysis

Arsenic (III) and Arsenic (V)

Container #70

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Place container in the plastic bag provided and secure with twist-tie.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Do not place form in plastic bag with bottle.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Specimen Collection and Shipping Instructions

Total Organic Carbon (TOC)

Container #74

Preserved with liquid hydrochloric acid
DO NOT RINSE OUT PRESERVATIVE

Sample Collection and Handling

- **Be sure ice packs are frozen prior to sample collection.**
- **CAUTION**: Use extra care when handling any container with preservative. If any acid spills on skin or clothing, immediately rinse with copious amounts of water.
- **DO NOT** rinse out the bottle.
- Recommend samples be collected Monday, Tuesday, or Wednesday, immediately cooled, and shipped using an overnight courier service to insure ice packs *do not* completely thaw.
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the sample container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6ºC (43ºF). Samples **MUST** maintain temperature of 6°C or lower during shipping.
- Fill out the sample collection form provided.
- Ship sample promptly after collection.
- If you are on a monthly monitoring schedule, we recommend collection of samples early in the month to allow for recollection if there are any problems.

Shipping Instructions

- Package sample with **frozen ice packs** or **wet ice** for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Coralville, or Lakeside (Milford) laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500.

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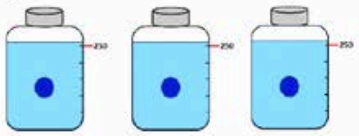
PFAS IN DRINKING WATER COLLECTION INSTRUCTIONS

- **Read ALL Instructions Carefully Before Collecting Samples.**
- **ONLY SAMPLE on Monday, Tuesday, or Wednesday. DO NOT sample on Friday.**
- **SHIP on the day of collection to arrive the next day.**
- **FOR EACH SITE AND/OR METHOD (i.e., EPA 533 and/or EPA 537.1)**, this kit contains 2 zip-top bags, 3 pairs of nitrile gloves, 1 liner bag, 1 zip-tie, 5 bottles, and paperwork.
- **DO NOT** open the bottles unless ready to collect the samples, and **DO NOT RINSE** any of the bottles.
- **AVOID** wearing clothing or boots with stain or water resistant coatings such as Gore-Tex ™ or Tyvek.
- **AVOID** using cosmetics, moisturizer, sunscreen, or insect repellents on the day of sampling.

Bottle	Qty	Description	Use the Bottle To:
Sample (blue sticker)	3	Empty 250 mL bottle with preservative	Collect the sample
FRB-A (yellow or green sticker)	1	250 mL bottle filled with water	Fill the bottle labeled FRB-B
FRB-B (yellow or green sticker)	1	Empty 250 mL bottle	Fill from FRB-A in the field

Step 1: PFAS Sample Collection

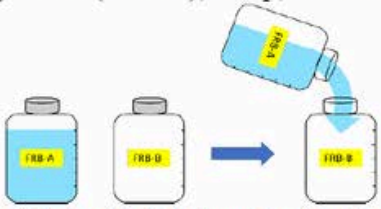
- ✓ Wash hands and put on provided gloves.
- ✓ Remove the aerator from the sampling point (if necessary).
- ✓ Run the **cold water** at full stream for at least 10 minutes. **Slow** the stream to a pencil's thickness.
- ✓ One at a time, fill the sample bottles (blue stickers) to the shoulder and cap immediately.



- ✓ Invert the bottles a few times to dissolve the preservative.
- ✓ Fill out the bottle labels and put the filled bottles into a zip-top bag.

Step 2: Sampling the Field Blank (FRB)

- ✓ Remove the caps from the **color-matched** field blank bottles (FRB-A & FRB-B)
- ✓ Carefully pour the prefilled bottle (FRB-A) into empty bottle (FRB-B), recap, and invert to mix.



- ✓ Fill out the bottle labels and put both bottles into the 2nd zip-top bag.

Step 3: Packing and Shipping

- ✓ Ensure the bottle labels and test request form are filled out completely.
- ✓ Line the cooler with the provided bag.
- ✓ Put the bottles (contained in zip-top bags) inside the lined cooler.
- ✓ Add **wet ice around the bottles** in the lined cooler and seal the liner with the provided zip tie.
- ✓ Put the test request form in the plastic bag and place on top of the cooler contents.
- ✓ Seal the cooler with packing tap before shipping.
- ✓ Samples must be shipped to arrive the next day or must dropped off on the day of collection.
- ✓ Samples must be received by the lab within 48 hours of collection.
- ✓ Samples' temperature must be at or less than 10°C (50°F), and greater than 0°C (not frozen).
- ✓ Samples arriving at the over 10°C or exceeding the 48 hours receipt time must be recollected.

Contact Us if You Have Any Questions:
State Hygienic Laboratory at The University of Iowa
UI Research Park/2490 Crosspark RD, Coralville, IA 52241
2220 S. Ankeny Blvd., Ankeny, IA 50023

(319) 335-4500 Fax: (319)335-4555 (Coralville Laboratory)
(515) 725-1600 Fax: (515)725-1642 (Ankeny Laboratory)
Client Services: questions, orders, 800-421-4692 or 319-335-4500

IOWA State Hygienic Laboratory

PFAS SAMPLE COLLECTION INSTRUCTIONS QUICK GUIDE

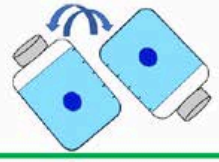
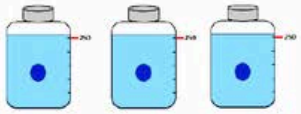
- Read the collection instructions carefully.
- Do not Rinse any of the bottles.
- Do not touch the inside of the bottle or caps.
- Do not forget to fill the labels and the form.
- Arrange to ship or drop off the same day.

Collecting Samples

Wash Hand and Wear Gloves → Run Cold Water for 10 min → Reduce the Stream to Pencil Thickness → One at a time, uncap and fill the bottles (coded with blue stickers) to the shoulder

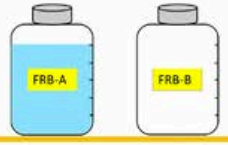


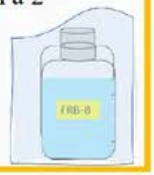

Screw the cap tightly and invert a few times to mix ← Repeat the process for the other two bottles with the blue stickers ← Fill labels and put the filled bottles in a zip-top bag


Collecting Field Blank

Keep Wearing Gloves → Get the two **color-matched** FRB bottles from the kit → Uncap both and pour FRB-A into FRB-B → Cap, invert to mix, fill out labels, and put in a 2nd zip-top bag.

Packing and Shipping

Line the cooler with provided liner bag → Place the bottles inside the liner bag and **put wet ice around the bottles** → Seal the liner bag with the zip tie, complete the paperwork, and place it on top → Ship or drop off on the day of collection

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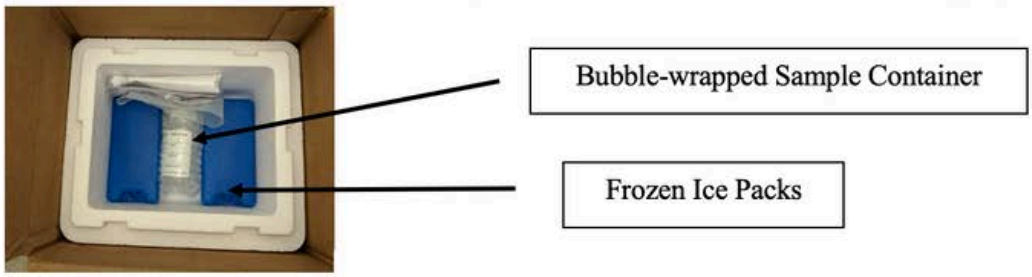
Container #81

Sample Collection and Shipping Instructions

E.coli and Fecal Coliform in Surface Water

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Complete the sample collection form and label sample bottle with NAME and SITE LOCATION BEFORE collection. Use pencil or waterproof ink.
- Water samples should be collected in open water that is at least 2-3 feet in depth and collected 12-18 inches below the surface. NOTE: if shipping samples, suggest collection after 8:00 am in case UPS delivers samples late to SHL the next day.
- Remove the neck band completely from the bottle before opening and sampling. While holding the sample collection bottle in one hand, remove and hold the cap with the other hand, taking care not to touch the inside of the cap.
- In a single motion, sweep the collection bottle downward through the water, submerging the sample bottle to approximately elbow depth and return to the surface. Mouth of bottle should be in front of hand at all times during collection. Replace the lid
- Remove the ice packs from the freezer and place in cooler surrounding the bubble-wrapped bottles (place on opposite sides as shown in photo below). Make sure ice packs are not in direct contact with the bottle; must have bubble-wrap in between. Fill the remaining cooler space with either bubble wrap or newspaper or other paper so the bottles and ice packs are packed tightly (minimal air space). One bottle requires two ice packs, two bottles require three and three bottles require four, etc. Secure cooler lid and place shipping label on the cooler.



Shipping Instructions

- Either hand deliver or ship samples SAME DAY as collected Samples should arrive in the laboratory **within 8 hours of collection and temperature ≤ 10 ° C (not frozen)**. Avoid Friday, weekend, and holiday mailings unless prior arrangements are made.
- UPS and FedEx (ground) are examples of acceptable shipment options to ensure rapid delivery within Iowa borders.
- Samples may be brought directly to either the Ankeny, Coralville or Lakeside laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions or scheduling: 319-335-4366

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Sample Collection and Shipping Instructions

E.coli Fecal Coliform for NPDES Compliance

Container #81
Preservative added
DO NOT RINSE OUT PRESERVATIVE

IDNR Sample Collection Guidelines

- Sampling period: March 15-November 15
- Five samples collected in one calendar month per specified quarter (March-May; June-Aug; Sept-Nov)
- Samples must be equally spaced over one calendar month and no more than one sample collected on any one day.
- There must be a minimum of two days (48 hours) between each sample collection

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- Remove the neck band completely from the bottle before opening and sampling. ~~Open and handle bottle aseptically.~~ Container is sterile so do not touch inside bottle or lid.
- Fill bottle with wastewater to the 120mL line on bottle (one-inch head space required for mixing in the laboratory)
- Seal and label bottle with **NAME** and **SITE LOCATION**.
- **Immediately begin cooling sample to < 10°C (50°F).**
- Fill out the sample collection form provided.
- Place the bottle in cooler and wrap the bottle with bubble wrap or newspaper on all sides. Remove the ice packs from the freezer and place in cooler surrounding the bubble-wrapped bottles (place on opposite sides). Make sure ice packs are not in direct contact with the bottle. Fill the remaining cooler space with either bubble wrap or news or other paper so the bottles and ice packs are packed tightly (minimal air space). One bottle requires two ice packs, two bottles require three and three bottles require four, etc. Secure cooler lid and place shipping label on the cooler.

(photo by SHL)

Shipping Instructions

- Hand deliver samples ASAP, **samples must arrive at the laboratory within 8 hours of collection and received cooled but not frozen (< 10° C)**. Laboratory requests receipt within 7 hours to allow time for sample processing
- Sample may be brought directly to either Coralville (7am-4pm M-F and Sat 9-11), Ankeny or Lakeside laboratories (8-4 M-F).
- Avoid weekend and holiday collections unless prior arrangements have been made.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions: 319-335-4366

Rev: 4/15/2021

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Container #81
Do not rinse out container – contains chlorine/bromine neutralizer.

Sample Collection and Shipping Instructions

Heterotrophic Plate Count for Dental Offices

Submission Requirements

SHL can provide sample collection containers for heterotrophic plate count testing to help evaluate your water quality. After discussions with the University of Iowa College of Dentistry, we recommend a minimum of three (3) samples at the following times and locations: baseline building sample (not in patient area, e.g., sink in restroom), dental line sample after 2-minute flush, and dental line sample after first patient and after 20 second flush. The dental hand piece should be removed from the line when flushing.

Collection and Handling

- Freeze the ice pack provided in cooler THE DAY BEFORE COLLECTION.
- Remove any aeration devices from the spigot of the faucet.
- Run water for a minimum of 2 minutes to flush the line.
- Reduce flow in order to fill container without splashing.
- Open and handle bottle aseptically so as to not contaminate inside bottle or lid.
- Fill bottle with water up to the shoulder (within ½ inch of top) of the container.
- Seal and label bottle correctly with NAME and SITE LOCATION.
- Fill out the sampling information form provided.

Shipping Instructions

- Samples must arrive at the laboratory within 24 hours of collection and cool (< 10 ° C). Ship samples immediately after collection, and avoid Friday, weekend, and holiday mailings. UPS and Fed Ex (ground) are examples of acceptable shipment options to ensure rapid delivery within Iowa borders.
- Do not send payment with sample; you will be billed.

Interpretation

The recommended heterotrophic plate count result for public drinking water quality is <500 colony-forming units per milliliter. Most chlorinated public water supplies should be able to provide this level of water quality. The American Dental Association has suggested a guideline for heterotrophic plate count of <200 colony-forming units per milliliter. If your numbers are higher than these recommendations, you may wish to evaluate your preventive maintenance practices, overall distribution water quality (e.g., any contaminated treatment device in the line, back-siphoning events), and dental unit sterilization practices, etc. A good discussion of issues surrounding dental unit waterline quality is listed below: Guidelines for Infection Control in Dental Health Care Settings.

Contact Information

- Environmental Microbiology section for technical questions: 319/335-4500
- Client Services staff for bottle orders: 319/335-4500
- Guidelines for Infection Control in Dental Health Care Settings, CDC, 12/19/2003, MMWR 52 (RR-17)

Rev: 4/27/20

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Container #81

Preservative Added
DO NOT RINSE OUT
PRESERVATIVE

Heterotrophic Plate Count

Sample Collection and Shipping Instructions

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- Select a clean, indoor faucet where aerator is or can be removed. Avoid leaking taps.
- Remove aeration devices, screen, or hose attachments (if unable to remove, select another tap) from the spigot of the faucet.
- Run water for at least 2 – 3 minutes to flush the line.
- Open cold water tap to obtain smooth-flowing stream at moderate pressure without splashing (if water flow is not steady, select another tap).
- Reduce flow slightly (pencil width) to fill container without splashing.
- Remove the neck band completely from the bottle before opening and sampling to prevent contamination.
- Fill container slowly with water to **"120 mL"** mark on bottle. Caution: Inside sample bottle is sterile – avoid placing fingers inside bottle or cap. White powder is a chlorine neutralizer that should not be rinsed out of bottle.
- Remove bottle from stream and immediately place cap on bottle. Tighten cap to avoid leakage in transit. Do not over-tighten or cap may split. Label bottle with NAME and SITE LOCATION.
- Begin cooling sample to < 10°C (50°F) by placing the bottle in cooler and surround the bottle with bubble wrap or newspaper on all sides. Remove the ice packs from the freezer and place in cooler surrounding the bubble-wrapped bottles (place on opposite sides). Make sure the ice packs are not in direct contact with the bottle and the bottles and ice packs are packed tightly (minimal air space). One bottle requires two ice packs, two bottles require three and three bottles require four, etc.
- Fill out the sample collection form provided and place in cooler.
- Secure cooler lid and place shipping label on the cooler.

Shipping Instructions

- Ship sample same day as collected, sample must be received in the Lab **within 30 hours of collection and received cooled (<10°C) but not frozen.** Avoid Friday, weekend, and holiday mailings unless prior arrangements have been made. ***NOTE: holding time for source water compliance is 8 hours.***
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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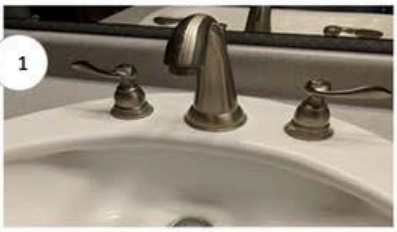
Drinking Water Collection Instructions

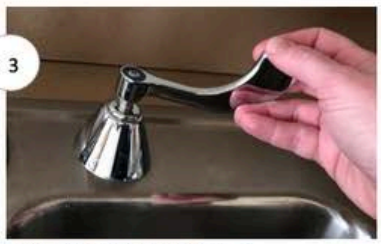
TOTAL COLIFORM and *E. coli* Bacteria

Bottle is sterile and contains sodium thiosulfate for chlorine neutralization (when necessary). **Remove the neck band completely from the bottle before opening and collecting the sample.**
DO NOT RINSE OUT BOTTLE. DO NOT TOUCH INSIDE BOTTLE OR LID.



Choose a faucet.
Choose an indoor faucet without a sprayer or swivel. Do not use a leaking faucet.

Remove the aerator screen.
Not all faucets have aerators. If there is an aeration screen, remove it. If it does not come off, choose a different faucet.



Flush the cold water line. *
Turn the cold water to a moderate flow so it doesn't splash. Let the water run for 2 – 3 minutes to flush out the line.

Reduce the water stream.
Reduce the water flow to a slow, gentle stream so it does not splash out of the bottle.

Fill bottle to 120 mL line.
Hold the cap; slowly fill the bottle to 120 mL line. Do not overfill or pour out.

Label bottle, complete form.
Bottle must indicate the owner's name, location, date and time of collection. Complete the sample collection form.

BEFORE SAMPLE COLLECTION

* When outside sample collection is necessary, longer flushing (10-15 minutes) is required, and possibly faucet disinfection (flame or chlorine; one tsp bleach/one gallon water)

48 hr

Prepare to promptly ship sample to ensure its arrival at the laboratory within 48 hours of collection. Plan accordingly for sample delivery during business hours; avoid Friday, weekend and holiday mailings.

AFTER SAMPLE COLLECTION

Immediately return to the lab. Samples must arrive within 48 hours.

Mailing/Shipping:
Send immediately by USPS, UPS or FedEx (ground)

In-Person Delivery:
8:00 a.m. – 5:00 p.m., Monday to Friday
Coralville, Ankeny, or Lakeside Lab

9:00 a.m. – 12:00 p.m., Saturday
Coralville Lab only

State Hygienic Laboratory- **Coralville**, 2490 Crosspark Road, Coralville, IA 52241
State Hygienic Laboratory- **Ankeny**, 2220 S. Ankeny Blvd, Ankeny, IA 50023
State Hygienic Laboratory- **Lakeside**, 1838 Hwy 86, Milford, IA 51351

Questions? 1.800.421.4692 or shl.uiowa.edu
Effective Date: May 1, 2018

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Container #81
Preservative added
DO NOT RINSE

Collection and Shipping Instructions

SDWA Bacterial *(Repeat Sample Type)*

Requirements: A public water supply must collect a set of 3 repeat samples for each total coliform-positive routine sample. One repeat sample must be from the same tap as the original sample; at least one from a tap within five service connections upstream, and one from a tap within five service connections downstream of the original sampling site. All repeat samples must be collected the same day and within 24 hours of receipt of sampling bottles. If you have questions concerning repeat sampling locations, contact your regional DNR office for guidance.

NOTE: if shipping sample to laboratory, recommend collection AFTER 9:00 am for lab receipt within 30hr holding time. It is best to collect right before carrier service ships to laboratory.

Fill out paperwork completely.

- **Always double-check all preprinted information;** if incorrect, draw a single line through the incorrect information and write correct information
- **Client Reference**: optional client information field. If you have assigned a specific sample point ID number to this location (e.g., 1, 2, 3, etc.), write this number in this field.
- **Repeat Code**: Write the code that corresponds to the location of this sample from the original positive sample site which are as follows: original, upstream, downstream.
- **Relinquished By**: Sign and date if chain of custody requested for legal purposes.

Sampling Instructions:

- Use sample bottle supplied by the lab. Label bottle with facility name, location, and collection date/time.
- Select a clean, indoor faucet where aerator is or can be removed. Avoid leaking taps, outside hydrants, treatment units, swing-type faucets, and water fountains.
- Remove aeration device, screen, or hose attachments (if unable to remove, select another tap).
- Open cold water tap to obtain smooth-flowing stream at moderate pressure without splashing (if water flow is not steady, select another tap).
- Allow water to run to waste for at least 2-3 minutes (time sufficient to clear service line).
- Reduce water flow slightly (pencil-width) to fill bottle without splashing. Do not adjust flow while filling bottle.
- Remove the neck band completely from the bottle before opening and sampling. Fill bottle to **"120 ml" mark.** Caution: Inside sample bottle is sterile – avoid placing fingers inside bottle or cap. Do not place cap down. White powder is a chlorine neutralizer that should not be rinsed out of bottle.
- Remove bottle from stream and immediately place cap on bottle. Tighten cap to avoid leakage in transit. Do not over-tighten or cap may split.

Shipping Instructions:

- Mail or ship sample with completed form the **same day** collected.
- Sample must be received within **30 hours of collection** and not frozen. Avoid Friday, weekend, and holiday mailings. First class postage, UPS or FED EX -ground, or other carrier services may be necessary. to insure rapid delivery from your area.
- Do not send payment with sample; you will be billed.

Contact Information:

- Client Services: 800-421-4692 or 319-335-4500

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Container #81
Preservative Added
DO NOT RINSE

SDWA Bacterial *(Routine and Special Sample Types)*

Collection and Shipping Instructions

NOTE: if shipping sample to laboratory, recommend collection AFTER 9:00 am for lab receipt within 30hr holding time. It is best to collect right before carrier service ships to laboratory.

Fill out paperwork completely:

- **Always double-check all preprinted information;** if incorrect, draw a single line through the incorrect information and write correct information.
- **Client Reference**: optional client information field. If you have assigned a specific sample point ID number to this location (e.g., 1, 2, 3, etc.), write this number in this field.
- **Relinquished By**: Sign and date if chain of custody requested for legal purposes.

Sampling Instructions:

- Use sample bottle supplied by the lab. Label bottle with your facility name, location and collection date/time.
- Select a clean, indoor faucet where aerator is or can be removed. Avoid leaking taps, outside hydrants, treatment units, swing-type faucets and water fountains.
- Remove aeration device, screen, or hose attachments (if unable to remove, select another tap).
- Open cold water tap to obtain smooth-flowing stream at moderate pressure without splashing (if water flow is not steady, select another tap).
- Allow water to run to waste for at least 2-3 minutes (time sufficient to clear service line).
- Reduce water flow slightly (pencil-width) to fill bottle without splashing. Do not adjust flow while filling bottle.
- Remove the neck band completely from the bottle before opening and sampling. Fill bottle to **"120 ml" mark.** Caution: Inside sample bottle is sterile – avoid placing fingers inside bottle or cap. Do not place cap down. White powder is a chlorine neutralizer that should not be rinsed out of bottle.
- Remove bottle from stream and immediately place cap on bottle. Tighten cap to avoid leakage in transit. Do not over-tighten or cap may split.

Shipping Instructions:

- Mail or ship sample with completed form the **same day** collected.
- Sample must be received within **30 hours of collection** and not frozen. Avoid Friday, weekend, and holiday mailings. First class postage, UPS or FED EX -ground, or other carrier services may be necessary to insure rapid delivery from your area.
- Do not send payment with sample; you will be billed.

Contact Information:

- Client Services: 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

Rev: 7/8/2024

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DO NOT RINSE

SDWA Bacterial *(Groundwater Rule: Triggered Source Monitoring)*

Collection and Shipping Instructions

Requirements: Groundwater public water supplies that are notified of a total coliform-positive routine sample must conduct triggered source water monitoring in addition to their distribution repeat coliform bacteria samples (unless facility has applied for a 4-log virus treatment credit with IDNR). Groundwater supplies must collect at least one groundwater source sample from each source in use at the time the total coliform-positive sample was collected. Facility ID number should be the respective well number (e.g. "WL01" or "WL02", etc). If the triggered source water sample is *E.coli* positive, the facility must either take corrective action as directed by IDNR, or must collect five "additional" source water samples from the same well that tested positive within 24 hours of notification.

NOTE: if shipping sample to laboratory, recommend collection AFTER 9:00 am for lab receipt within 30hr holding time. It is best to collect right before carrier service ships to laboratory.

Fill out paperwork completely.

- Always double-check all preprinted information; if incorrect, draw a single line through the incorrect information and write correct information
- Client Reference: optional client information field. If you have assigned a specific sample point ID number to this location (e.g. 1, 2, 3, etc.), write this number in this field.
- Relinquished By: Sign and date if chain of custody requested for legal purposes.
- Sample Collection Point ID
  - o TG = first "triggered" source monitoring sample from total coliform positive routine sample
  - o AD = one of 5 "additional" source monitoring samples from an *E.coli*-positive triggered sample
  - o AS = "assessment" source monitoring sample

Sampling Instructions:

- Use sample bottle supplied by the lab. Label bottle with facility name, location, and collection date/time. Preferably select a clean, indoor source water tap before treatment where aerator or hose attachments can be removed (if unable to remove, select another tap). If not available, select first service connection tap closest to the source and if after treatment, treatment must be halted for this sample collection. Remove aeration device, screen, or hose attachments (if unable to remove, select another tap). Open cold water tap to obtain smooth-flowing stream at moderate pressure without splashing (if water flow is not steady, select another tap). Allow water to run to waste for at least 2-3 minutes (time sufficient to clear service line). Reduce water flow slightly (pencil-width) to fill bottle without splashing. Do not adjust flow while filling bottle. Fill bottle to "120 ml" mark. Caution: Inside sample bottle is sterile – avoid placing fingers inside bottle or cap.
- Do not place cap down. White powder is a chlorine neutralizer that should not be rinsed out of bottle.
- Remove bottle from stream and immediately place cap on bottle. Tighten cap to avoid leakage in transit. Do not over-tighten or cap may split.

Shipping Instructions:

- Mail or ship sample with completed form the same day collected.
- Sample must be received within 30 hours of collection and not frozen. Avoid Friday, weekend, and holiday mailings. First class postage, UPS or FED EX -ground, or other carrier services may be necessary to insure rapid delivery from your area.
- Do not send payment with sample; you will be billed.

Contact Information:

- Client Services: 800-421-4692 or 319-335-4500

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#81
Bottle Contains preservative
DO NOT RINSE OUT CONTAINER

Collection and Shipping Instructions

Pool and/or Spa Testing

Collection and Handling

- Collect samples in area of, or during the time of, maximum bather density. Two samples (deep end and shallow end) are recommended for swimming pools but only one required.
- Remove the neck band completely from the bottle before opening and sampling. Carefully remove cap of bottle and hold the bottle near its base at an angle of 45°.
- Fill the bottle (to within 1 inch from the top) in one slow sweep below the surface of the water. Make sure mouth of bottle is always ahead of hand. Caution: Inside of sample bottle is sterile and contains powdered sodium thiosulfate (chlorine/bromine neutralizer). Avoid placing fingers inside bottle or cap, and do not rinse out bottle. Do not set cap down.
- One bottle needed per test requested.
  - Pool Water: one bottle for total coliform analysis
  - Spa Water: two bottles for total coliform and *Pseudomonas aeruginosa* analyses OR one bottle if only one test needed for a recheck test.
- Tighten the cap to avoid leakage in transit. Do not over tighten or cap may split.
- Label bottle correctly with FACILITY NAME, COLLECTION DATE and TIME. If you are submitting more than one sample from different locations, also include the sample location on the label (e.g., wading pool, deep end).
- Fill out the sample collection form provided.
- Ship sample promptly, **sample must be received in the Lab within 48 hours of collection**.

Shipping Instructions

- Ship samples same day as collected; **samples must be received in the Lab within 48 hours of collection.** Avoid Friday, weekend or holiday mailings unless prior arrangements have been made.
- First-class postage, UPS and Fed Ex (ground) are examples of acceptable shipment options to ensure rapid delivery from your area.
- Samples may be brought directly to either the Ankeny, Coralville, or Lakeside (Milford) laboratories.

Contact Information

- Client Services: Questions and orders, etc., 800-421-4692 or 319-335-4500
- Appropriate county health personnel are notified of all positive results.

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container # 86

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Hexavalent Chromium

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection**.
- Run water for at least 2 – 3 minutes to flush the line.
- **Use caution when opening container. Ammonia vapor from the preservative may be irritating.**
- Fill container slowly with water to within ½ inch from top – Do not overflow.
- Seal the container tightly.
- Complete information on the container label.
- Begin cooling sample to < 6°C (43°F).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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State Hygienic Laboratory at The University of Iowa
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Ankeny Laboratory
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Ankeny, IA 50023-9093
(515)725-1600 Fax: (515)725-1642

Iowa Lakeside Laboratory
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Milford, IA 51351-7267
(712)337-3669 ext. 6

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Haloacetic Acid (HAA5)

Container #87

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Collection and Handling

- Be sure ice packs are frozen prior to sample collection
- Care should be exercised when handling any container with preservative. In case of contact with skin or clothing, immediately rinse with water.
- Remove any aerator and run water for at least 2 – 3 minutes to flush the line.
- Fill container slowly with water completely to the top so there is no airspace.
- Seal the container tightly.
- Gently shake the container by hand for about 1 minute.
- Complete information on the container label.
- Begin cooling sample to < 6oC (43oF).
- Fill out the sample collection form provided.
- Ship sample promptly after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to either the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Container #88

Preservative Added
DO NOT RINSE OUT PRESERVATIVE

Collection and Shipping Instructions

Algal Toxins (Microcystins) in Water by Immunoassay

Collection and Handling

- Immediately freeze the reusable ice packs provided in the cooler.
- For drinking water sample run water for at least 30 seconds to flush the line.
- For surface water, partially immerse the bottle in the water source.
- At each sample site fill 2 vials to within ½ inch of shoulder with water. DO NOT fill to the top (See *Image A*).
- Replace lid and carefully tighten.
- Complete information on the container label.
- Once sample is collected, place the 2 vials in the bubble wrap bag provided and secure with rubber band.
- Fill out the sampling information form provided.
- Ship sample and completed information form promptly after collection.
- If sample cannot be shipped the same day of collection, immediately cool to less than 6°C or 42°F. And ship sample as soon as possible.

Image A

Packing Instructions

- Put the frozen ice packs in the bottom of the cooler.
- Take the bubble wrapped vials and put-on top of the frozen ice packs. (See *Image B*)
- Return the **filled-out sample submittal form** to the plastic bag it came in. Place the form in plastic over the vials, inside the cooler, to help keep the vials from shifting around and breaking.
- Put the cooler lid on and tape box shut.

*If you feel additional packing material is needed or if the material sent with the kit is misplaced, use newspaper or brown paper. Scrunch a little of the paper and place between the ice packs and the vials. Add the vials and then place the paperwork in plastic on top of the vials. Put the lid on and tape shut.


Image B

Shipping Instructions

Samples are to be at the laboratory within 3 days of collection. You may ship them to our Coralville Laboratory, or you may drop them off at any of our laboratory locations: Ankeny (by 4:30pm), Coralville (by 5:00pm) or Lakeside in Milford (by 12:00 noon).

Contact Information: Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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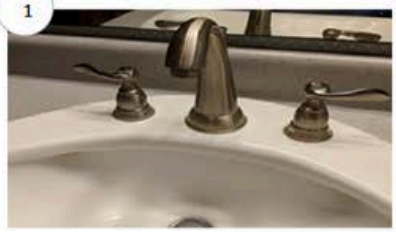
Drinking Water Collection Instructions

TOTAL COLIFORM BACTERIA AND NITRATE

CAUTION

Bottles are sterile. One bottle contains sodium thiosulfate for chlorine neutralization.
DO NOT RINSE OUT BOTTLES. DO NOT TOUCH INSIDE BOTTLES OR LIDS.

1

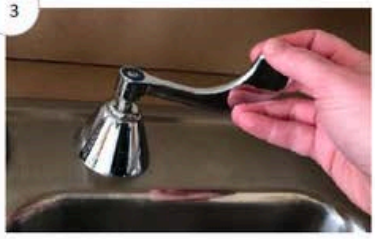


Choose a faucet.
Choose an indoor faucet without a sprayer or swivel. Do not use a leaking faucet.

2

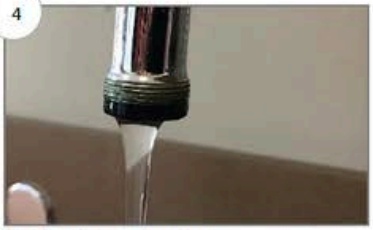
Remove the aerator screen.
Not all faucets have aerators. If there is an aeration screen, remove it. If it does not come off, choose a different faucet.

3



*Flush the cold water line. **
Turn the cold water to a moderate flow so it doesn't splash. Let the water run for 2 – 3 minutes to flush out the line.

4



Reduce the water stream.
Reduce the water flow to a slow, gentle stream so it does not splash out of the bottle.

5

Fill each bottle:
One to 120 mL, one to shoulder.
Hold the cap; slowly fill the bottle to 120 mL line. Repeat with other bottle, filling to shoulder. **Do not overfill or pour out.**

6

Label each bottle, complete form.
Each bottle must indicate the owner name, location, date and time of collection. Complete the sample collection form.

BEFORE SAMPLE COLLECTION

* When outside sample collection is necessary, longer flushing (10-15 minutes) is required, and possibly faucet disinfection (flame or chlorine; one tsp bleach/one gallon water)

48hr

Prepare to promptly ship sample to ensure its arrival at the laboratory within 48 hours of collection. Plan accordingly for sample delivery during business hours; avoid Friday, weekend and holiday mailings.

AFTER SAMPLE COLLECTION

Immediately return to the lab. Samples must arrive within 48 hours.

Mailing/Shipping:
Send immediately by USPS, UPS or FedEx (ground)

In-Person Delivery:
8:00 a.m. – 5:00 p.m., Monday to Friday
Coralville, Ankeny, or Lakeside Lab

9:00 a.m. – 12:00 p.m., Saturday
Coralville Lab only

State Hygienic Laboratory- **Coralville**, 2490 Crosspark Road, Coralville, IA 52241
State Hygienic Laboratory- **Ankeny**, 2220 S. Ankeny Blvd, Ankeny, IA 50023
State Hygienic Laboratory- **Lakeside**, 1838 Hwy 86, Milford, IA 51351

Questions? 1.800.421.4692 or shl.uiowa.edu
Effective Date: May 1, 2018

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Neonicotinoids in Water

Container #101

Collection and Shipping Instructions

Collection and Handling

- **Be sure ice packs are frozen prior to sample collection or use bagged ice.**
- Fill the bottle to the shoulder and seal.
- Complete information on the container label.
- Fill out the sampling information form provided.
- Ship sample immediately or as soon as possible after collection.

Shipping Instructions

- Package sample with frozen ice packs or bagged ice for shipment to the laboratory.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample may be brought directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

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Pathogen Wastewater Grab Sample

Container #106
Personal Protective Equipment (PPE)
Disposable nitrile/latex gloves and
Face shield

Sample Collection and Shipping Instructions

SHL Sampling kit includes:

- Cooler, icepacks, sample containers, collection instructions, sample collection form, and return shipping label.

Collection and Handling

- Unpack cooler upon receipt and place ice packs in freezer at least overnight. Ice packs need to be frozen solid before use.
- **Be sure ice packs are frozen prior to sample collection**.
- Fill bottles with wastewater to the fill-line at the shoulder of the container. Leaving approximately 1 inch of space from top. Do not overflow the containers.
- Replace cap and tighten snugly.
- Fill out information on bottle labels. Include your facility, collection location, date and time collected.
- **Immediately begin cooling sample to < 10°C (50°F).**
- Fill out the sample collection form and return it to the plastic bag.

Packaging Instructions

- Wrap bottles with bubble wrap or packing paper on all sides. Remove the icepacks from the freezer.
- Place the bubble-wrapped bottles in the cooler on opposite sides. Using the frozen icepacks, surround the samples making sure the icepacks are not directly touching the sample bottles. Fill remaining space in cooler with added bubble wrap or packing paper.
- Place the cooler lid on and seal with packing tape.
- Put the plastic bag with the completed sample collection form on top of the cooler. Close the box and seal with tape.
- **Place the return shipping label on the outside of the box and ship to the laboratory.**

Shipping Instructions

- Collect and ship Monday – Wednesday.
- Avoid Friday, weekend, and holiday shipping unless prior arrangements approved.
- **Hand-deliver or ship samples the Same Day as collected. Using the prepaid return shipping label provided by SHL send as Next Day or Overnight shipping.**

Contact Information

- Client Services: questions, orders, shipping 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions: 319-335-4366
- Sample collection video.

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Sample Collection & Shipping Instructions

Pathogen Wastewater Composite Sample (Container #107)

Sampling Kit Contents:

- Cooler, ice packs, sample container, collection instructions, sample collection form, and return shipping label (see Figure 1).

Figure 1: Kit Contents

Before You Begin

- Unpack cooler upon receipt and place ice packs in a freezer. Ice packs need to be frozen solid before sample collection.
- Be prepared to ship samples on **Monday, Tuesday, or Wednesday**. Avoid all other days of the week and holidays unless prior arrangements are made.

Collection

- Label each bottle with the facility name, collection location, and date/time collected. Fill out the sample collection form and place it back in the plastic bag.
- Composite samples are collected by pooling multiple grab samples at a specified frequency (24 hours). Collect untreated wastewater manually or using automated samplers with refrigeration capacity that collect flow-weighted samples (e.g. one sub-sample per 200,000 gallons of flow). Continuous composite samplers (versus flow-weighted) may improve how representative the sample is of the community contributing to the sewer.
- Fill bottles with wastewater to the fill-line at the shoulder. Do not overfill.
- Tightly screw the lid back onto the bottle.
- **Immediately** begin cooling the sample to <10°C (50°F).

Figure 2: Packaging

Packaging

- Place the sample and frozen ice pack(s) in the cooler.
- Using the frozen ice packs, surround the samples making sure the ice packs are **not** directly touching the bottles (see Figure 2). Fill remaining space with bubble wrap or packing paper and place the lid onto the cooler.
- Put the plastic bag with the completed sample collection form on top of the cooler. Close the box and seal with tape. Place the return shipping label on the outside of the box and ship or deliver to the laboratory.

Shipping

- Hand-deliver or ship samples the same day as collected using the provided prepaid return shipping label.

Need help?
Client Services (general questions, orders, shipments, etc) 319-335-4500 / 800-421-4692
Environmental Microbiology (technical questions) 319-335-4366

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1838 Highway 86
Milford, IA 51351-7267
(712) 337-3669 Ext 6

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Two #109 WIIN bottles per structure

First Draw (yellow label)

30-second Flush (green label)

WIIN Lead Sampling in Schools and Child Cares

Collection and Shipping Instructions

Do not discard the shipping boxes. Use the boxes to ship the collected water samples back to lab. In the box there are containers for the First Draw and 30 Second Flush samples for each site, Sample Submittal Forms, Collection and Shipping Instructions sheet, and a UPS Return shipping label.

Instructions for Sample Collection, Paperwork and Bottle Labels

- Before filling the bottle write on the bottle label whether it is a First Draw or 30-second Flush and the collection location (fountain, bathroom faucet, nurse sink, etc…). Add the collection time to the label once the water is collected.
- Use the #109 WINN bottle with the yellow label for the First Draw sample. The water must have sat for at least 6 hours without use. When filling with water, fill to the dotted line on the yellow label.
- For the 30 Second Flush sample, use the #109 WINN bottle with the green label. Collect sample after flushing the line for 30 seconds and after collecting the first draw sample. Fill with water to the dotted line on the green label
- Fill out the sample submittal form by **circling the type of sample collected**: First Draw or 30 Second Flush which is written on the form at the top of the analysis requested, above the Lead (EPA 200.8, AK) BTL #109 WIIN.
- Fill out a separate form for each type of sample (First Draw or 30 Second Flush) at each site. **Do not** put both types of samples on the same form. There should be 2 forms filled out at each location.
- Follow the instructions from the Dept of Education (contact information is below) as to what information goes in each of the spaces on the forms. All forms must be filled out completely.

Shipping Instructions

- Place all completed forms back into the plastic bag they came in. Make sure there is one form for each of the bottles.
- Place the filled containers in the shipping box they came in. Use paper filler or bubble wrap to pack the bottles so they will not move around. If they are shipped loosely, it may cause the lids to break and the water to seep out. Thus, the sample will need to be recollected.
- Put the plastic bag with the paperwork on top of the bottles and packing. Fold down the flaps and seal with packing tape.
- Use the UPS return shipping label in each of the shippers by placing on the top of each box. Deliver packages to a UPS drop off site or send with UPS driver if you have one that regularly stops.
- If you do not wish to ship the samples, you are welcome to drop them off at either of our locations. Addresses for our Ankeny Lab and Coralville Lab are below.

Contact Information

SHL Environmental Client Services: questions, orders, etc., 515-725-1600 or 319-335-4500
Lyn Jenkins and/or Melissa Walker, 515-689-3607 or https://educateiowa.gov/pk-12/school-facilities/wiin-lead-testing-school-and-child-care-program-drinking-water-grant

2024-01-10

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Collection and Shipping Instructions

Bulk Asbestos Sample

Dampen the sample collection area with water to minimize fibers becoming airborne.

Carefully cut approximately a 2 inch by 2 inch piece of the material. Be sure to include the entire thickness of the material.

Examples

- Floor tile usually has a glue or mastic that was used to secure it. Oftentimes this glue adheres to the floor tile sample. It is best to submit a floor tile sample with the glue so both the tile and glue will be tested.
- Built up roofing material. It is important to sample the full thickness of this material as sometimes only one layer may contain asbestos.
- Material not amenable to cutting, a minimum of approximately 2 tablespoons of scraped or crumbled material should be sufficient for most materials.
- Vermiculite, be careful not to disturb the material any more than necessary. Attempt to collect vermiculite sample near the bottom of the material. For vermiculite, at least one cup of the material should be collected.

Place each sample in a separate clean Ziploc plastic bag and seal tightly. It is recommended to double bag (place the sealed Ziploc bag inside a second Ziploc bag and seal it also) the sample in case the first bag leaks. Label the bag with sample identification (for instance, kitchen ceiling). Use a paper towel dampened with water to wipe up material on the outside of the Ziploc bag(s) and at the sample collection area. Dispose of the paper towel.

Contact SHL Client Services @ (319) 335-4500 or toll free 800-421-4692, so they may prepare a sampling information form for you. They can fax or email the form to you.

Place the Ziploc bags inside another envelope or box along with the sample information form.

Mail sample(s) and form(s) to:

State Hygienic Laboratory
Attention Sample Receiving
U of I Research Park
2490 Crosspark Road
Coralville, IA 52241-4721

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Fish Tissue Sample Collection

Collection and Shipping Instructions

Please contact the State Hygienic laboratory (SHL) prior to collecting and submitting fish tissue samples. Below are general instructions for collection fish tissue samples. Collection methods can vary; please follow your organization's collection procedures.

Collection and Handling

1. Before processing, record the length (millimeters), weight (grams), and species of each individual fish.
2. All equipment that will come in to contact with fish tissue during processing requires thorough cleaning with soap and water or isopropyl alcohol, followed by a distilled water rinse. Repeat this procedure between samples.
3. To prevent cross-contamination the processor should wear disposable gloves when preparing the tissue samples, making sure to change gloves between each fish. Avoid handling food, drinks, bug spray, and sunscreen products prior to processing samples.
4. Prepare the fish tissue on a cutting board wrapped with heavy-duty aluminum foil. Change the aluminum foil between specimens.
5. SHL will accept whole fish, skin-off fillets, or tissue plugs. Ensure that the samples submitted have sufficient mass for the analyses requested. Please contact the lab if you have questions regarding the amount of sample require.
    a. five fish are usually collected.
    b. Skin-off fillets are usually collected from 3-5 fish. Fillets can be wrapped collectively or individually in Whole fish samples can be wrapped individually or collectively in heavy-duty aluminum foil. Three to heavy-duty aluminum foil.
    c. Tissue plugs are usually taken with a biopsy tool from the area between the dorsal fin and the lateral line. Scrape scales from the area with a scalpel before collecting the plug; skin may be removed from the plug depending on protocol. Samples should be placed in a metal-free tube.
6. For whole fish and skin-off filles, include a label inside the foil wrap indicating species, date collected, sampling location, collector, etc.
7. Vials containing fish tissue plugs should be labeled with species, date collected, sampling location, collector, etc.
8. Place the samples in heavyweight Ziploc plastic bags. Include a second label with the same information as the label inside the foil wrap and seal the bag completely to avoid any potential leaking. Fish from multiple sites may be stored in the same cooler if each sample is stored in a separate, clean Ziploc plastic bag.
9. Freeze samples as soon as possible. Samples may be stored on wet ice for no more that forty-eight hours.
10. Deliver the frozen fish and applicable paperwork either to the lab in person or ship using an overnight service maintaining an acceptable Chain-of-Custody.

Shipping Instructions

- Deliver the frozen fish and applicable paperwork either to the lab in person or ship using an overnight service maintaining an acceptable Chain-of-Custody.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery.
- Sample(s) may also hand delivered directly to the Ankeny, Lakeside (Milford) or Coralville laboratories.

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

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Collection and Shipping Instructions

General Food Sample Collection Instructions

Please call the lab prior to collecting samples to discuss sampling details.

Unpack cooler upon receipt and place ice packs in a freezer overnight.

General materials needed:

- SHL sample collection form
- SHL chain of custody form
- 2- 4 Ice packs
- Bubble-wrap or crumpled newspaper
- Whirlpak® bags or other suitable sterile containers
- Ziploc® bags
- Sterile disposable spoons (opt)
- Sample labels
- Waterproof pen
- Sterile plastic gloves (opt)
- Camera/cell phone for photo documentation (if needed)

Collection and Handling

- Always wash your hands thoroughly (with soap and warm water) before beginning the sampling procedure. Sterile plastic gloves are recommended to enhance aseptic technique.
- Obtain samples of any suspect leftover foods for lab examination as soon as possible. Photos of suspected food with time stamp may be helpful in the investigation.
- Using aseptic technique and sterile containers and implements, collect 100-400 grams (1/2-1 lb, ½-1 pint) of any indicated food sample or if less product is available, collect the entire sample. If the volume of the product is large (e.g. > 5 pounds), contact lab for guidance if the entire container should be submitted to the lab or subsamples collected.
- Collect packaged foods in their original containers if possible. If the sample is a fresh or canned commercially prepared food, note the name of the manufacturer or processor, code or lot number and other identifying characteristics. If possible, collect an unopened container of the same lot number. Obtain the original commercial container or sample if it is available even if it is in the trash (note this appropriately – this container can be very useful in the investigation). When food sample must be placed in containers other than the original container, sterile whirl packs and Ziploc bags, sterile Mason jars, and autoclaved aluminum foil are acceptable.
    - Swab Contact Method (***qualitative***): Please contact the Laboratory and request swabs or

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sponges in neutralizing buffer. To sample equipment or surfaces for suspected bacterial pathogens, open the sterile swab/sponge container, grasp the end of the stick and remove the swab/sponge aseptically. Hold the swab handle to make a 30° – angle contact with the surface. Rub the swab head slowly and thoroughly over the surface. Place swab back in tube. Label and ship to laboratory.

- Label each container or bag with date/time of collection, type of sample and name of establishment (if more than one).
- Do not freeze samples unless they are collected in a frozen state (if they are frozen, keep them frozen).
- Place each sample in another Ziploc® bag to avoid leakage and cross-contamination of other samples. ***Always double-bag items.***
- Complete SHL chain-of custody form and place in plastic sleeve.
- Place frozen ice packs, samples, and form in cooler. Make sure samples are protected from direct contact with ice packs with the use of bubble-wrap or newspaper. Samples should be packed to prevent breakage, spillage, or change in temperature.

Shipping Instructions

- Samples should be delivered to the laboratory as soon as possible **and received cooled but not frozen (< 10° C, unless already frozen then ship frozen)**
  - Hand deliver samples to either Coralville (7am-5pm M-F and Sat 9-12) or Ankeny (8-5 M-F). Note: Samples will be shipped to Coralville lab if dropped off in Ankeny
  - Ship samples to Coralville overnight or if an emergency contact SHL to make arrangements to ship samples using SHL's courier service (Central Delivery Service).
- Notify appropriate SHL personnel of the type and number of samples being shipped and description of the outbreak (e.g. time of onset and description of symptoms are helpful to determine causative agent)
- Avoid weekend and holiday collections unless prior arrangements have been made.

Contact Information

- Client Services section for general questions, orders, etc., 800-421-4692 or 319-335-4500
- Environmental Microbiology section for technical questions or scheduling: 319-335-4366

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IOWA | State Hygienic Laboratory

Collection and Shipping Instructions

Orthophosphate Filtering

Supplies Filters, Syringe, Bottle, and DI water

Equipment needed:

- Filters
- Syringe
- #24 bottle
- DI water for rinsing

Filtering Instructions

Step 1: rinse syringe twice with sample
Step 2: fill syringe with sample
Step 3: attach filter to syringe.
Step 4: push water through the filter. Capture the filtered sample in a #24 bottle. Filter at least 30 ml.
Step 5: rinse syringe with distilled/deionized water. Discard used filters.
Step 6: place #24 bottle in a cooler with ice

Contact Information

- Client Services: questions, orders, etc., 800-421-4692 or 319-335-4500

Note: Samples not meeting preservation or holding time requirements may be analyzed with results qualified unless the submitter or regulations have instructed otherwise.

State Hygienic Laboratory at The University of Iowa
UI Research Park/2490 Crosspark RD
Coralville, IA 52241
(319)335-4500 Fax: (319)335-4555

Ankeny Laboratory
2220 S. Ankeny Blvd.
Ankeny, IA 50023-9093
(515)725-1600 Fax: (515)725-1642

Iowa Lakeside Laboratory
1838 Highway 86
Milford, IA 51351-7267
(712)337-3669 ext. 6

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Collection and Shipping Instructions

Radiochemical Analysis

Sampling and Shipping of Sediment and Water

Sampling Instructions:

- Fill provided 1-gallon water bottle completely with water.
- Place sediment in one of the gallon zippered plastic bags provided. If the sample does not contain much water, fill at least half full.
- If the sample contains significant water, let the sample settle and pour off the excess water. Continue this process until the bag is at least half-full with sediment. Do NOT fill the bag completely.
- Place the bag containing the sample in a second clean zippered plastic bag.
- Fill out the sample collection forms provided. There will be a separate form for the sediment and water samples.

Shipping Instructions:

- Place the double bagged sediment sample and the 1-gallon water sample in separate boxes. Include the sample collection forms with each sample.
- Seal the boxes with tape and place the shipping label provided on the outside.
- UPS and Fed Ex (ground) are examples of shipment options to ensure rapid delivery. Sample must reach the State Hygienic Laboratory within 5 days of collection.

Contact Information:

- Client Services: 800-421-4692 or 319-335-4500

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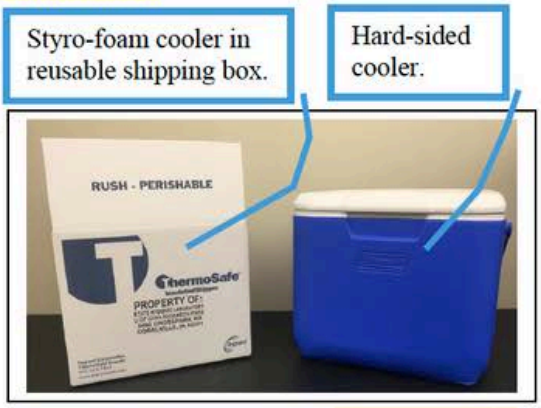
Wet Ice Packing Instructions

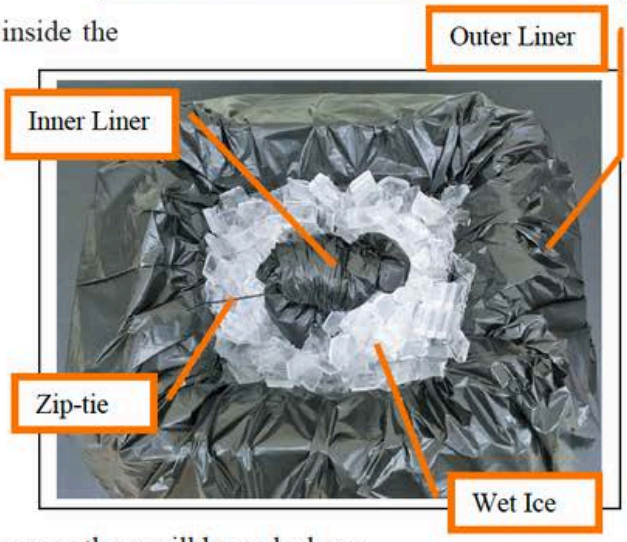
Courier delivery service (i.e. FEDEX or UPS) will NOT transport LEAKING Coolers. It is very important that the wet ice is all contained in sealed bags.

Contents: Cooler, 2 liner bags, 2 zip-ties, sampling containers, paperwork

Packing Instructions



1) After sampling, insert sample containers into the original bubble wrap, Ziplock style bags or other inserts.
2) Your kit should include 2 heavy-weight plastic bags to use as liner bags.
3) Place the first liner bag in the interior of the cooler as an "Outer Liner" see picture below.
4) Pour a single layer of wet ice into the bag to cover the bottom of the outer liner.
5) Add the second bag to the cooler so that it fits inside the *"Outer Liner"* and on top of the layer of ice.
6) Place the samples with bubble wrap, Ziplock style bags or inserts in the "*Inner Liner*" (second bag) as tightly as possible. **Do not let any glass containers touch without having bubble wrap around them first.**
7) Zip-tie the inner bag closed snuggly around the sample containers.
8) Pour ice onto and around the inner liner to fill up any empty spaces between the 2 liner bags. The ice should fill up about 30-50% of the cooler. Leave enough of the outer liner bag free to zip-tie the top.



9) Zip-tie the top of the outer liner in a manner that ensures there will be no leakage.
10) Return the completed Sample Submittal Form in the plastic bag and place in the cooler on top of the outer liner.
11) Ensure contents will not move too much when cooler is closed.
12) Securely seal the cooler with packing tape before you ship.

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Analytical Test Menu

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A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Environmental Microbiology - SDWA									
Total Coliform and E.coli PA (SDWA)	#81 5 oz Plastic IDEXX	Sodium thiosulfate <10°C	< 30 hrs.	Presence/Absence	N/A	SM 9223 B-QT	*	*	*
Total Coliform and E.coli MPH (SDWA)	#81 5 oz Plastic IDEXX	Sodium thiosulfate <10°C	< 30 hrs.	Most Probable Number	<1	SM 9223 B-QT	*	*	*
Heterotrophic Plate Count	#81 5 oz Plastic IDEXX	Sodium thiosulfate <10°C	< 30 hrs.		<1 CFU/mL	SM 9215 B	*	*	
E. coli MPN (LT2)	#81 5 oz Plastic IDEXX	Sodium thiosulfate <10°C Not Frozen	< 30 hrs.	LT2 compliance	<1	SM 9223 B-QT		*	*
Radionuclides -SDWA									
Gross Alpha including Uranium	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	3.0 pCi/L	EPA 00-02		*	
Gross Alpha excluding Radon & Uranium	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	3.0 pCi/L	EPA 900.0/200.8		*	
Gross Beta	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	4.0 pCi/L	EPA 900.0		*	
Cesium-134; Gamma Emitters; Gross gamma; Iodine-131	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	Varies	EPA 901.1		*	
Strontium-89; Strontium-90	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	10 pCi/L 2pCi/L	EPA 905.0		*	
Tritium	#19 120cc Amber Glass w/ Green Cap (baked, unpreserved)	Unpreserved	6 Months		300 pCi/L	EPA 906.0		*	
Radium 226	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	1.0 pCi/L	EPA 903.0		*	
Radium 228	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within **5 days** of collection	1.0 pCi/L	EPA 904.0		*	
Uranium	#7 Pint Plastic/ #29 4oz. Plastic	1:1 Nitric Acid	6 Months		1.0 pCi/L	EPA 200.8	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
REGULATED IOCs Metals									
Antimony (Sb)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.005 mg/L	EPA 200.8	*		
Arsenic (As)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.001 mg/L	EPA 200.8	*		
Cadmium (Cd)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.001 mg/L	EPA 200.8	*		
Selenium (Se)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.8	*		
Thallium (Tl)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.001 mg/L	EPA 200.8	*		
Barium (Ba)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8	*		
Chromium (Cr)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.7 EPA 200.8	*		
Mercury (Hg)	#7 Pint Plastic	4 mL 1:1 nitric acid	28 Days		0.00015 mg/L	EPA 200.7 EPA 200.8	*		
Sodium (Na)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.5 mg/L	EPA 200.7	*		
Beryllium (Be)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.002 mg/L	EPA 200.8	*		
Nitrate & Nitrite									
Nitrate (NO_3-N)	#1, #9, or #37 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		<0.25 mg/L	EPA 300.0	*		
Nitrate (NO_3-N)	#1, #9, or #37 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		0.1 mg/L	EPA 353.2		*	*
Nitrite (NO_2-N)	#1, #9, or #37 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		<0.125 mg/L	EPA 300.0	*		
Nitrite (NO_2-N)	#1, #9, or #37 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		0.05 mg/L	EPA 353.2		*	*
Lead and Copper									
Copper (Cu)	#26 Quart Plastic	Nitric acid rinse	6 Months		0.01 mg/L	EPA 200.7 EPA 200.8	*		
Lead (Pb)	#26 Quart Plastic	Nitric acid rinse	6 Months		0.001 mg/L	EPA 200.8	*		
Cyanide									
Cyanide	#4 500 mL Plastic	4-6 pellets sodium hydroxide 6°C	14 Days	**OUTSOURCED**		SM 4500 CN E	*		
Other									
Bromate	#58 125 cc Plastic	Ethylendiamine Cool 6°C	28 Days		0.005 mg/L	EPA 300.1	*		
Chlorite	#58 125 cc Plastic	Ethylendiamine Cool 6°C	14 Days		0.04 mg/L	EPA 300.0 EPA 300.1	*		
Fluoride (Fl)	#24 or #9 2 oz or 8oz Plastic	Unpreserved Cool 6°C	28 Days		0.1 mg/L	EPA 300.0 SM 4500 F C	*		*

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Water Quality Parameters									
Alkalinity as CaCO3	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Ammonia	#2 8 oz Plastic	1 mL H2SO4 to pH<2 Cool 4°C	28 Days		0.1 mg/L	EPA 350.1	*		
Calcium (Ca)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		1.0 mg/L	EPA 200.7	*		
Magnesium	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.5 mg/L	EPA 200.7	*		
Potassium	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		1.0 mg/L	EPA 200.7	*		
Dissolved Organic Carbon (DOC)	#9 8 oz Plastic	Unpreserved Cool 6°C	Filtered within 48 hours		0.5 mg/L	SM 5310 B	*		
Total Organic Carbon (TOC)	#74 8 oz Plastic	HCl to pH<2 Cool 6°C	28 Days		0.5 mg/L	SM 5310 B	*		
Chloride (Cl)	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	28 Days		0.20 mg/L	EPA 300.0	*		
Conductivity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	28 Days		1 umho/cm	SM 2510 B	*		
Iron (Fe)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7	*		
Soluble Iron	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C (prior to filtration & preservation)	6 Months following filtration & preservation in lab		0.02 mg/L	EPA 200.7	*		
Manganese (Mn)	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8	*		
Silica (SiO2)	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	28 Days		1.0 mg/L	SM4500 si03C	*		
Sulfate	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	28 Days		0.02 mg/L	EPA 300.0	*		
Total Dissolved Solids (TDS)	#1 Quart Plastic	Unpreserved Cool 6°C	7 Days		5 mg/L	SM 2540 C	*		
Total Suspended Solids (TSS)	#1 Quart Plastic	Unpreserved Cool 6°C	7 Days		1.0 mg/L	USGS I-3765-85	*		
Total Solids	#1 Quart Plastic	Unpreserved Cool 6°C	7 Days		1.0 mg/L	SM 2540 B	*		
Zinc	#7 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8	*		
Phenolphthalein Alkalinity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Bicarbonate Alkalinity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Carbonate Alkalinity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Hydroxide Alkalinity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Bromide	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	28 Days		0.10 mg/L	EPA 300.0 EPA 300.1	*		
Chlorate	#58 125cc Plastic	Ethylendiamine Cool 6°C	28 Days		0.02 mg/L	EPA 300.0 EPA 300.1	*		
Turbidity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		0.2 NTU	SM 2130	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
UNREGULATED Contaminants									
Aluminum (Al)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.1 mg/L	EPA 200.7 EPA 200.8	*		
Boron (B)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.05mg/L	EPA 200.7	*		
Cobalt (Co)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.05mg/L	EPA 200.7 EPA 200.8	*		
Lithium (Li)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.01 mg/L	EPA 200.7	*		
Molybdenum (Mo)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.05mg/L	EPA 200.7 EPA 200.8	*		
Nickel (Ni)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.05mg/L	EPA 200.7 EPA 200.8	*		
Silver (Ag)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.1 mg/L	EPA 200.8	*		
Strontium (Sr)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.2 mg/L	EPA 200.7 EPA 200.8	*		
Tin (Sn)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.1 mg/L	EPA 200.7 EPA 200.8	*		
Titanium (Ti)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.05mg/L	EPA 200.7 EPA 200.8	*		
Vanadium (V)	#7 Pint Plastic/ #29 4 oz Plastic	1:1 Nitric Acid	6 Months		0.05mg/L	EPA 200.7 EPA 200.8	*		
** Laboratory pH	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved	Analyze Immediately		n/a	SM 4500 H+B	*	*	
*** Temperature	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved	Analyze Immediately		n/a	Analyze Immediately	*		
** Laboratory pH does not reflect the pH of the sample at time of collection. EPA requires pH to be measured within 15 minutes of collection to be valid									
*** Temperature is strictly a field test. The actual temperature of a water sample cannot be determined after it gets to the lab. It will start to change as soon as it is collected.									

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Haloacetic Acids (HAA5) - SDWA									
Chloroacetic acid; Bromoacetic acid; Dichloroacetic acid; Trichloroacetic acid; Dibromoacetic acid; Total Haloacetic Acids (HAA5)	#87 1-125 mL Amber	Ammonium chloride Cool 4°C	Extraction: 14 Days		0.001 - 0.006 mg/L	EPA 552.3		*	
Trihalomethanes - SDWA									
Chloroform; Bromodichloromethane; Dibromochloromethane; Bromoform; Total Trihalomethanes (TTHM)	#6 3 - 40 mL Amber glass vials with trip blanks	Ascorbic acid + 3 drops HCl Cool 4°C	14 Days		0.0005 - 0.0020 mg/L	EPA 524.2		*	
VOCs - Regulated									
Benzene; Carbon tetrachloride; 1,2-Dichloroethane; Trichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethylene; p-Dichlorobenzene; Vinyl chloride; cis-1,2-Dichloroethylene; 1,2-Dichloropropane; Ethylbenzene; Chlorobenzene; o-Dichlorobenzene; Styrene; Tetrachloroethylene; Toluene; Total Xylenes; Methylene chloride; trans-1,2-Dichloroethylene; 1,1,2-Trichloroethane; 1,2,4-Trichlorobenzene	#15 3-40 mL vials with trip blank	Ascorbic acid + 3 drops HCl Cool 4°C	14 Days		0.005 - 0.0010 mg/L	EPA 524.2		*	
VOCs - Unregulated									
Chloroform; Bromodichloromethane; Bromochloromethane; Chlorodibromomethane; Bromoform; m-Dichlorobenzene; Dibromomethane; 1,1-Dichloropropene; 1,1-Dichloroethane; 1, 1, 2, 2 - Tetrachloroethane; 1, 3-Dichloropropane; Chloromethane; Bromethane; 1, 2, 3-Trichloropropane; Chloroethane; 2, 2-Dichloropropane; 2-Chlorotoluene; 4-Chlorotoluene; Bromobenzene; cis-1, 3-Dichloropropene; trans-1, 3- Dichloropropene; 1, 1, 1, 2-Tetrachloroethane; n-Butylbenzene; tert-Butylbenzene; sec-Butylbenzene; Dichlorodifluoromethane; Hexachlorobutadiene; Isopropylbenzene; p-Isopropyltoluene; Napthalene; n-Propylbenzene; 1, 2, 3-Trichlorobenzene; Trichloroflurormethane; 1, 2, 4-Trimethylbenzene; 1, 3, 5-Trimethylbenzene	#15 3-40 mL vials with trip blank	Ascorbic acid + 3 drops HCl Cool 4°C	14 Days		0.0005 mg/L	EPA 524.2		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
SOCs-Chlorinated Hydrocarbon Insecticides Regulated & Unregulated									
Regulated Chlordane; Endrin; Heptachlor; Heptachlor epoxide; Hexachlorobenzene; Hexachlorocyclopentadiene; Lindane; Methoxychlor; Toxaphene; Aroclor-1016; Aroclor-1221; Aroclor-1232; Aroclor-1242; Aroclor-1248; Aroclor-1254; Aroclor-1260	#35 1-120 mL Amber Glass	Sodium thiosulfate + 3 mL buffer Cool 4°C	Extraction: 7 Days		0.00005 - 0.0005 mg/L	EPA 508		*	
Unregulated Aldrin; Dieldrin	#35 1-120 mL Amber Glass	Sodium thiosulfate + 3 mL buffer Cool 4°C	Extraction: 7 Days		0.0005 mg/L	EPA 508		*	
SOCs-Carbamates Regulated & Unregulated									
Regulated Aldicarb; Aldicarb sulfone; Aldicarb sulfoxide; Carbofuran; Oxamyl	#99 Provided by Outsource Lab	Sodium thiosulfate + 3 mL buffer Cool 4°C	28 Days	**OUTSOURCED**		EPA 531.1		*	
Unregulated Carbaryl; 3-Hydroxycarbofuran; Methomyl	#99 Provided by Outsource Lab	Sodium thiosulfate + 3 mL buffer Cool 4°C	28 Days	**OUTSOURCED**		EPA 531.1		*	
SOCs-Acid Herbicides Regulated & Unregulated									
Regulated 2, 4-D; Pentachlorophenol; Picloram; Dalapon*; Dinoseb*; 2, 4, 5-TP (Silvex)* *Waived	#35 1 Liter Amber Glass	Sodium thiosulfate Cool 4°C	Extraction: 14 Days		0.00008 - 0.0002 mg/L	EPA 515.3		*	
Unregulated Dicamba	#35 1 Liter Amber Glass	Sodium thiosulfate Cool 4°C	Extraction: 14 Days		0.0002 mg/L	EPA 515.3		*	
SOCs-Nitrogen Herbicides Regulated & Unregulated									
Regulated Alachlor; Atrazine; Simazine	#18 1 Liter Amber Glass	Unpreserved Cool 4°C	Extraction: 14 Days		0.0001 mg/L	EPA 525.2		*	
Unregulated Butachlor; Metolachlor; Metribuzin; Propachlor	#18 1 Liter Amber Glass	Unpreserved Cool 4°C	Extraction: 14 Days		0.0001 mg/L	EPA 525.2		*	
SOCs - EDB & DBCP Regulated (Currently waived by DNR)									
Regulated Ethylene dibromide; 1, 2-Dibromo-3-chloropropane	#99 Provided by Outsource Lab	Ammonium chloride + buffer Cool 4°C	Extraction: 14 Days	**OUTSOURCED**		EPA 551.1		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
SOCs - Per- and Polyfluoroalkyl Substances (PFAS)									
1H, 1H, 2H, 2H-Perfluorooctanesulfonic acid; 1 1-Chloroeicosafluro-3-oxaundecane-1-sulfonic acid; 1H, 1H, 2H, 2H-Perflurodecanesulfonic acid; 1H, 1H, 2H, 2H-Perflurohexanesulfonic; 4, 8-Dioxa-3H-perfluorononanoic acid; 9-Chlorohexadecafluro-3-oxananone-1-sulfonic acid; Hexafluoropropyleneoxide dimer acid; Nonafluoro-3, 6-dioxaheptanoic acid; Perfluoro(2-thoxyethane)sulfonic acid; Perfluoro-3-methoxybutanoic acid; Perfluoro-4-methoxybutanoic acid; Perfluorobutane sulfonic acid; Perfluorobutanoic acid; Perflurodecanoic acid; Perflurordodecanoic acid; Perfluoroheptane sulfonic acid; Perfluoroheptanoic acid; Perfluorohexane sulfonic acid; Perfluorohexanoic acid; Perfluorononanoic acid; Perfluorooctane sulfonic acid; Perfluorooctnaoic acid; Perfluoropentane sulfonic acid; Perfluoropentanoic acid; Perfluoroundecanoic acid	#76 250-mL Polypropylene x 3 #76 Field Blanks x 2	Ammonium Acetate Cool 4°C	28 Days		2.0 ng/L	EPA 533		*	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid; 4, 8-Dioxa-3H-perfluorononanoic acid; 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid; Hexafluoropropyleneoxide dimer acid; N-Ethylperfluorooctane sulfonamido acetic acid; N-Methylperfluorooctane sulfonamido acetic acid; Perfluorobutane sulfonic acid; Perfluorodecanoic acid; Perfluorododecanoic acid; Perfluoroheptanoic acid; Perfluorohexane sulfonic acid; Perfluorohexanoic acid; Perfluorononanoic acid; Perfluorooctane sulfonic acid; Perfluorooctanoic acid; Perfluorotetradecanoic acid; Perfluorotridecanoic acid; Perfluoroundecanoic acid	#77 250-mL Polypropylene x 3 #76 Field Blanks x 2	Tris buffer Cool 4°C	28 Days		2.0 ng/L	EPA 537.1		*	
SOCs-Semivolatiles Regulated									
bis(2-Ethylhexyl)adipate; bis(2-Ethylhexyl)phthalate	#18 1 Liter Amber Glass	Unpreserved Cool 4°C	Extraction: 14 Days		0.0006 mg/L	EPA 525.2		*	
SOCs-Benzo(a)pyrene Regulated (Currently waived by DNR)									
Benzo(a)pyrene	#18 1 Liter Amber Glass	Unpreserved Cool 4°C	Extraction: 14 Days		0.0001 mg/L	EPA 525.2		*	
SOCs-Glyphosate Regulated									
Glyphosate	#31 1-120 mL Amber Glass	Sodium thiosulfate Cool 4°C	14 Days		0.010 mg/L	EPA 547		*	
SOCs-Diquat Regulated									
Diquat	#39 1 Liter Amber Plastic	Sodium thiosulfate + Sulfuric acid Cool 4°C	Extraction: 7 Days		0.0008 mg/L	EPA 549.2		*	
SOCs-Endothal Regulated (Currently waived by DNR)									
Endothall	#99 Provided by Outsourced Lab	Sodium thiosulfate Cool 4°C	Extraction: 14 Days	**OUTSOURCED**		EPA 548.1		*	

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Total Coliform Bacteria									
Total Coliform and E. coli PA (Presence/Absence)	#81 5 oz Plastic IDEXX	Sodium thiosulfate	48 Hours		N/A	SM 9223 B	*	*	*
Total Coliform and E. coli MPN (Most Probable Number)	#81 5 oz Plastic IDEXX	Sodium thiosulfate	48 Hours		<1	SM 9223 B	*	*	*
Additional Bacteria									
Iron Bacteria	#20 4 oz Plastic IDEXX	Unpreserved	None		Presence/Absence	SM 9240 B		*	
Legionella MF	#81 5 oz Plastic IDEXX, or #49 Liter Nalgene, or #51 500 mL Nalgene	Sodium thiosulfate Cool 4°C	< 48 Hours		Variable	SM 9260 J		*	
Yeast and Mold	#81 5 oz Plastic IDEXX	Sodium thiosulfate Cool <10°C	< 30 Hours		<1	SM 9610 C		*	
Volatiles									
Routine 8260 Target List: Chloromethane; Bromomethane; Vinyl chloride; Chloroethane; Methylene chloride; Methyl-t-butyl ether; Acetone; Carbon disulfide; 1,1-Dichlorethene; Total 1, 2-Dichloroethenes; Chloroform; 1, 2-Dichloroethane; 2-Butanone; 1, 1, 1-Trichloroethane; Carbon tetrachloride; Bromodichloromethane; 1, 1, 2, 2-Tetrachloroethane; 1, 2-Dichloropropane; cis-1, 3-Dichloropropene; Trichloroethene; Dibromochloromethane; 1, 1, 2-Trichloroethane; Benzene; trans-1, 3-Dichloropropene; Bromoform; 2-Hexanone; 4-Methy-2-pentanone; Tetrachloroethene; Toluene; Chlorobezene; Ethylbenzene; Styrene; Total Xylenes **Non-target compounds as requested.**	**If Chlorinated:** #15 (3) 40 mL Glass Vials plus trip blank. **If Not Chlorinated:** #45 (3) 40 mL Glass Vials plus trip blank	**If Chlorinated:** Ascorbic acid plus 3 drops, No Headspace Cool 4°C **If Not Chlorinated:** 3 drops HCL, No Headspace Cool 4°C	14 Days		0.5 - 20 ug/L	EPA 524.2 EPA 624 EPA 8260		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Metals & Nutrients									
Bicarbonate Alkalinity	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Carbonate Alkalinity	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Alkalinity as $CaCO_3$	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	14 Days		1.0 mg/L	SM 2320 B	*		
Ammonia	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		0.10 mg/L	EPA350.1	*		
Bromate	#58 125 cc Plastic	Ethylendiamine Cool 6°C	28 Days		0.005 mg/L	EPA 300.1	*		
Bromide	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		0.10 mg/L	EPA 300.0 EPA 300.1	*		
Calcium (Ca)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		1.0 mg/L	EPA 200.7	*		
Magnesium (Mg)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		0.5 mg/L	EPA 200.7	*		
Potassium (K)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		1.0 mg/L	EPA 200.7	*		
Chlorate	#58 125 cc Plastic	Ethylendiamine Cool 6°C	28 Days		0.10 mg/L	EPA 300.0 EPA 300.1	*		
Chloride (Cl)	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		0.20 mg/L	EPA 300.0	*		
Chlorite	#58 125 cc Plastic	Ethylendiamine Cool 6°C	14 Days		0.20 mg/L	EPA 300.0 EPA 300.1	*		
Conductivity	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		1 umho/cm	SM 2510 B	*		
Total Hardness (titration)	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		1.0 mg/L	SM 2340 B	*		
Iron (Fe)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		0.02 mg/L	EPA 200.7	*		
Soluble Iron	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C (prior to filtration & preservation)	6 Months following filtration & preservation in the laboratory		0.02 mg/L	EPA 200.7 EPA 200.8	*		
Manganese (Mn)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8	*		
Nitrite	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		0.02 mg/L	EPA 353.2		*	*
Nitrite	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		0.025 mg/L	EPA 300.0	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Metals & Nutrients									
Nitrite	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		0.02 mg/L	SM 4500 no2 b	*	*	
Orthophosphate - filtered sample	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	48 Hours		0.02 mg/L	EPA 365.1	*	*	
pH	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	24 Hours		4	SM 4500 h+b	*	*	
Silica (SiO_2)	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		1.0 mg/L	SM 4500 SiO_2C	*		
Sulfate	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	28 Days		0.20 mg/L	EPA 300.0	*		
Total Dissolved Solids (TDS)	#1 1 Quart Plastic	Unpreserved Cool 6°C	7 Days		1.0 mg/L	SM 2540 C	*		
Total Phosphorus	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 4°C	28 Days		0.02 mg/L	EPA 365.4 EPA 365.1	*		
Total Suspended Solids (TSS)	#1 1 Quart Plastic	Unpreserved Cool 6°C	7 Days		1 mg/L	USGS I-3765-85	*		
Turbidity	#1 or #9 1 Quart or 8 oz Plastic	Unpreserved Cool 6°C	48 Hours		1.0 NTU	SM 2130 B	*		
Volatile Solids	#1 1 Quart Plastic	Unpreserved Cool 6°C	7 Days		1 mg/L	EPA 160.4	*		
Zinc (Zn)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8	*		
Cyanide									
Cyanide (CN) (Total & Amenable)	#4 500 mL Plastic	4-6 Pellets Sodium Hydroxide Cool 6°C	14 Days	**OUTSOURCED**		SM 4500 CNE	*		
Radionuclides									
Radon	#27 2-40 mL Clear Glass Vials (unpreserved)	Unpreserved	3.8 Days (91 Hours)	**No Head-space/shipped on ice-packs**	Varies	SM 7500-Rn B		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Coliform Bacteria & Nitrate/Nitrite									
Total Coliform and E. coli MPN (Private Well)	#81 5 oz Plastic IDEXX	Sodium thiosulfate	2 Days	Private Well Only	<1	Most Probable Number	*	*	*
Total Coliform and E. coli PA (Private Well)	#81 5 oz Plastic IDEXX	Sodium thiosulfate	2 Days	Private Well Only	N/A	9223 B	*	*	*
Nitrate as N (Private Well)	#37 4 oz Plastic	Unpreserved Cool 6°C	2 Days/48 Hours	Private Well Only	<0.10 mg/L	EPA 353.2	*	*	*
Nitrite as N (Private Well)	#37 4 oz Plastic	Unpreserved Cool 6°C	2 Days/48 Hours	Private Well Only	<0.125 mg/L	EPA 300 SM 4500 no2 b	*		
Nitrate + Nitrite as N (Private Well)	#37 4 oz Plastic IDEXX	Unpreserved Cool 6°C	2 Days/48 Hours	Private Well Only	0.10 mg/L	EPA 353.2		*	*
Arsenic & Manganese									
Arsenic (Private Well)	#29 1 mL 1:1 Nitric acid	1 mL 1:1 Nitric acid	6 Months		0.001 mg/L	EPA 200	*		
Arsenic Speciation (Private Well)	#70 125 cc Plastic	EDTA	1 Month		0.001 mg/L	SHL	*		
Manganese (Mn)	#7 Pint Plastic	4 mL 1:1 Nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8	*		
Iron Bacteria									
Iron Bacteria (Private Well)	#37 4 oz Plastic IDEXX, #81 5 oz Plastic IDEXX or clean container	Unpreserved	None		N/A	SM 9240 A		*	
**** Additional Tests Available Upon Consultation**									

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Extractables/Semi-Volatiles									
Routine 8270 target list: Phenol; bis(2-Chloroethyl)ether; 2-Chlorophenol; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 1,2-Dichlorobenzene; 2-Methylphenol; 2,2-oxybis(1-Chloropropane); 4-Methylphenol; N-Nitrosodi-n-propylamine; Hexachloroethane; Nitrobenzene; Isophorone; 2-Nitrophenol; 2,4-Dimethylphenol; bis(2-Chloroethoxy)methane; 2,4-Dichlorophenol; 1,2,4-Trichlorobenzene; Napthalene; 4-Chloroaniline; Hexachlorobutadiene; 4-Chloro-3-methylphenol; 2-Methylnaphthalene; Hexachlorocyclopentadiene; 2,4,6-Trichlorophenol; 2,4,5-Trichlorophenol; 2-Chloronaphthalene; 2-Nitroaniline; Dimethyl phthalate; Acenaphthylene; 3-Nitroaniline; Acenaphthene; 2,4-Dinitrophenol; 4-Nitrophenol; Dibenzofuran; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; Diethylphthalate; 4-Chlorophenyl phenyl ether; Fluorene; 4-Nitroaniline; 4,6-Dinitro-2-methylphenol; N-Nitrosodiphenylamine; 4-Bromophenyl phenyl ether; Hexachlorobenzene; Pentachlorophenol; Phenanthrene; Anthracene; Carbazole; Di-n-butyl phthalate; Fluoranthene; Pyrene; Butylbenzyl phthalate; 3,3'-Dichlorobenzidine; Benzo(a)anthracene; bis(2-Ethylhexyl)phthalate; Chrysene; Di-n-octyl phthalate; Benzo(b)fluoranthene; Benzo(k)fluoranthene; Benzo(a)pyrene; Indeno(1,2,3-cd)pyrene; Dibenz(a,h)anthracene; Benzo(g,h,i)perylene **Non-target compounds as requested.**	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar	Unpreserved Cool 4°C	Extraction: 14 days		170 - 670 ug/kg	EPA 8270		*	
Volatiles									
Routine 8260 target list: Chloromethane; Bromomethane; Vinyl chloride; Chloroethane; Methylene chloride; Methyl-t-butyl ether; Acetone; Carbon disulfide; 1,1-Dichloroethene; 1,1-Dichloroethane; Total 1,2-Dichloroethenes; Chloroform; 1,2-Dichloroethane; 2-Butanone; 1,1,1-Trichloroethane; Carbon tetrachloride; Bromodichloromethane; 1,1,2,2-Tetrachloroethane; 1,2-Dichloropropane; cis-1,3-Dichloropropene; Trichloroethene; Dibromochloromethane; 1,1,2-Trichloroethane; Benzene; trans-1,3-Dichloropropene; Bromoform; 2-Hexanone; 4-Methyl-2-pentanone; Tetrachloroethene; Toluene; Chlorobenzene; Ethylbenzene; Styrene; Total Xylenes **Non-target compounds as requested.**	#46 4 oz Clear Glass Jar with septa lid	Unpreserved Cool 4°C	Extraction: 14 days		5 - 10 ug/kg	EPA 8260		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
INORGANICS (INCLUDING METALS)									
Aluminum (Al)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		10 mg/kg	EPA 6010 EPA 6020	*		
Antimony (Sb)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6020	*		
Arsenic (As)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6020	*		
Barium (Ba)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		10 mg/kg	EPA 6010 EPA 6020	*		
Beryllium (Be)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		
Boron (Bo)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		50 mg/kg	EPA 6010	*		
Cadmium (Cd)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		
Calcium (Ca)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		100 mg/kg	EPA 6010	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
INORGANICS (INCLUDING METALS)									
Chromium (Cr)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		
Cobalt (Co)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Copper (Cu)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Cyanide (CN)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months	**OUTSOURCED**		EPA 9010A	*		
Iron (Fe)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
INORGANICS (INCLUDING METALS)									
Lead (Pb)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		10 mg/kg	EPA 6010 EPA 6020			
Lithium (Li)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6010	*		
Magnesium (Mg)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		50 mg/kg	EPA 6010	*		
Manganese (Mn)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		
Mercury (Hg)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		1 mg/kg	EPA 7470 EPA 6020	*		
Molybdenum (Mo)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Nickel (Ni)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Potassium (K)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		100 mg/kg	EPA 6010	*		
Selenium (Se)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6020	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
INORGANICS (INCLUDING METALS)									
Silver (Ag)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6020	*		
Sodium (Na)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		50 mg/kg	EPA 6010	*		
Strontium (Sr)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		
Thallium (Tl)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6020	*		
Tin (Sn)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		10 mg/kg	EPA 6010 EPA 6020	*		
Titanium (Ti)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Vanadium (V)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Zinc (Zn)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Nutrients									
Solids: Total Solids Volatile Solids	#1 1 Quart Plastic	Cool 6°C	7 Days		Report in Percentage or mg/kg	SM 2540 G EPA 160.4	*		
Alkalinity as $CaCO_3$	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	14 Days		1.0 mg/kg	SM 2320 B	*		
Ammonia	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 350.1	*		
Chloride (Cl)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		
Cyanide	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	14 Days	**OUTSOURCED**		EPA 9014	*		
Nitrate as N	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		
Nitrite as N	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		
Bromide	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		
Fluoride	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Nutrients									
Orthophosphate as P	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		
Sulfate	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 300.0	*		
Phenols, Total	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days	**OUTSOURCED**		EPA 420.1			
Total Phosphorus	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 365.4	*		
pH	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	7 Days		Dependent on volume for analysis. 1mg/kg for 1000 g	EPA 9045 D	*		
Total Kjeldahl Nitrogen (TKN)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		Determined on a per sample basis	EPA 351.2	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Inorganics - TCLP - Hazardous Waste									
Arsenic (As)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.5 mg/L	EPA 6020	*		
Selenium (Se)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6020	*		
Barium (Ba)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		10 mg/L	EPA 6010 EPA 6020	*		
Cadmium (Cd)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6010 EPA 6020	*		
Chromium (Cr)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.5 mg/L	EPA 6010 EPA 6020	*		
Lead (Pb)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.5 mg/L	EPA 6010 EPA 6020	*		
Silver (Ag)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.5 mg/L	EPA 6020	*		
Mercury (Hg)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 Days		0.02 mg/L	EPA 7470	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
SPLP									
Aluminum	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6010 EPA 6020	*		
Antimony	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.006 mg/L	EPA 6020	*		
Arsenic	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.01 mg/L	EPA 6020	*		
Barium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/L	EPA 6010 EPA 6020	*		
Beryllium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.004 mg/L	EPA 6020	*		
Boron	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6010	*		
Cadmium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.005 mg/L	EPA 6020	*		
Calcium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/L	EPA 6010	*		
Chromium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6010 EPA 6020	*		
Cobalt	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6020	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
SPLP									
Copper	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/L	EPA 6010 EPA 6020	*		
Lead	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.015 mg/L	EPA 6020	*		
Lithium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6010	*		
Magnesium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.5 mg/L	EPA 6010	*		
Manganese	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6010 EPA 6020	*		
Mercury	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.02 mg/L	EPA 6020	*		
Molybdenum	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6010 EPA 6020	*		
Nickel	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6010 EPA 6020	*		
Potassium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/L	EPA 6010	*		
Selenium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6020	*		

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C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
SPLP									
Silver	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6020	*		
Sodium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.5 mg/L	EPA 6010	*		
Thallium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.002 mg/L	EPA 6020	*		
Vanadium	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.05 mg/L	EPA 6010 EPA 6020	*		
Zinc	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		0.1 mg/L	EPA 6010 EPA 6020	*		
Other									
Paint Filter Liquids Test	If sample contains solvent collect in Glass	NA	NA	Requires 100g		9095 B	*		
Pesticides - Nitrogen Containing Herbicides									
EPTC; Butylate; Propachlor; Desisopropyl atrazine; Trifluralin; Desethyl atrazine; Prometon; Simazine; Atrazine; Propazine; Dimethenamid; Metribuzin; Acetochlor; Alachlor; Ametryn; Metolachlor; Cyanazine; Butachlor	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Unpreserved Cool 4°C	Extraction: 14 days		0.010 - 0.030 mg/kg	EPA 8270		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Pesticides - Chlorinated Hydrocarbons & PCBs									
Chlorinated Hydrocarbon Insecticides: Aldrin; alpha-BHC; beta-BHC; delta-BHC; Lindane; 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; Dieldrin; Endosulfan I; Endosulfan II; Endosulfan sulfate; Endrin; Endrin aldehyde; Endrin ketone; Heptachlor; Heptachlor epoxide; Methoxychlor; Chlordane; Toxaphene	Oil: #14 40 mL vial Solid: #17 1 Pint Clear Glass/TFR Lid /or #46 4 oz with Septa Lid	Unpreserved Cool 4°C	Solid-Extraction: 14 days		0.01 - 0.1 mg/kg OR Determined on a per sample basis	EPA 8081		*	
Polychorinated biphenyls (PCB): PCB Total as DCBP; Aroclor-1016; Aroclor-1221; Aroclor-1232; Aroclor-1242; Aroclor-1248; Aroclor-1254; Arochlor-1260	Oil: #14 40 mL vial Solid: #17 1 Pint Clear Glass/TFR Lid /or #46 4 oz with Septa Lid	Unpreserved Cool 4°C	Solid-Extraction: 14 days		0.05 mg/kg OR Determined on a per sample basis	EPA 8082		*	
Pesticides - Acid Herbicides									
Acid Herbicides: 2,4-D; 2,4-DB; 2,4,5-T; 2,4,5,-TP (Silvex); Acifluorfen; Bentazon; Chloramben; Clopyralid; Dicamba; Dichlorprop; Dinoseb; Mecoprop; MCPA; Picloram; Triclopyr	#17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams	Cool 6 °C	60 days	Minimum 200 grams	1 - 5 ug/kg	LC/MS SOP UHL-H-025		*	
Pesticides - Organophosphate Insecticides, Carbamate Insecticides, and Other Pesticides									
Ethoprop; Terbufos; Fonofos; Methyl parathion; Malathion; Chlorpyrifos; Parathion; Isofenphos; Phorate; Dimethoate; Carbofuran; Disulfoton; Triallate; Carbaryl; Clomazone; Bromacil; Pendimethalin	#17 1 Pint Clear Glass/or #46 4 oz with Septa Lid	Unpreserved Cool 4°C	Extraction: 14 days		0.010 - 0.030 mg/kg	EPA 8270		*	
Radionuclides									
Gross Alpha	Gallon Zip Lock Bag/1 kg	None	6 Months		1.7 pCi/g	CV RAD 1929		*	
Gross Beta	Gallon Zip Lock Bag/1 kg	None	6 Months		2.5 pCi/g	CV RAD 1929		*	
Radium 226 and 228	Gallon Zip Lock Bag/1 kg	None	6 Months		varies (Call Lab)	EPA LV pg. 92		*	
Gamma Spectroscopy	Gallon Zip Lock Bag/1 kg	None	6 Months		varies (Call Lab)	EPA LV pg. 92		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Coliform Bacteria - Wastewater, Surface Water									
Fecal Coliform MF	#81 5 oz Plastic IDEXX	Sodium thiosulfate; <10°C	< 8 hrs		<10	SM 9222 D	*	*	
Fecal Coliform MPN (NPDES compliance)	#81 5 oz Plastic IDEXX	Sodium thiosulfate; <10°C	< 8 hrs		<1.8 or <18	SM 9221 E		*	
E. coli MF	#81 5 oz Plastic IDEXX	Sodium thiosulfate; <10°C	< 8 hrs		<10	EPA 1603		*	
E. coli MPN (Note: For spills please specify which samples may be high)	#81 5 oz Plastic IDEXX	Sodium thiosulfate; <10°C	≤ 8 hrs		<10	SM 9223 B - QT	*	*	*
Microscopic Identification	Varies - Call Lab	per lab	None	***Must call to schedule analysis**	variable	microscopy		*	
Semi-Volatiles - Wastewater, Surface Water									
Semi-Volatiles - Routine 625 target list: Phenol; bis(2-Chloroethyl)ether; 2-Chlorophenol; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 1,2-Dichlorobenzene 2-Methylphenol; 2,2-oxybis(1-Chloropropane); 4-Methylphenol; N-Nitroso-di-propylamine; Hexachloroethane; Nitrobenzene; Isophorone; 2-Nitrophenol; 2,4-Dimethylphenol; bis(2-Chloroethoxy)methane; 2,4-Dichlorophenol; 1,2,4-Trichlorobenzene; Naphthalene; 4-Chloroaniline; Hexachlorobutadiene; 4-Chloro-3-methylphenol; 2-Methylnaphthalene; Hexachlorcyclopentadiene; 2,4,6-Trichlorophenol; 2,4,5-Trichlorophenol; 2-Chloronaphthalene; 2-Nitroaniline; Dimethyl phthalate; Acenaphthylen; 3-Nitroaniline; Acenaphthene; 2,4-Dinitrophenol; 4-Nitrophenol; Dibenzofuran; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; Diethyl phthalate; 4-Chlorophenyl phenyl ether; Fluorene; 4-Nitroaniline; 4,6-Dinitro-2-methylphenol; N-Nitrosodiphenylamine; 4-Bromophenyl phenyl ether; Hexachlorobenzene; Pentachlorophenol; Phenanthrene; Anthracene; Carbazole; Di-n-butyl phthalate; Fluoranthene; Pyrene; Butylbenzyl phthalate; 3,3'-Dichlorobenzidine; Benzo(a)anthracene; bis(2-Ethylhexyl) phthalate; Chrysene; Di-n-octyl phthalate; Benzo(b)fluoranthene; Benzo(k)fluoranthene; Benzo(a)pyrene; Indeno(1,2,3-cd)pyrene; Dibenz(a,h)anthracene; Benzo(g,h,i)perylene; N-Nitrosodimethylamine; Benzidine; 1,2-Diphenylhydrazine **Non-target compounds as requested.**	#18 1 Liter Amber Glass/TFE lid	Unpreserved Cool 4°C	Extraction: 7 days		5 - 20 ug/L	EPA 625 (WW) EPA 8270 (SW)		*	
Volatiles - Wastewater, Surface Water									
Volatiles - Routine 624 target list: Chloromethane; Bromomethane; Vinyl chloride; Chloroethane; Methylene chloride; 1,1-Dichloroethene; 1,1-Dichloroethane; Total 1,2-Dichloroethenes; Chloroform; 1,2-Dichloroethane; 1,1,1-Trichloroethane; Carbon tetrachloride; Bromodichloromethane; 1,2-Dichloropropane; cis-1,3-Dichloropropene; Trichloroethene; Dibromochloromethane; 1,1,2-Trichloroethane; Benzene; trans-1,3-Dichloropropene; Bromoform; Tetrachloroethene; 1,1,2,2-Tetrachloroethane; Toluene; Chlorobenzene; Ethylbenzene. **Non-target compounds as requested.**	**If Chlorinated:** #15 3 - 40 mL Glass Vials with trip blank **If Not Chlorinated:** #45 3 - 40 mL Glass Vials with trip blank	If Chlorinated: Ascorbic acid + 3 drops HCl, No Headspace Cool 4°C If Not Chlorinated: 3 drops HCl, No Headspace Cool 4°C	14 days		0.5 - 20 ug/L	EPA 624 (WW) EPA 8260 (SW)		*	

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Metals - Wastewater, Surface Water									
Aluminum (Al)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.1 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Antimony (Sb)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.005 mg/L	EPA 200.8 EPA 6020	*		
Arsenic (As)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.8 EPA 6020	*		
Barium (Ba)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Beryllium (Be)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Boron (B)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 6010	*		
Cadmium (Cd)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Calcium (Ca)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		1.0 mg/L	EPA 200.7 EPA 6010	*		
Chromium (Cr VI) dissolved	#86 Plastic	Ammonia buffer Cool 6°C	30 days	**OUTSOURCED**		SM 3500-Cr D	*		
Chromium (Cr)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Cobalt (Co)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Copper (Cu)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Metals - Wastewater, Surface Water									
Iron (Fe)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Lead (Pb)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.001 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Lithium (Li)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.7 EPA 6010	*		
Magnesium (Mg)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.5 mg/L	EPA 200.7 EPA 6010	*		
Manganese (Mn)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Mercury (Hg)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	28 Days		0.00005 mg/L	EPA 245.2 EPA 6020 EPA 7470	*		
Molybdenum (Mo)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Nickel (Ni)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Potassium (K)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		1.0 mg/L	EPA 200.7 EPA 6010	*		
Selenium (Se)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.8 EPA 6020	*		
Silver (Ag)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.8 EPA 6020			
Sodium (Na)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.5 mg/L	EPA 200.7 EPA 6010	*		
Strontium (Sr)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010	*		
Metals - Wastewater, Surface Water									
Thallium (Tl)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.001 mg/L	EPA 200.8 EPA 6020	*		
Tin (Sn)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.01 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Titanium (Ti)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Uranium (U)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.001 mg/L	EPA 6020	*		
Vanadium (V)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.05 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		
Zinc (Zn)	#7 1 Pint Plastic	4 mL 1:1 nitric acid	6 Months		0.02 mg/L	EPA 200.7 EPA 200.8 EPA 6010 EPA 6020	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Nutrients Wastewater, Surface Water									
Alkalinity as CaCO3	#1 or #9 1 Liter or 8 oz Plastic	Cool 6°C	14 days		1.0 mg/L	SM 2320 B	*		
Total Hardness (titration)	#1 or #9 1 Liter or 8 oz Plastic	Cool 6°C	28 Days		1.0 mg/L	2340 C	*		
Total Hardness (by calculation)				Requires Ca & Mg by EPA 200.7		2340 B	*		
Ammonia	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		0.10 mg/L	EPA 350.1	*		*
Biochemical Oxygen Demand (BOD)	#1 1 Quart Plastic	Cool 6°C	48 hours		2 mg/L	SM 5210 B	*	*	*
Biochemical Oxygen Demand, Carbonaceous (CBOD)	#1 1 Quart Plastic	Cool 6°C	48 hours		2 mg/L	SM 5210 B	*	*	*
Chemical Oxygen Demand (COD)	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		10 mg/L	SM 5220 D	*		
Chloride (Cl)	#1 or #9 1 Liter or 8 oz Plastic	Cool 6°C	28 Days		0.5 mg/L	EPA 300.0 SM4500CL-E	*		*
Bromide	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		0.10 mg/L	EPA 300.0	*		
Conductivity	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	28 Days		1 umbo/ cm	SM 2510 B	*		*
Cyanide	#4 500 mL Plastic	4-6 pellets sodium Hydroxide Cool 6°C	14 days	OUTSOURCED		SM 4500 CN E	*		
Fixed Solids	#1 1 Quart Plastic	Cool 6°C	7 Days		1.0 mg/L	EPA 160.4	*		
Fluoride, Total	#24 2 oz Plastic	None required	28 days		0.1 mg/L	SM 4500-F C EPA 300.0	*		
Hydrogen Ion (pH)	#37 125 mL Plastic	None required	Analyze Immediately		2 pH units	SM4500-H+B	*	*	*
Nitrate + Nitrite as Nitrogen	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		0.05 mg/L	EPA 353.2	*		
Nitrate as N	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	48 hours		0.05 mg/L	EPA 300.0	*		
Nitrite as N	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	48 hours		0.05 mg/L	EPA 353.2		*	*
Nitrite as N	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	48 hours		0.05 mg/L	EPA 300.0 SM 4500 NO2 B	*		
Oil & Grease (Hexane Extractable Material (HEM))	#3 (2) 1 Quart Glass	10 mL 1:1 sulfuric acid Cool 6°C	14 days		5.0 mg/L	EPA 1664		*	
Orthophosphate - filtered sample	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	48 hours		0.02 mg/L	EPA 365.1	*	*	*
pH	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	24 Hours			SM 4500 H+B	*	*	*
Phenols, Total	#5 1 Quart Amber Glass	H_2SO_4 to pH <2 Cool 6°C	28 Days	OUTSOURCED		EPA 420.1 EPA 420.4	*		
Phosphorus: Total	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		0.50 mg/L 0.02 mg/L	EPA 365.4 EPA 365.1	*		*
Silica (SiO2)	#1 or #9 1 Quart or 8 oz Plastic	Filter on site Cool 6°C	28 Days		1.0 mg/L	SM 4500 si02 c	*		
Total Dissolved Solids (TDS)	#1 1 Quart Plastic	Cool 6°C	7 days		Dependent on volume for analysis.	SM 2540C	*		*

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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Nutrients Wastewater, Surface Water									
Total Suspended Solids (TSS)	#1 1 Quart Plastic	Cool 6°C	7 days		Dependent on volume for analysis.	SM 2540D USGS I-3765-85	*		*
Total Volatile Suspended Solids Total Volatile Solids	#1 1 Quart Plastic	Cool 6°C	7 days		Dependent on volume for analysis.	EPA 160.4	*		
Total Solids	#1 1 Quart Plastic	Cool 6°C	7 days		Dependent on volume for analysis.	SM 2540B	*		
Sulfate	#9 8 oz Plastic	Cool 6°C	28 Days		0.20 mg/L 5 mg/L	EPA 300.0 ASTM D516	*		*
Sulfide - S	#8 1 Quart Clear Glass	2 mL zinc acetate + 6-8 sodium hydroxide pellets	7 days		1.0 mg/L	SM 4500-S2 F	*		
Total Kjeldahl Nitrogen (TKN)	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		0.1 mg/L 0.5 mg/L	EPA 351.2	*		*
Total Organic Carbon (TOC)	#74 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 Days		0.5 mg/L	SM 5310 B	*		
Turbidity	#1 or #9 1 Quart or 8 oz Plastic	Cool 6°C	48 hours		1 NTU	SM 2130 B	*		*
Settleable Solids	#1 1 Quart X 2	Cool 6°C	48 hours		1.0 mg/L with 1 Liter sample	SM 2540 F	*		
Gross Alpha including Uranium	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within 5 days of collection	3.0 pCi/L	EPA 900.0		*	
Gross Beta	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within 5 days of collection	4.0 pCi/L	EPA 900.0		*	
Cesium-134, Gamma Emitters, Gross gamma, Iodine-131	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within 5 days of collection	Varies	EPA 901.1		*	
Radium 226	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within 5 days of collection	1.0 pCi/L	EPA 903.0		*	
Radium 228	#22 Gallon Plastic	Unpreserved	6 Months	Must reach lab within 5 days of collection	1.0 pCi/L	EPA 904.0		*	
Fathead Minnow Acute Toxicity Pimephales promelas	#25 1 Gallon Cubitainer	Contact Lab to Schedule Unpreserved Cool 6°C	36 Hours			EPA 2000.0	*		
Ceriodaphnia Acute Toxicity Ceriodaphnia dubia	#25 1 Gallon Cubitainer	Contact Lab to Schedule Unpreserved Cool 6°C	36 Hours			EPA 2002.0	*		

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Analysis Name and Analyte(s)	Sample Bottle #	Temp.	Time	Special Notes	Quant Limit	Method	A	C	L
Coliform Bacteria - Solids									
Total Coliform MPN (soil)	#62 4 oz plastic	Cool	8 hrs		variable	SM 9223 B - QT	*	*	
E. coli MPH (soil)	#62 4 oz plastic	Cool	8 hrs		variable	SM 9223 B - QT	*	*	
Fecal Coliform MF (sludge)	#62 4 oz plastic	<10 °C	8 hrs		variable	SM 9222 D	*	*	
Fecal Coliform MF (soil)	#62 4 oz plastic	<10 °C	≤ 8 hrs		variable	SM 9222 D	*	*	
Fecal Coliform MPN (NPDES compliance)	#62 4 oz plastic	<10 °C	24 Hours; qualified up to 30 Hours	NPDES. Compliance samples < 24 Hours, IDNR will accept up to 30 Hours	1.8	SM 9221 E		*	
Fecal Coliform plus E. coli MPN (Most Probable Number)	#62 4 oz plastic	<10 °C	30 Hours		1.8	SM 9221 E SM 9221 F		*	
Microscopic Identification	Per Situation	NA	None	***Must call to schedule analysis**	variable	microscopy		*	
Yeast and Mold	#32 4 oz Plastic IDEXX	Sodium thiosulfate Cool	2 days		<1	yeast mold		*	
Fecal Coliform MF (includes geometric mean and % solids)	#62 x 7	<10°C	See notes	Compliance samples <= 8 hrs	matrix dependent/dry weight gram	SM 9222 D	*	*	
Fecal Coliform MPN (sludge)	#62 x 7 4 oz Plastic Container w/ Labeled Wire Enclosure Bags	<10°C	24 Hours; qualified up to 30 Hours	Compliance samples < 24 Hours, IDNR will accept up to 30 Hours	variable	SM 9221 E SM 9221 F		*	
Salmonella MPN	#62 4 oz Plastic Container w/ Labeled Wire Enclosure Bags	<10°C	*Must call a week in advance to schedule analysis	Compliance samples < 24 Hours, IDNR will accept up to 30 Hours	variable	EPA 1682		*	
Salmonella PA	#51 500 mL Nalgene or #49 1 Liter Nalgene	Sodium Thiosulfate Cool <10°C	Compliance 30 hrs	30 hrs	3/100 mL	AOAC OMA 2013.02-BAX RT PCR Salmonella		*	
Nutrients & Metals									
Ammonia	#2 8 oz Plastic	H_2SO_4 to pH <2 Cool 6°C	28 days		0.10 mg/L	EPA 350.1	*		*
Total Solids	#1 1 Quart Plastic	Cool 6°C	7 days		Dependent on volume for analysis.	SM 2540 B	*		
Volatile Solids	#1 1 Quart Plastic	Cool 6°C	7 days		Report in Percentage or mg/kg	SM 2540 G EPA 160.4	*		
Paint Filter Liquids Test	If sample contains solvent collect in Glass	NA	NA	Requires 100g		9095 B	*		

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C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Nutrients & Metals									
Arsenic (As)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6020	*		
Cadmium (Cd)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		
Copper (Cu)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Lead (Pb)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		10 mg/kg	EPA 6010 EPA 6020			
Mercury (Hg)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	28 days		1 mg/kg	EPA 7470 EPA 6020	*		
Molybdenum (Mo)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Nickel (Ni)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		5 mg/kg	EPA 6010 EPA 6020	*		
Selenium (Se)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		1 mg/kg	EPA 6020	*		
Zinc (Zn)	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Cool 4°C	6 Months		2 mg/kg	EPA 6010 EPA 6020	*		

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Pesticides - Wastewater, Groundwater, Non-compliance Drinking Water									
Acid Herbicides: 2,4-D; Dinoseb; Pentachlorophenol; Silvex; Dalapon; Picloram; Dicamba; 2,4,5-TP (Silvex); Bentazon; Chlorthal-dimethyl; Dichlorprop; Chloramben; 2,4-DB; Acifluorfen	#35 Liter Amber Glass/TFE lid	Sodium thiosulfate Cool 4°C	Extraction: 14 days		0.00008 - 0.0002 mg/L	EPA 515.3		*	
Chlorinated Hydrocarbon Insecticides: Aldrin; alpha-BHC; beta-BHC; delta-BHC; Lindane; 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; Dieldrin; Endosulfan I; Endosulfan II; Endosulfan sulfate; Endrin; Endrin aldehyde; Endrin ketone; Heptachlor; Heptachlor epoxide; Methoxychlor; Chlordane; Toxaphene	#18 Liter Amber Glass/TFE lid	Unpreserved Cool 4°C	Extraction: 7 days		0.05 - 0.5 ug/L	EPA 508 EPA 608 EPA 8081		*	
Nitrogen Containing Herbicides: EPTC; Butylate; Propachlor; Desisopropyl atrazine; Trifluralin; Desethyl atrazine; Prometon; Simazine; Atrazine; Propazine; Dimethenamid; Metribuzin; Acetochlor; Alachlor; Ametryn; Metolachlor; Cyanazine; Butachlor	#18 Liter Amber Glass/TFE lid	Unpreserved Cool 4°C	Extraction: 7 days		0.1 ug/L	EPA 8270		*	
Organophosphate Insecticides, Carbamate Insecticides, and Other Pesticides: Ethoprop; Terbufos; Fonofos; Methyl parathion; Malathion; Chlorpyrifos; Parathion; Isofenphos; Phorate; Dimethoate; Carbofuran; Disulfoton; Triallate; Carbaryl; Clomazone; Bromacil; Pendimethalin	#18 Liter Amber Glass/TFE lid	Unpreserved Cool 4°C	Extraction: 7 days		0.1 ug/L	EPA 8270		*	
PCBs: Aroclor-1016; Aroclor-1221; Aroclor-1232; Aroclor-1242; Aroclor-1248; Aroclor-1254; Arochlor-1260	#18 Liter Amber Glass/TFE lid	Unpreserved Cool 4°C	Extraction: 7 days		0.5 ug/L	EPA 608 EPA 8082		*	
Pesticides - Sludge, Soil, Foliage									
Nitrogen Containing Herbicides *SEE LIST ABOVE*	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Unpreserved Cool 4°C	Extraction: 14 days		0.01 - 0.03 mg/kg	EPA 8270		*	
Organophosphate Insecticides; Carbamate Insecticides; and Other Pesticides *SEE LIST ABOVE*	#17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid	Unpreserved Cool 4°C	Extraction: 14 days		0.01 - 0.03 mg/kg	EPA 8270		*	
Pesticides - Sludge, Soil, Foliage and Oil									
Chlorinated Hydrocarbons Insecticides and PCBs *SEE LIST ABOVE*	Solid: #17 1 Pint Clear Glass or #46 4 oz Clear Glass Jar with septa lid Oil: #14 40 mL vial	Unpreserved Cool 4°C	Solid: Extraction 14 days Liquid: Extraction 14 days		0.05 - 5.0 mg/kg OR Determined on a per sample basis	EPA 8081 EPA 8082		*	
Pesticides - Fish									
Chlorinated Hydrocarbons Insecticides and PCBS *SEE LIST ABOVE*	100 gram sample	Frozen	Extraction: 14 days		Determined on a per sample basis	EPA 8081 EPA 8082		*	
Pesticides - Wipes									
Nitrogen Containing Herbicides *SEE LIST ABOVE*			Extraction: 14 days		0.001 mg/sample	EPA 8270		*	
Chlorinated Hydrocarbons Insecticides and PCBs *SEE LIST ABOVE*			Extraction: 14 days		0.001 mg/sample	EPA 8081 EPA 8082		*	
Organophosphate Insecticides; Carbamate Insecticides; and Other Pesticides *SEE LIST ABOVE*			Extraction: 14 days		0.001 mg/sample	EPA 8270		*	

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Pesticides - HPLC - Drinking Water, Surface Water, Groundwater									
Carbamates: 3-Hydroxycarbofuron; Aldicarb; Aldicarb Sulfone; Aldicarb Sulfoxide; Carbofuran; Carbaryl; Methiocarb; Methomyl; Oxamyl; Propoxur	#99 provided by subcontractor	Sodium thiosulfate + 3 mL Buffer Cool 4°C	Extraction: 14 days	**OUTSOURCED**		EPA 531.1		*	
Chloroacetanilide and Chloroacetamide Herbicides and Metabolites: Acetochlor; Acetochlor ESA; Acetochlor OXA; Alachlor; Alachlor ESA; Alachlor OXA; Dimethenamid; Dimethenamid ESA; Dimethenamid OXA; Metolachlor; Metolachlor ESA; Metolachlor OXA	Groundwater/ Surface Water: #18 1 Quart Amber Glass Drinking Water: #68: 1 Liter Amber Glass	Cool 4°C Cool 4°C 100 mg Ammonium chloride	Extraction: 14 days 14 Days		0.02 ug/L 0.025 ug/L	LC/MS SOP UHL-H-016		*	
Diquat; Paraquat	#39 1 Quart Amber Plastic	Sodium thiosulfate + Sulfuric acid Cool 4°C	Extraction: 7 days		0.0008 mg/L	EPA 549.2		*	
Fungicides: Azoxystrobin; Cyproconazole; Propiconazole; Pyraclostrobin; Metconazole; Tebuconazole; Tetraconazole; Trifloxystrobin	#19 120 mL Ambr Glass	Unperserved Cool 4°C	28 days		0.02 ug/L	SOP UHL-H-029			
Glyphosate	Drinking Water: #31 120 mL Amber Glass Groundwater/ Surface Water: #40 120 mL Amber Glass	Sodium thiosulfate Cool 4°C Samples may be frozen Unpreserved Cool 4°C Samples may be frozen	14 days Frozen samples may be held for 18 months		0.010 mg/L	EPA 547		*	
Imidazolinones: Imazapyr; Imazamox; Imazethapyr; Imazaquin	#67 1 Liter Nalgene	Cool 4°C	14 days		0.01 ug/L	SOP UHL-H-107		*	
Isoxaflutole and Metabolites: RPA 202248 RPA 203328	#1 1 Quart Plastic	Cool 4°C	14 days		0.01 ug/L	LC/MS SOP UHL-H-021		*	
Miscellaneous Pesticides: Abamectin; Bispyribac-Na; Carfentrazone-ethyl; Chloransulam-methyl; Diflufenzopyr; Ethephon; Fenoxapro-p-ethyl; Flufenacet; Fomesafen; Foramsulfuron; Imidacloprid; Mesotrine; Prochloraz; Pyraclostrobin; Quizalofop-p-ethyl; Sulfentrazone	#18 1 Quart Amber Glass	Cool 4°C	30 Days		0.025 ug/L	LC/MS SOP UHL-H-018		*	
Neonicotinoid Insecticides: Acetamiprid; Clothianidin; Dinotefuran; Imidacloprid; Sulfoxaflor; Thiacloprid; Thiamethoxam	#14 40-mL Amber Glass vial	Unpreserved Cool 4°C	28 days		0.025 µg/L	LC/MS SOP UHL-H-018		*	

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Pesticides – HPLC – Drinking Water, Surface Water, Groundwater									
Per- and Polyfluoroalkyl Substances (PFAS): 1H,1H,2H,2H-Perfluorooctanesulfonic acid; 11-Chloroeicosafluro-3-oxaundecane-1-sulfonic acid; 1H,1H,2H,2H-Perflurodecanesulfonic acid; 1H,1H,2H,2H-Perflurohexanesulfonic acid; 4,8-Dioxa-3H-perfluorononanoic acid; 9-Chlorohexadecafluro-3-oxananone-1-sulfonic acid; Hexafluoropropyleneoxide dimer acid; Nonafluoro-3,6-dioxaheptanoic acid; Perfluoro(2-thoxyethane)sulfonic acid; Perfluoro-3-methoxypropanoic acid; Perfluoro-4-methoxybutanoic acid; Perfluorobutane sulfonic acid; Perfluorobutanoic acid; Perflurodecanoic acid; Perfluorododecanoic acid; Perfluoroheptane sulfonic acid; Perfluoroheptanoic acid; Perfluorohexane sulfonic acid; Perfluorohexanoic acid; Perfluorononanoic acid; Perfluorooctane sulfonic acid; Perfluorooctnaoic acid; Perfluoropentane sulfonic acid; Perfluoropentanoic acid; Perfluoroundecanoic acid	#76 250-mL Polypropylene X 3 #76 Field Blanks X 2	Ammonium Acetate Cool 4°C	28 days		2.0 ng/L	EPA 533		•	
Per- and Polyfluoroalkyl Substances (PFAS): 11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid; 4,8-Dioxa-3H-perfluorononanoic acid; 9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid; Hexafluoropropyleneoxide dimer acid; N-Ethylperfluorooctane sulfonamido acetic acid; N-Methylperfluorooctane sulfonamido acetic acid; Perfluorobutane sulfonic acid; Perfluorodecanoic acid; Perfluorododecanoic acid; Perfluoroheptanoic acid; Perfluorohexane sulfonic acid; Perfluorohexanoic acid; Perfluorononanoic acid; Perfluorooctane sulfonic acid; Perfluorooctanoic acid; Perfluorotetradecanoic acid; Perfluorotridecanoic acid; Perfluoroundecanoic acid	#77 250-mL Polypropylene X 3 #76 Field Blanks X 2	Tris buffer Cool 4°C	28 days		2.0 ng/L	EPA 537.1		•	
Rotenone	#19 120 mL Amber Glass	Cool 4°C	14 days		0.0025 - 0.25 ug/L	LC/MS SOP UHL-H-018		•	
Sulfonyl Urea and Sulfonamide Herbicides: Chlorimuron-ethyl; Chlorsulfuron; Flumetsulam; Halosulfuron-methyl; Metsulfuron-methyl; Nicosulfuron; Primisulfuron-methyl; Prosulfuron; Rimsulfuron; Sulfometuron-methyl; Thifensulfuron-methyl; Triasulfuron; Foramsulfuron	#18 1 Quart Amber Glass	Cool 4°C	14 days		0.01 ug/L	SOP UHL-H-017		•	
Pesticides – HPLC – Soil, Foilage									
Acid Herbicides: 2,4-D; 2,4-DB; 2,4,5-T; 2,4,5,-TP (Silvex); Acifluorfen; Bentazon; Chloramben; Clopyralid; Dicamba; Dichlorprop; Dinoseb; Mecoprop; MCPA; Picloram; Triclopyr	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100	Soil: Cool 6°C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		1 - 5 ug/kg	LC/MS SOP UHL-H-025		•	

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Pesticides - HPLC - Soil, Foilage									
Carbamates: Aldicarb; Aldicarb Sulfone; Aldicarb Sulfoxide; Carbofuran; Oxamyl; Carbaryl; Methomyl; 3-Hydroxycarbofuran; Propoxur; Methiocarb **Contact SHL prior to sample submission.**	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 6 °C Foliage: Frozen Storage at <-10°C. Protect from light.	60 days		0.5 ug/kg	LC/MS SOP UHL-H-018		*	
Glyphosate and/or Glufosinate	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 6 °C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		10 ug/kg	SOPUHL-H-006 SOPUHL-H-007		*	
Imidazolinones: Imazapyr; Imazapic; Imazamox; Imazethapyr; Imazaquin	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 6 °C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		0.5 ug/kg	LC/MS SOP UHL-H-017		*	
Isoxaflutole and Metabolites: Isoxaflutole RPA 202248 RPA 203328	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 6 °C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		1 ug/kg	LC/MS SOP UHL-H-021		*	

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Pesticides - HPLC - Soil, Foilage (continued)									
Miscellaneous Pesticides: Aldicarb; Aminocyclopyrachlor; Carfentrazone-ethyl; Clothianidin; Diflufenzopyr; Ethephon; Fenoxaprop-p-ethyl; Flufenacet; Flumiclorac-pentyl; Flumioxazin; Fomesafen; Fosamine ammonium; Mesotrine; Prochloraz; Quizalofop-p-ethyl; Tembotrione; Thiamethoxam; Topramezone. **Contact SHL prior to sample submission.**	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 4 °C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		Sensitivity varies with analyte	LC/MS SOP UHL-H-018		*	
Sulfonyl Urea and Sulfonamide Herbicides: Azimsulfuron; Bensulfuron-methyl; Carfentrazone-ethyl; Chlorimuron-ethyl; Chlorsulfuron; Cloransulam-methyl; Diuron; Flumetsulam; Foramsulfuron; Halosulfuron- methyl; Imidacloprid; Metsulfuron-methyl; Nicosulfuron; Primisulfuron-methyl; Prosulfuron; Rimsulfuron; Sulfometuron- methyl; Tebuthiuron; Thifensulfuron-methyl; Triasulfuron; Tribenuron-methyl; Triflusulfuron-methyl	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 6 °C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		0.5 ug/kg	LC/MS SOP UHL-H-023		*	
Clethodim	Soil: #17 1 Pint Clear Glass/or #46 4 oz with Septa Lid Minimum 200 grams Foliage: 1 Quart Freezer Bags Minimum 100 grams	Soil: Cool 6 °C Foliage: Frozen Storage at <-10°C. Protect from light.	Extraction: 14 days		0.5 ug/kg	LC/MS SOP UHL-H-024		*	

A	Ankeny Laboratory
C	Coralville Laboratory
L	Lakeside Laboratory

Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Volatiles - UST Water- OA-1									
Benzene; Gasoline; Ethylbenzene; Methyl-t-butyl ether; Toluene; Total Xylenes	#45 3 - 40 mL Glass Vials with Trip Blank	3 drops HCL, NO HEADSPACE Cool 4°C	14 Days		2 - 5 ug/L	Iowa OA-1 8260		*	
Semi-Volatiles - UST Water - OA-2									
Diesel fuel; Gasoline; Kerosene; Mineral spirits; Motor oil; Total Extractable Hydrocarbons	#18 1 Liter Amber Glass/TFE lid	Unpreserved Cool 4°C	Extraction: 7 Days		100 ug/L	Iowa OA-2		*	
Volatiles - UST Solids - OA-1									
Benzene; Gasoline; Ethylbenzene; Methyl-t-butyl ether; Toluene; Total Xylenes	#46 4 oz Glass jar with Septa lid	Unpreserved Cool 4°C	14 Days		0.002 - 0.005 mg/kg	Iowa OA-1 8260		*	
Semi-Volatiles - UST Solids - OA-2									
Diesel fuel; Gasoline; Kerosene; Mineral spirits; Motor oil; Total Extractable Hydrocarbons	#46 4 oz Glass jar with Septa lid	Unpreserved Cool 4°C	Extraction: 14 Days		3 mg/kg	Iowa OA-2		*	
Volatiles - UST AIR - Miscellaneous									
Miscellaneous compounds as requested	Charcoal Tube	Cool tubes to 4°C	14 Days		Determined on a per sample basis	NIOSH		*	

A	Ankeny Laboratory
C	Coralville Laboratory
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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Miscellaneous									
Algal Toxins (Cylindrospermopsin) in Water by Immunoassay	Contact Laboratory For Proper Containers		14 Days			Immunoassay		*	
Algal Toxins (Microcystins) in Water Immunoassay						EPA 546		*	
Chlorophyll a	#34	Unpreserved Cool 6°C	24 hours to filter/24 days frozen filter		1 ug/L	EPA 445.0		*	*
Chlorophyll a	#34	Unpreserved Cool 6°C	24 hours to filter/24 days frozen filter		1 ug/L	SM 10200 H		*	
Chlorophyll a, b, c, corrected a, pheophytin	#34	Unpreserved Cool 6°C	24 hours to filter/24 days frozen filter		1 ug/L	SM 10200 H		*	
Chlorophyll a in sediment	#9	Unpreserved Cool 6°C	24 hours to filter/24 days frozen filter		0.1 ug/cm^2	EPA 445.0		*	*
Chlorophyll a in periphyton	#9	Unpreserved Cool 6°C	24 hours to filter/24 days frozen filter		0.1 ug/cm^2	EPA 445.0		*	*
Phytoplankton	#64	Lugols/Formaldehyde	1 Year			SM 10200 F		*	
Ethylene glycol; Propylene glycol	#19 120 mL Amber Glass	Unpreserved Cool 6°C	14 Days		1.0 mg/L	LC/MS SOP UHL-H-019		*	
Heterotrophic Plate Count (Non-Drinking Water)	#81 5 oz Plastic IDEXX	Sodium thiosulfate <10°C	< 30 Hours		<1 CFU/mL	SM 9215 B	*	*	
Total Coliform Bacteria Pseudomonas	#65 5 oz Plastic IDEXX Pool Kit	Sodium thiosulfate	2 Days		N/A	Colilert Presence/Absence		*	*
Pseudomonas Aeruginosa	#66 5 oz Plastic IDEXX Spa Kit	Sodium thiosulfate	2 Days		N/A	Pseudalert/Most Probable Number		*	*
Pseudomonas Aeruginosa	#81 4 oz Plastic IDEXX	Sodium thiosulfate	2 Days		<1 CFU/200 mL	Pseudalert/Most Probable Number		*	*
Hormones and Steroids: Estriol; 17b-Estradiol; 17a-Ethynlyestradiol; Estrone, Equilin; Androstenedione; Testosterone	#18 1 Quart Amber Glass	Sodium thiosulfate + 2-Mercaptopyridine-1-oxide, Sodium Salt Cool 6°C			0.0004 ug/L Hormones 0.0001 ug/L Steroids	EPA 539		*	

A	Ankeny Laboratory
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Analysis Name and Analyte(s)	Sample Bottle #	Preservation & Storage Temp.	Maximum Holding Time	Special Notes	Quant Limit	Method	A	C	L
Miscellaneous									
Pharmaceuticals, Antibiotics, Personal Care Products: Acetaminophen; Caffeine; Carbamazepine; Cotinine; Diclofenac; DEET; Gemfibrozil; Ibuprofen; Lincomycin; Metoprolol; Sulfadimethoxine; Sulfamethazine; Sulfamethoxazole; Sulfathiazole; Triclosan; Trimethoprim	#14 40 mL Amber Glass Vial	Unpreserved Cool 6°C	14 Days		0.001 - 0.005 ug/L	LC/MS SOP UHL-H-020		*	
For any analysis not listed, please call State Hygienic Laboratory.									

SHL Webportal Online Results Access

6.0 Web Application Form

6.1 OpenELIS Web Portal User Guide

6.2 Link for Results

Click the title of the section and it will link you back to the index.

SHL Web Portal Application Form (environmental and safe drinking water testing)

Individuals requiring access to data must submit an application for authorization by the State Hygienic Laboratory. The SHL will issue a user ID and password for each individual upon approval of this application. By submitting this application, you acknowledge that you have read, understood, and agree to the Terms of Use specified below. This application must be filled in its entirety in order for the request to be processed. Please keep a copy of this application for your records. *Please type the requested information.*

Email this application form to: shl-webportalsupport@uiowa.edu

For further information, please contact Web Portal Support at 319/335-4358 or shl-webportalsupport@uiowa.edu .

Terms of Use

(1) SHL will make all reasonable efforts to ensure the accuracy of the information provided through this service, but will not be held liable for errors and/or omissions of any content.
(2) Tampering, reverse engineering or unlawful use of the content is strictly prohibited.
(3) The user agrees to access records by only using the user's personal username and password. Healthcare providers agree to only access information for individuals under their care.
(4) When a user's access to data is to be discontinued, **it is the responsibility of the organization to notify the SHL 14 days prior to the date of termination of access for the said user**. Access will be removed within a reasonable amount of time of the request, but no later than the last day of allowed access.
(5) Initial passwords will be supplied by SHL. Users must change passwords as necessary but are responsible for the integrity and safe keeping of their password against unauthorized use.
(6) Violation of said terms will result in immediate termination of access to SHL data, investigation, and possible legal action.

Organization Information

Organization Name:
Department:
Address1:
Address2:
City: State: Zip:

Applicant Information *(Required)*

First Name: Email:
Middle Name: Phone: ( ) - ext.
Last Name: Fax: ( ) -
Position:

By accessing and using our web site and these services, you acknowledge that you have read, understood, and agreed to the Terms of Use.

Signature of Applicant **Date**

Authorizing Representative Information *(Please complete if different from Applicant)*

First Name: Email:
Middle Name: Phone: ( ) - ext.
Last Name: Fax: ( ) -
Position:

Signature of Authorizing Representative **Date**

OpenELIS Web Portal User Guide

THE UNIVERSITY OF IOWA | STATE HYGIENIC LABORATORY

The OpenELIS Web Portal has been redesigned to be more responsive; it is now easier to use on tablets, laptops, and cell phones.

Logging in

- Go to the State Hygienic Laboratory at The University of Iowa's web site at www.shl.uiowa.edu .
- Click on the green **Test Results** button on the left-hand side.
- Click on the green **OpenELIS** button.
- Login using your username and password. (This is a secure site. Your username and password are encrypted as they are sent for authorization.)
- If you use a shared computer, please click **Logout** on the **Account** menu and then close the browser after completing your session.
- Supported desktop web browsers are recent versions of: Firefox, Chrome, Opera, Safari, and Microsoft Edge (version 15 and above). Mobile browser compatibility includes Apple iPhone and iPad and Android devices.

Account Menu

- The **Account** menu (See Figure 1.) in the top right corner of the **Home** page displays the name and username of the user.
- There are links to logout of the web portal and to change the user's password.
- The user can adjust the font size of the screen text and change the Display Mode (Dark, Calm, Lite).
- There are also links to related forms and user guides.

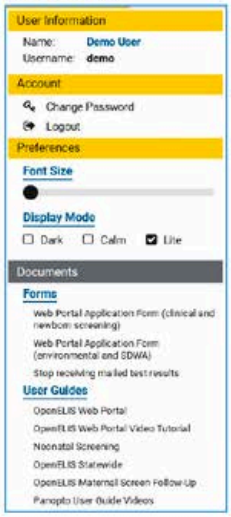

Figure 1 Account Menu

Buttons and Menus

- The **Home** page of the OpenELIS Web Portal contains a button for each module for which you have been assigned permissions. The **Reports** menu also lists these modules. You can open a module by clicking on its button or selecting it from the Reports menu. (See Figures 2 - 3.)

Figure 2 Module Buttons

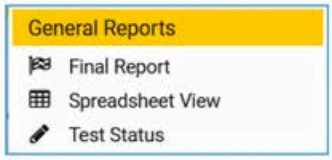

Figure 3 Reports Menu

News

- The red badge above the newspaper icon displays the number of news articles that are available pertaining to the laboratory and the web portal. Click on this icon to display the articles.

Help Text

- A **Help** button ? Help located in the lower right corner of each screen will display helpful information regarding the use of that screen.

Searching for Your Organization's Final Reports

- The first step to downloading your organization's Final Reports is to conduct a search for the samples that have results available.
- Click on the **Final Report** button (or select it from the Reports menu).
- You only need to enter information in one field to conduct a search for your organization's samples. Example fields include: **Collected Date**, **Released Date**, **Accession Number**, **Collector**, or **Patient's Last Name**. (See Figures 4 - 6.)
- It is recommended that you click in a date field and use the calendar when entering a date to eliminate any formatting errors. Clicking on the word "TODAY" at the bottom of the calendar will insert the current date (or date and time). You can also type the dates if you prefer. All dates have the format of YYYY-MM-DD. **Released Date** also includes the time in the format of YYYY-MM-DD HH:MM.

- You may also narrow your search by entering information in multiple fields. For example, to find all of the samples that you collected and sent to the laboratory in December of 2020, enter your name (as it appeared on the collection form) in the **Collector** field and 2020-12-01 in the **Collected Date** Start field and 2020-12-31 in its End field. (See Figure 7.)
- A search may also be limited to one or more projects, reporting organizations, or a sample domain. If these fields are left empty, all samples to which you are authorized will be displayed regardless of their reporting organization, sample domain, or whether they have an assigned project. (See Figure 8.)
- The system supports wild card searches in the following fields: **Client Reference**, **Collector**, **Location**, **Patient's Last Name**, and **Patient's First Name**. To use this search method add an * at the beginning and/or end of your search term. Below are three examples:
    - To see a list of samples for a patient whose last name starts with the letters "SCHM", enter SCHM* in the **Patient's Last Name** field. Matches would include: SCHMIDT, SCHMITT, SCHMITZ, etc.
    - To see a list of samples for a patient whose first name ends with the letters "JO", enter *JO in the **Patient's First Name** field. Matches would include: BETTY JO, BETTYJO, JO, etc.
    - To see a list of samples that were collected by a person with the name of "buck", enter *buck* in the **Collector** field. Matches would include: joseph buck, joe buck, j buck, buck joseph, buck joe, buck j, etc.
- Enter the **Patient's Date of Birth** in the Start field to search by that information. To search by a range of dates enter a Start date and an End date.
- Click on the Tool Tip ? to the right of each field to view information about the use and format of that field.
- Click the **Find Samples** button to display a list of samples that match your search criteria. The **Reset** button clears all of the search fields.

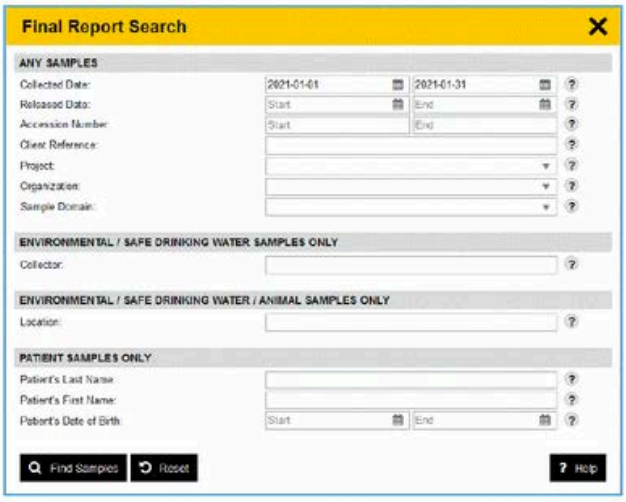

Figure 4 Searching by a Collected Date Range

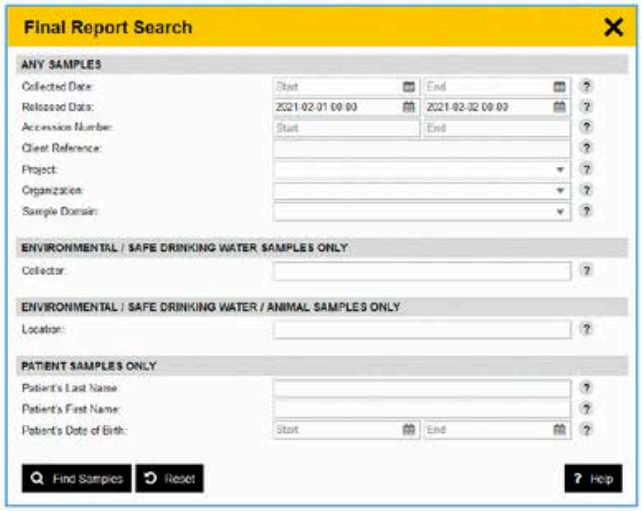

Figure 5 Searching by a Released Date Range

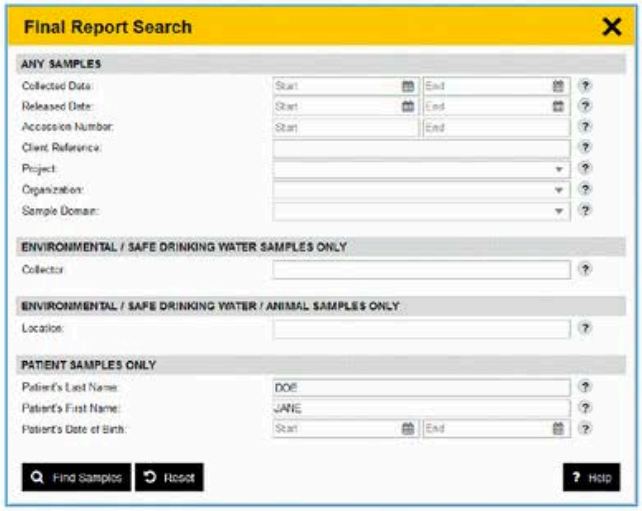

Figure 6 Searching by a Patient's Last and First Name

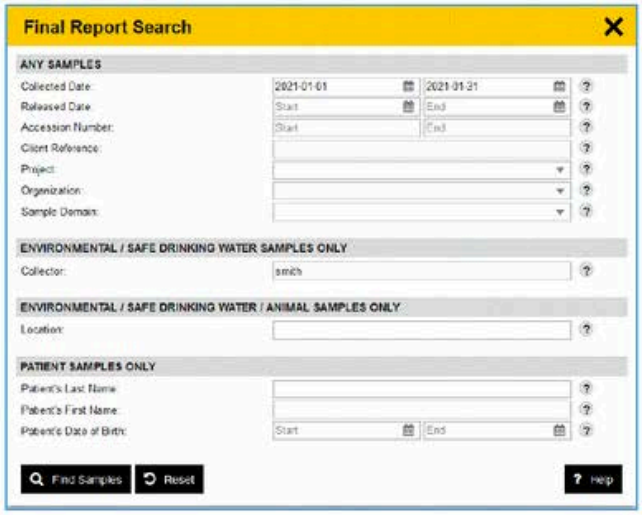

Figure 7 Searching by a Collected Date Range and Collector Name

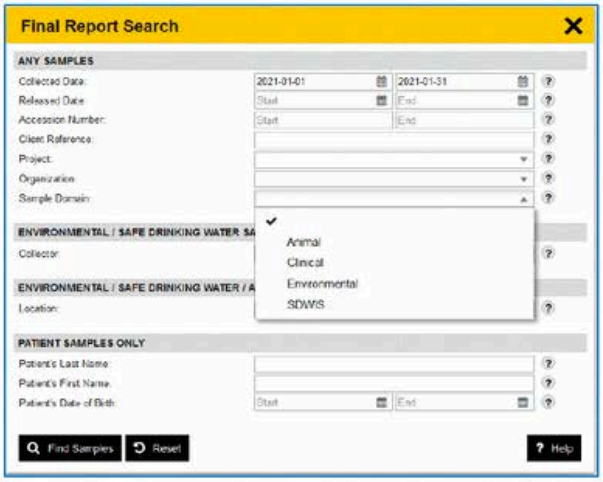

Figure 8 Searching by a Collected Date Range and Sample Domain

Viewing Your Organization's Final Reports

- A list of samples that match your search criteria will be displayed on the next screen. (See Figure 9.)
- To view reports for all of the listed samples, click the **Select All** button, and then the **Run Report** button.
- To view specific reports, check the boxes in front of their **Accession** numbers, and then click the **Run Report** button.
- The PDF reports of the selected samples will pop up. You may view, save, or print your PDF reports.
- The following are descriptions of each column on this screen.

  Accession: The lab number assigned to the sample by the laboratory.

  Collected Date: The date (and time if submitted) that the sample was collected. All dates and times have the format of YYYY-MM-DD HH:MM.

  Reference Information: This information can be helpful in identifying a sample. The patient's name, date of birth (DoB), and gender are usually displayed for patient samples. The collector's name and the collection location is usually displayed for environmental and safe drinking water samples. The type of animal and the collection location is usually displayed for animal samples (e.g., rabies testing).

  Additional Information: This information can also be useful in identifying a sample. The collection address and city (if submitted) are displayed for environmental samples. The PWS ID-PWS Name are displayed for safe drinking water samples. The health care provider's/veterinarian's/public health professional's name (if submitted) and submitting organization are displayed for patient and animal samples.

  Status: The sample's status is shown here. "In Progress" samples have one or more tests that are not yet complete and at least one test that is finished. The finished test's results are currently available on the Final Report. "Completed" samples have finished testing and all of their results are available on the Final Report.

  Project: The name of the project that has been assigned to the sample. A project can be used to group samples with a similar purpose.

  Attachments: The number of documents attached to each sample (if any) are shown in this column in a red circle. First, click on the paper clip icon to display the list of attachments. (See Figure 10.) Next, click on the name

of the attachment that you want to display. Attachments may include the test request form (begins with the prefix "TRF"), original and subsequent versions of final reports (begin with the prefix "FinalReport"), copies of email correspondence, send-out lab reports, and laboratory instrument output.

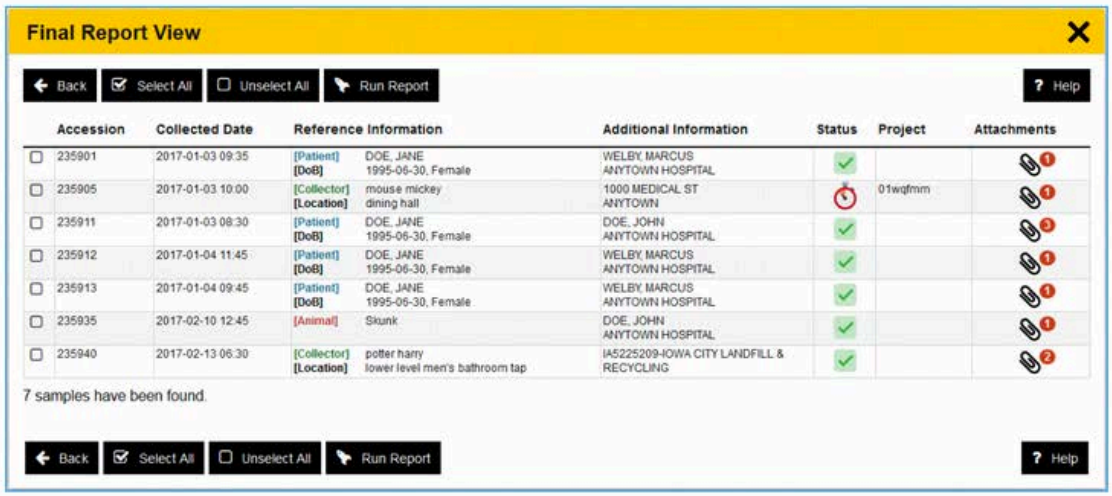

Figure 9 Final Report View

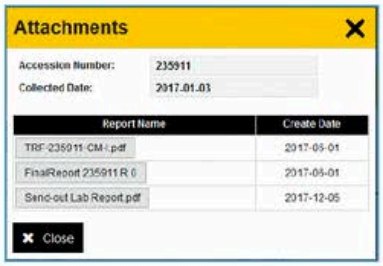

Figure 10 Sample Attachment List

Spreadsheet View

- The Spreadsheet View screen will display your organization's results in a spreadsheet that you can sort and filter. It could be used to compare results from the same collection location or the same patient over time, to easily pick out abnormal results, or count the number of samples that were submitted or tests that were ordered over a given period. Click on the **Spreadsheet View** button (or select it from the Reports menu).
- The first step is to search for the results that you would like to be displayed in the spreadsheet. The Spreadsheet View search screen works the same way as the one for final reports. See Searching for Your Organization's Final Reports for suggestions on how to conduct a search.
- Use the **Open Query** button to navigate to a saved query (in XML format) that you would like to run. This feature is useful to generate a similar spreadsheet on a periodic basis without having to enter the search fields and select the data output fields.
- After entering your search information, click the **Continue to Report Fields** button to select the data that you want to be displayed on your spreadsheet. The **Reset** button clears all of the search fields. The **Help** button will display useful information regarding using this screen.

- On the next screen select the fields that you want to be displayed as columns on your spreadsheet. Individual fields can be selected or you can select all of the fields in a group by clicking the **Select All** button. (See Figures 11 - 12.)
- This screen also shows all of the test analytes and auxiliary data that match your search criteria. You need to select at least one **Test Analyte** or **Auxiliary Data** field to run the report. You can use the **Select All** button at the bottom if you want to output all of the available information in a group.
- The **Show analytes in single row per analysis?** option allows all of the test analyte values and auxiliary data for an analysis to be displayed as a single row on the spreadsheet.
- Click the **Run Report** button to generate the spreadsheet containing all of the data that you selected. You may view, save, or print your spreadsheet reports. (See Figures 13 - 14.)
- Use the **Save Query** button to save a query (in XML format) that you would like to run again in the future. This feature is useful to generate a similar spreadsheet on a periodic basis without having to enter all of the search fields and select the data output fields.

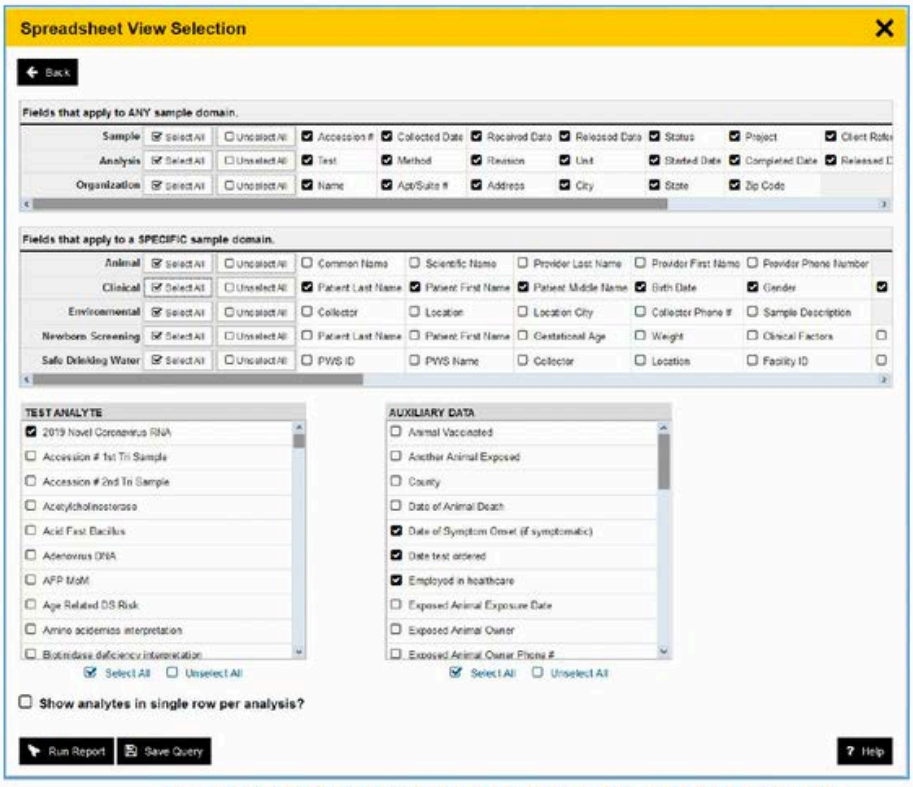

Figure 11 Selecting Fields to Output to Your Spreadsheet for Clinical Samples

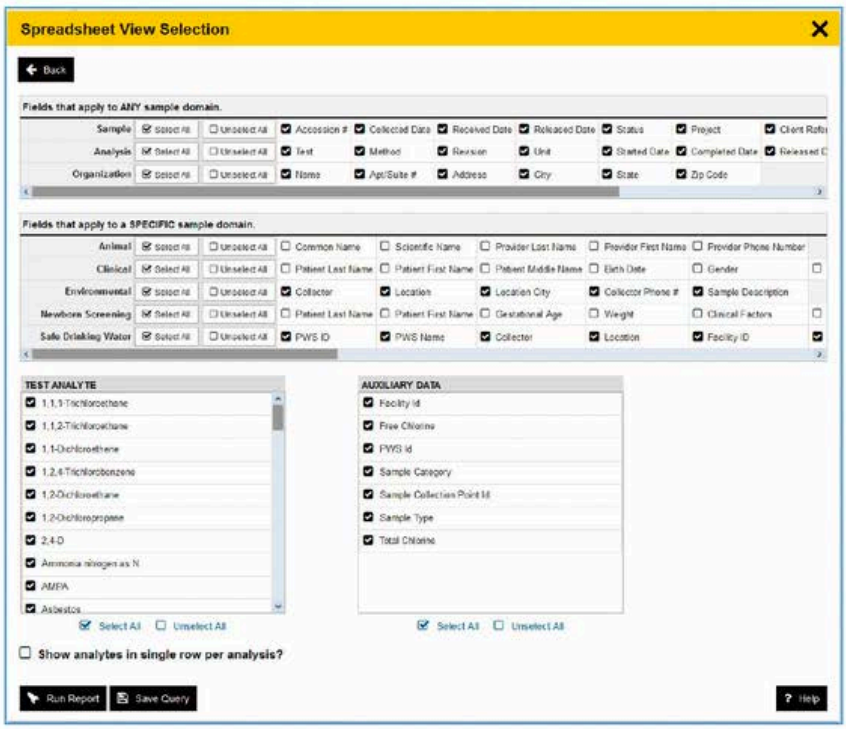

Figure 12 Selecting Fields to Output to Your Spreadsheet for Environmental and Safe Drinking Water Samples

Accession #	Collected Date	Client Reference	Test	Method	Patient Last Name	Patient First Name	Analyte	Value	Modifier
11226	2015-10-16 10:53	07882246	Chlamydia/Gonorrhoeae	Transcription-Mediated Amplification	TESTSHW	HARPO	Chlamydia rRNA	Detected	
11226	2015-10-16 10:53	07882246	Chlamydia/Gonorrhoeae	Transcription-Mediated Amplification	TESTSHW	HARPO	Gonorrhoeae rRNA	Detected	
11283	2016-06-14 08:29	00000655	Hepatitis C Total Antibody	CMIA	BEAKER	FEMALETWENTY	Hepatitis C Total Antibody	Reactive	
12520	2016-06-01 05:10		Influenza A	Polymerase Chain Reaction (PCR)	TEST	JONNY	Influenza A RNA	Detected	
12520	2016-06-01 05:10		Influenza B	Polymerase Chain Reaction (PCR)	TEST	JONNY	Influenza B RNA	Detected	
18765	2017-08-21 08:45	8932476923	Influenza A	Polymerase Chain Reaction (PCR)	SAWYER	TOM	Influenza A RNA	Not Detected	
18765	2017-08-21 08:45	8932476923	Influenza B	Polymerase Chain Reaction (PCR)	SAWYER	TOM	Influenza B RNA	Detected	
36590	2020-05-05 15:45		2019 Novel Coronavirus	Real-Time PCR	MOUSE	PINKY	2019 Novel Coronavirus RNA	Not Detected	
36590	2020-05-05 16:01		2019 Novel Coronavirus	Real-Time PCR	MOUSE	RICKY	2019 Novel Coronavirus RNA	Positive 2019-nCoV	
378939	2017-11-15 09:15	1237/1128456789	Acid Fast Bacillus	Bacterial Culture	FINN	HUCKLEBERRY	Acid Fast Bacillus	No Acid Fast Bacillus isolated after 3 weeks	
378939	2017-11-15 09:15	1237/1128456789	Fluorescent Stain for AFB	Fluorochrome (Auramine-Rhodamine Stain)	FINN	HUCKLEBERRY	Acid Fast Bacillus	Positive	1+
378939	2017-11-15 09:15	1237/1128456789	Acid Fast Bacillus	Bacterial Culture	FINN	HUCKLEBERRY	Acid Fast Bacillus	Acid Fast Bacillus Isolated	

Figure 13 Spreadsheet View of Clinical Samples

Accession #	Collected Date	Received Date	Test	Method	Analysis Released Date	Analyte	Value	Uncertainty	Quant Limit	MCL
378947	2018-01-22 09:00	2018-01-22 12:10	Gross Alpha (excluding Uranium)	EPA 900.0/200.8	2018-01-24 15:47	Gross Alpha excluding Uranium	1.9	1.7	1.2	15
378947	2018-01-22 09:00	2018-01-22 12:10	Uranium	EPA 200.8	2018-01-24 15:40	Uranium	31		1.0	30
378947	2018-01-22 09:00	2018-01-22 12:10	Gross Alpha (including Uranium)	EPA 900.0	2018-01-24 15:41	Gross Alpha including Uranium	22.7	1.7	1.2	
378949	2018-01-22 08:30	2018-01-22 13:15	Total Coliform and E.coli Bacteria	9223B-18PA	2018-01-25 15:06	E.coli	Absent			
378949	2018-01-22 08:30	2018-01-22 13:15	Total Coliform and E.coli Bacteria	9223B-18PA	2018-01-25 15:06	Total Coliform Bacteria	Absent, Bacterially Safe			
378983	2019-01-15 14:30	2019-01-16 10:35	Haloacetic Acids (HAAs)	EPA 552.2	2019-01-23 14:18	Bromoacetic acid	<0.001		0.001	0.060
378983	2019-01-15 14:30	2019-01-16 10:35	Haloacetic Acids (HAAs)	EPA 552.2	2019-01-23 14:18	Chloroacetic acid	<0.002		0.002	0.060
378983	2019-01-15 14:30	2019-01-16 10:35	Haloacetic Acids (HAAs)	EPA 552.2	2019-01-23 14:18	Dibromoacetic acid	<0.001		0.001	0.060
378983	2019-01-15 14:30	2019-01-16 10:35	Haloacetic Acids (HAAs)	EPA 552.2	2019-01-23 14:18	Dichloroacetic acid	0.009		0.001	0.060
378983	2019-01-15 14:30	2019-01-16 10:35	Haloacetic Acids (HAAs)	EPA 552.2	2019-01-23 14:18	Total Haloacetic Acids (HAA5)	0.015		0.006	0.060
378983	2019-01-15 14:30	2019-01-16 10:35	Haloacetic Acids (HAAs)	EPA 552.2	2019-01-23 14:18	Trichloroacetic acid	0.005		0.001	0.060

Figure 14 Spreadsheet View of Safe Drinking Water Samples

Disclaimer

Results from the **Spreadsheet View** represent analytical values as of the date they are generated. Future revisions may affect these results and official final results should be reviewed from the **Final Report** option to assure their accuracy.

Test Status

- The Test Status screen will display the status of each test that is being performed on your organization's samples. The Collected Date, Received Date, Client Reference, and any QA Events will also be shown. Click on the **Test Status** button (or select it from the Reports menu).
- The first step is to search for your desired samples. The Test Status search screen works the same way as the one for final reports. See Searching for Your Organization's Final Reports for suggestions on how to conduct a search.
- After entering your search information, click the **Find Samples** button. The **Reset** button clears all of the search fields.
- A list of samples matching your search criteria will be displayed on the next screen. The real-time status of each test that is being performed is shown. Samples will not be displayed until they have been entered into and verified through the laboratory's information system. (See Figure 15.)
- The following are descriptions of each column on this screen.

  Accession: The lab number assigned to the sample by the laboratory.

  Sample/Test Description: The Sample Description is displayed in the first row for each Accession number. The patient's name (in uppercase letters) is usually displayed for patient samples. The collector's name (in lowercase letters) is usually displayed for environmental and safe drinking water samples. The type of animal is displayed for animal samples (e.g., rabies testing). The Test Descriptions are displayed in the remaining rows for each Accession number. They consist of the "test name, method name". There may be a footnote at the end of a Sample or Test Description which is explained in the QA Event column. If a footnote is after the Sample Description, it applies to the entire sample. If a footnote is after a Test Description, it only applies to that test.

  Status: The test's status is shown here. "In Progress" tests have not been finished. "Completed" tests have finished testing and their results are available on the Final Report or through the Spreadsheet View.

  Collected Date: The date (and time if submitted) that the sample was collected. All dates and times have the format of YYYY-MM-DD HH:MM.

  Received Date: The date and time that the sample was received at the laboratory. All dates and times have the format of YYYY-MM-DD HH:MM.

  Client Reference: An item of information that helps to identify a sample. It could be the organization's lab number, a patient ID/Chart ID/Medical Record Number, or another identifier for a sample.

  QA Event: Any quality assurance issue that applies to the entire sample or an individual test is displayed in this column.

Click the Link Below

OpenELIS Web Portal

Or Use This URL Link:

https://www.shl.uiowa.edu/openelisweb/OpenELIS.html

Appendices

Click the title of the section and it will link you back to the index.

Common Enviromental Laboratory Acronyms	
Acronym	**Definition**
µg/L	micrograms per liter *(= parts per billion (ppb))*
AA	Atomic Absorption *(for metals analyses)*
AIHA-LAP, LLC	American Industrial Hygiene Association - Laboratory Accreditation Programs
BNAs	Base Neutral Acids *(semivolatile compounds)*
BOD	Biochemical Oxygen Demand *(includes ammonia nitrification)*
BTEX	Benzene, Toluene, Ethyl Benzene, Xylene
CBOD	Carbonaceous Biological Oxygen Demand *(inhibits ammonia nitrification)*
COD	Chemical Oxygen Demand
CWA	Clean Water Act
ELIS	Environmental Laboratory Information System *(SHL's computer system)*
EPA	Environmental Protection Agency
FB	Field Blank
GC	Gas Chromatograph *(for organic analyses)*
GC/MS	Gas Chromatograph/Mass Spectrometer *(for organic analyses)*
GFAA	Graphite Furnace Atomic Absorption
GPC	Gel Permeation Cleanup
HAA5	Haloacetic Acids
HAL	Health Advisory Level
HGA	Heated Graphite Atomizer *(for low level metals analyses)*
HPC	Heterotrophic Plate Count
HPLC	High Performance Liquid Chromatography
IC	Ion Chromatography
ICP	Inductively Coupled Plasma *(for metals analyses)*
ICP/AES	Inductively Coupled Plasma/Atomic Emission
ICP/MS	Inductively Coupled Plasma/Mass Spectrometer *(for metals analyses)*
ICR	Information Collection Rule
IOC	Inorganic Compound
LC	Liquid Chromatography
LC/MS/MS	Liquid Chromatography with Tandem Mass Spectrometer detection
LUST	Leaking Underground Storage Tank
MBAS	Detergents

Common Enviromental Laboratory Acronyms	
MCL	Maximum Contaminant Level *(SDWA)*
MCLG	Maximum Contaminant Level Goal
MDL	Method Detection Limit
MF	Membrane Filter
mg/L	milligrams per liter *(= parts per million (ppm))*
MPN	Most Probable Number
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NELAC	National Environmental Laboratory Accreditation Conference NPDES
NVLAP	National Voluntary Laboratory Accreditation Program OVM
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PFAS	Per-and polyfluroalkyl substances
PFOS	Perflurooctanesulfonic acid
PLM	Polarized Light Microscopy
ppb	parts per billion *(= μ g/L micrograms per liter)*
PPL	Priority Pollutant List
ppm	parts per million *(= mg/L milligrams per liter)*
QA/QC	Quality Assurance/Quality Control Ra 226 & 228
Ra226 & Ra228	Radium 226 & 228 / Radium 228
RBCA	Risk Based Corrective Action
RCRA	Resource Conservation and Recovery Act
SDS	Safety Data Sheet
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SHL	State Hygienic Laboratory at the University of Iowa
SM	Standard Methods *(for examination of water and wastewater)*
SOC	Synthetic Organic Compound
SOP	Standard Operating Procedure
SPLP	Synthetic Precipitation Leaching Procedure
TB	Trip Blank
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TEM	Transmission Electron Microscopy

	Common Enviromental Laboratory Acronyms
TEH	Total Extractable Hydrocarbons
TTHMs	Total Trihalomethanes
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TLV	Threshold Limit Value
TNI	The NELAC Institute
TOC	Total Organic Carbon
TRC	Total Residual Chlorine
TSS	Total Suspended Solids
TTO	Total Toxic Organic
UCMR	Unregulated Contaminant Monitoring Rule
UST	Underground Storage Tank
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
WETT	Whole Effluent Toxicity Test
ZHE	Zero Headspace Extraction *(for TCLP volatiles analyses)*

Conversion Factors				
From:	Multiply by:	To/From:	Multiply by:	To:
Ca	2.497	Ca (as $CaCO_3$)	0.40	Ca
Ca	1.4	CaO	0.714	Ca
Mg	1.66	MgO	0.602	Mg
Mg	4.117	Mg (as $CaCO_3$)	0.243	Mg
Fe	1.43	Fe_2O_3	0.699	Fe
Fe	1.38	Fe_3O_4	0.725	Fe
Mn	1.58	MnO_2	0.633	Mn
Pb	1.15	PbO_2	0.870	Pb

Phosphate Conversions *				
	P	PO_4	P_2O_5	$Na_5P_3O_{10}$**
P	1	3.006	2.291	3.959
PO_4	0.326	1	0.747	1.291
P_2O_5	0.436	1.338	1	1.728
$Na_5P_3O_{10}$**	0.253	0.775	0.579	1

*** To obtain Phosphate form in top horizontal row, multiply form in vertical column at left by the number in the square found at the intersection of the Phosphate forms, e.g., to determine phosphate as PO_4 if results are expressed as P, multiply P value by 3.006 to determine phosphate as PO_4.**

** Common polyphosphate (triphosphate)

Nitrogen Conversion				
From	Multiply by	To / From	Multiply by	To
NO_3-N	4.426	NO_3	0.2259	NO_3-N
NO_3-N	1	NO_2-N	1.00	NO_3-N
NO_3-N	3.284	NO_2	0.3045	NO_3-N
NO_2-N	3.284	NO_2	0.3045	NO_2-N
NO_3	0.2259	NO_2-N	4.426	NO_3
NO_3	0.742	NO_2	1.348	NO_3
NH_3-N	1.216	NH_3	0.8224	NH_3-N
NH_3-N	1.288	NH_4+	0.7764	NH_3-N

Metric Prefixes			
PREFIX	**SYMBOL**	**POWER OF 10**	**MULTIPLICATION FACTOR**
Yotta-	Y	10^{24}	1 000 000 000 000 000 000 000 000
Zetta-	Z	10^{21}	1 000 000 000 000 000 000 000
Exa-	E	10^{18}	1 000 000 000 000 000 000
Peta-	P	10^{15}	1 000 000 000 000 000
Tera-	T	10^{12}	1 000 000 000 000
Giga-	G	10^{9}	1 000 000 000
Mega-	M	10^{6}	1 000 000
myria-	my	10^{4}	10 000
kilo-	k	10^{3}	1000
hecto-	h	10^{2}	100
deka-	da	10^{1}	10
-	-	0	-
deci-	d	10^{-1}	0.1
centi-	c	10^{-2}	0.01
milli-	m	10^{-3}	0.001
micro-	μ	10^{-6}	0.000 001
nano-	n	10^{-9}	0.000 000 001
pico-	p	10^{-12}	0.000 000 000 001
femto-	f	10^{-15}	0.000 000 000 000 001
atto-	a	10^{-18}	0.000 000 000 000 000 001
zepto-	z	10^{-21}	0.000 000 000 000 000 000 001
yocto-	y	10^{-24}	0.000 000 000 000 000 000 000 001

Units of Measure			
Parts per million =	**ppm**	µg/mL	ng/µL
	mg/L		
	mg/kg	µg/g	ng/mg
Parts per billion =	**ppb**	ng/mL	pg/µL
	µg/L		
	µg/kg	ng/g	pg/mg
To convert:	**From**	**To**	**Multiply by**
	ppm	ppb	1000
	mg/L	µg/L	1000
	mg/kg	µg/kg	1000
To convert:	**From**	**To**	**Divide by**
	ppb	ppm	1000
	µg/L	mg/L	1000
	µg/kg	mg/kg	1000
Measurements:			
Liter	L	1000 mL	
Milliliter	mL	1 mL	
Microliter	µL	0.001 mL	
Kilogram	kg	1000 g	
Gram	g	1 g	
Milligram	mg	0.001 g	
Microgram	µg	0.000001 g	
Nanogram	ng	0.000000001 g	
Picogram	pg	0.000000000001 g	

Parts per Million	1 second in approximately 11½ days Parts per Billion1 second in approximately 31.7 years

Quick Guides

8.0 Rush Options & Typical Turnaround Times

8.1 Trip Blank Policy

Click the title of the section and it will link you back to the index.

Rush Analyses Requests

Rush analysis MUST be approved by the laboratory PRIOR to sample submission. A Rush surcharge is added to the fee if a Rush turnaround time is requested. Rush surcharges range from 50% - 200% of the fee depending on the analysis requested and the rush turnaround time requested. Charges for Grant and Contract samples analyzed as Rush will be assessed under specific grant/contract stipulations. Samples are registered into our laboratory information system with a Rush sample status upon receipt at the laboratory.

Turnaround Time (TAT)

The Turnaround Time (TAT) refers to the typical time period from sample receipt (with sample request form) at the laboratory to analyses completion and available report. Standard turnaround times are based on analyses performed during normal business hours/weeks (Monday - Friday). *Day equals standard workday.

Sample Turnaround Time (TAT) and Surcharges						
Sample TAT Option	**Priority 3 (Standard) TAT**		**Priority 1 (Rush)*,** TAT**		**Emergency (Rush) *, ** TAT**	
Sample Type	**Drinking Water**	**Non-potable Water & Solid Materials**	**Drinking Water**	**Non-potable Water & Solid Materials**	**Drinking Water**	**Non-potable Water & Solid Materials**
General Chemistry & Water Microbiology						
Bacteriology Only	3 days*	7 days	N/A	7 days	18 or 24 hours	72 hours
General Chemistry	30 days	21 days	7 days	7 days	72 hours	72 hours
Nitrates	14 days	N/A	1 day	N/A	N/A	N/A
Metals						
Metals	30 days	14 days	5 days	7 days	48 hours	72 hours
Organics						
Volatiles	14 days	14 days	14 days	14 days	24 hours	24 hours
Non-Volaties	14 days	14 days	14 days	14 days	48-72 hours	72 hours
Radiation* **						
Enviro Monitoring	60 days	25 days	7 days	7 days	72 hours	72 hours
Drinking Water	60 days	N/A	7 days	N/A	72 hours	N/A
Radon	30 days	N/A	7 days	N/A	48 hours	N/A
Additional Surcharge (%) Business Hours						
Sample accepted and analyzed **during** normal business hours Mon-Fri	N/A	N/A	50%	50%	**150%**	**150%**
Additional Surcharge (%) Non - Business Hours						
Sample accepted and analyzed **after** normal business hours Sun - Sat	N/A	N/A	50%	50%	**200%**	**200%**

What are trip blanks?

A trip blank consists of a sample container filled at the laboratory with water demonstrated to be free of target analytes. The trip blank travels to the sampling site with empty containers and instructions and returns from the site with filled sample containers.

Why are Trip Blanks used?

By duplicating the handling, environment, and storage that the sample containers undergo, trip blanks are used to measure possible contamination of samples. Trip blanks are typically analyzed for volatile organic compounds (VOCs).

How are trip blanks used?

Trip blanks are not opened in the field unless the instructions direct that they should be opened to add acid preservative, for example the #6 trip blanks for analysis of Total Trihalomethanes (TTHMs). The Facility or Location, Date and Time, and the Collector should be filled in on the trip blank label based on the information that the first sample the trip blank is associated with. Trip blanks must be returned to the laboratory with the set of containers they accompanied into the field.

When do the trip blanks expire?

Trip blank containers have an expiration date on the label provided by the SHL (approximately 6 months). Associated samples should be collected prior to the trip blank expiration date.

Below is an example of an SHL #15 trip blank label: