



Arkansas Department of Health

Engineering Section, Operator Licensing Program

presents the

Monitoring and Bacteriological Sampling Course

Monitoring is Required

- **The federal Safe Drinking Water Act requires all public water systems to collect and analyze samples for the presence of certain microbiological, bacteriological, and chemical contaminants including inorganic and organic compounds.**



Bacteriological Monitoring

- **Public Water System Service Fees** pay for most drinking water sample collection and analysis.
- **Almost all sample analysis is performed at the ADH Public Health Laboratory.**
- **ADH staff collect samples for chemical, radiochemical, disinfection by product, and many other contaminants that must be monitored.**
- **Public Water Systems are required to collect monthly bacteriological samples.**
- **The ADH provides a statewide courier system to transport samples to the public health lab for analysis.**



Safe Drinking Water Act (SDWA) Requirements

- **Each water utility has full responsibility for collecting and analyzing all bacteriological compliance samples.**
- **The ADH Engineering Section and Laboratory make every effort to help PWSs meet monitoring compliance.**
- **All systems must be familiar with their monitoring requirements & schedules.**
- **Water systems should check with their local County Health Unit concerning drop off times for send samples via the courier system.**



Monitoring-Record Keeping Requirements

- Action to correct violations, Public Notices.....3 years
- Bacteriological Monitoring Record.....5 years
- Consumer Confidence Reports.....3 years
- Variances and exemptions..... 5 years
- Written reports, sanitary surveys, etc.....10 years
- Treatment Operation Reports.....10 years
- Chemical Analysis Reports.....10 years
- Lead and Copper Rule Reports.....12 years
- Optimal Corrosion Control Records.....Indefinitely
- Blueprints, Maps, Plans, Easements.....Indefinitely



National Primary Drinking Water Regulations

- Each public water system must take routine samples from the distribution system for microbiological analysis for coliform bacteria.
- The basis for the old 1989 TCR is the testing for coliform bacteria in the drinking water systems.
- The new 2013 RTCR basis is to place more emphasis on correcting sanitary deficiencies that contribute to coliform bacteria in the distribution system and a higher emphasis when E-Coli is detected.

Sample Site Plans

- **Routine compliance samples and repeat or replacement samples (resamples) must be collected according to the system's sampling site plan using designated site codes.**
- **This site plan must be submitted to and approved by the ADH Engineering Section. Systems should regularly review their site plans and submit updates/revisions as needed. (Service area expansions, inactive sites, population changes, etc.)**
- **Submitting routine or replacement samples that do not match with the systems sampling site place can result in the samples being rejected by the lab.**



Why Is A Site Plan Required?

- **To ensure your samples are representative of the distribution system.**
- **A plan documents sampling sites for reference.**
- **A site plan facilitates planning in case of contamination.**
- **Required by federal regulations.**



Sample Site Plan Contents

- **An overall plan, sketch, drawing, map of the entire distribution system.**
- **Layout of distribution system lines (mains, laterals, tanks, etc.).**
- **Points of identification.**
- **The map should be “good enough” to enable people to find the location relative to roads, streets, etc.**

Example Site Identification Form

SAMPLING SITE PLAN

SITE IDENTIFICATION FORM

Anytown Waterworks 001
PUBLIC WATER SYSTEM NAME **ID #**

SITE NUMBER <u>1</u>	PWS ID #	SITE #	LOCATION (STREET ADDRESS)
REGULAR SAMPLE	<u>001 B</u>	<u>001</u>	<u>500 Main St</u>
REGULAR RESAMPLE	<u>001 B</u>	<u>001 A</u>	<u>***** (SAME AS ABOVE) *****</u>
DOWNSTREAM RESAMPLE	<u>001 B</u>	<u>001 B</u>	<u>600 Main St</u>
UPSTREAM RESAMPLE	<u>001 B</u>	<u>001 C</u>	<u>400 Main St</u>
ALTERNATE RESAMPLE	<u>001 B</u>	<u>001 D</u>	<u>550 Main St</u>
SITE NUMBER <u>2</u>	PWS ID #	SITE #	LOCATION (STREET ADDRESS)
REGULAR SAMPLE	<u>001B</u>	<u>002</u>	<u>300 Peach St</u>
REGULAR RESAMPLE	<u>001B</u>	<u>002 A</u>	<u>***** (SAME AS ABOVE) *****</u>
DOWNSTREAM RESAMPLE	<u>001B</u>	<u>002 B</u>	<u>400 Peach St</u>
UPSTREAM RESAMPLE	<u>001B</u>	<u>002 C</u>	<u>200 Peach St</u>
ALTERNATE RESAMPLE	<u>001B</u>	<u>002 D</u>	<u>250 Peach St</u>
SITE NUMBER <u>3</u>	PWS ID #	SITE #	LOCATION (STREET ADDRESS)
REGULAR SAMPLE	<u>001B</u>	<u>003</u>	<u>1201 My Lane</u>
REGULAR RESAMPLE	<u>001B</u>	<u>003 A</u>	<u>***** (SAME AS ABOVE) *****</u>
DOWNSTREAM RESAMPLE	<u>001B</u>	<u>003 B</u>	<u>1300 My Lane</u>
UPSTREAM RESAMPLE	<u>001B</u>	<u>003 C</u>	<u>1100 My Lane</u>
ALTERNATE RESAMPLE	<u>001B</u>	<u>003 D</u>	<u>1250 My Lane</u>

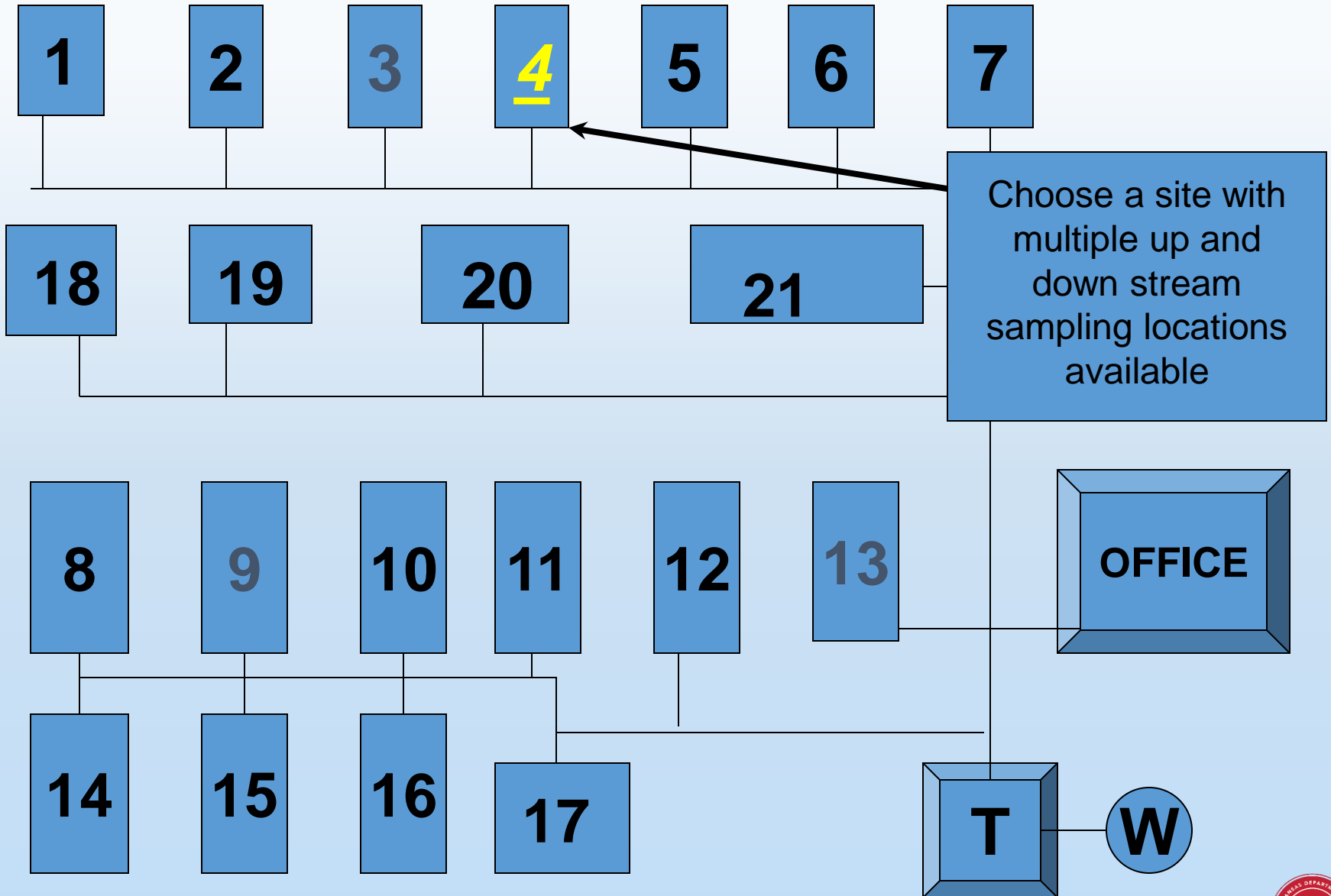


Bac-T Site Plan

- **Routine compliance samples (regular distribution samples) and repeat samples (resamples) must be collected according to the system's sampling site plan using site codes.**
- **Use of site codes allows the Public Health Laboratory to process and analyze large numbers of bacteriological samples each day.**
- **Routine compliance samples and resamples without a site code may be rejected by the laboratory.**
- **A monitoring violation will be issued if the sample site plan is not followed.**



SITE B-4

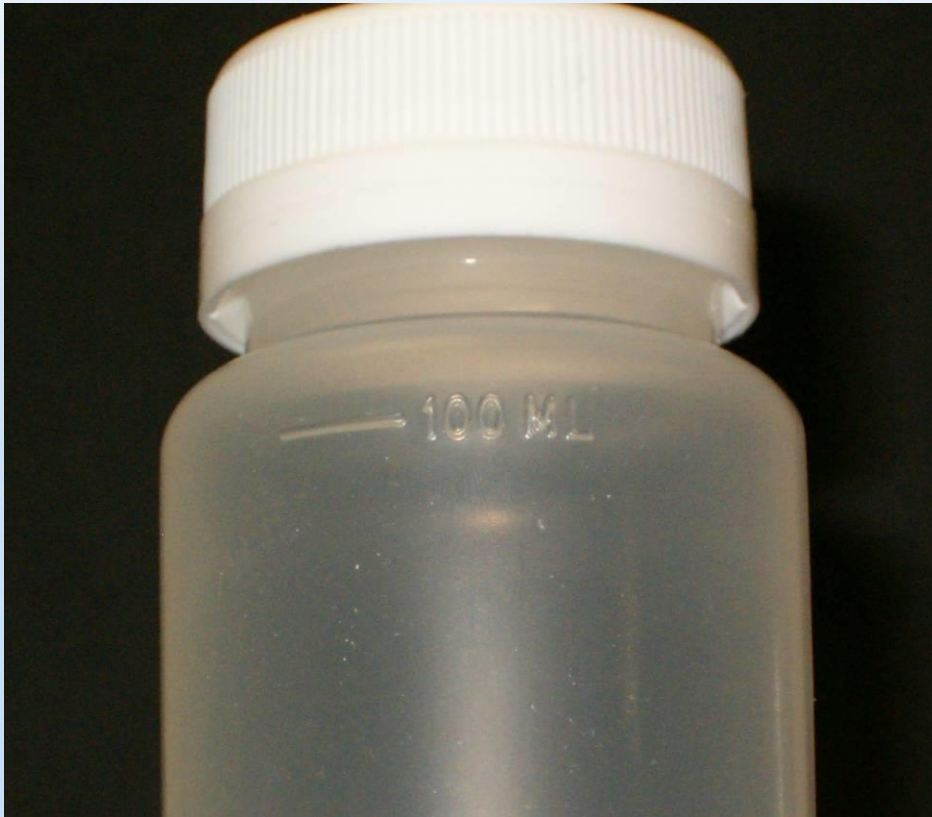


Bac-T Sample Bottle

- **Bac-T sample bottles are provided by the ADH.**
- **No other bottles are accepted for bacteriological sampling.**



Sterilization Seal



- Don't use the bottle if the seal is broken.
- Discard the bottle and use another.

Preservation Agent

- To ensure accurate testing, each sample bottle has a sample preservation agent (sodium thiosulfate) present as a small amount of liquid, powder, or solid.
- Do Not Rinse the bottle before sampling.



Check the Expiration Date



- Do not use if past the expiration date.
- Date stamps may occasionally have a different appearance.

Sample Amount

- In order to be analyzed, the sample must contain a minimum of 100ml of water.
- The bottle must be filled at least to the indicator mark; however, an air space should be left.
- Do not overflow the bottle.

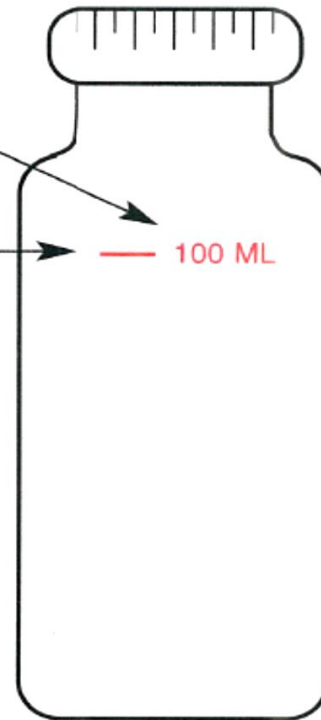


Sample Amount



2.

1.



1. Water must be touching this line.
2. Water must not be above the 100 ml letters.

Responsibility

- **Public Water Systems must submit samples monthly.**
- **Samples must be analyzed in a certified lab.**
- **Unless otherwise approved by the ADH, all samples must be submitted to the ADH Public Health Lab.**
- **Failure to receive sample bottles from the Department does not relieve you from required compliance sampling.**
- **You should contact your ADH District Staff if you experience sampling problems.**



Bacteriological Monitoring

- The minimum number of samples to be submitted by a community or non-transient public water system in Arkansas is three (3) samples per month.
- Arkansas Regulations are more stringent than Federal Regulations.



HOW MANY SAMPLES?

- The number of required samples to be submitted is determined by the system's population, but no less than 3 per month.

Population	Min. # of Monthly Samples
3,300 or less	3
3,301-4,100	4
4,101-4,900	5
4,901-5,800	6
5,801-6,700	7
6,701-7,600	8
7,601-8,500	9
8,501-12,900	10
12,901-17,200	15
17,201-21,500	20
21,501-25,000	25
25,001 +	Contact ADH

*For community and non-transient non-community PWS



Split Monthly Sampling

- **Ground water systems with a population greater than 4,900 and surface water or surface water influenced systems that collect more than one (1) routine sample each month must split their sample collection into two or more sample periods per month. Preferably every two weeks.**



Other Bacti Sampling Requirements

- **New Construction**
 - Water Mains
 - Treatment Facilities
 - Storage Tanks
- Bacti samples obtained on two separate days must pass before facilities can be placed into service. Collect one sample per sampling point per day on two separate days.
- **Investigative** (complaints, system function)
- **Boil Order**



BACTERIOLOGICAL SAMPLING

Collecting The Sample



When to collect samples?

- **Systems are required to sample monthly**
 - **Sample according to your lab schedule**
 - **Always use your site plan**
 - **Make sure to label samples appropriately**
- **Different systems are scheduled to sample on different weeks of the month so that the Public Health Lab will have a more uniform workload allowing them to process a large number of samples each month.**

Do not collect samples from:

- Fire hydrants
- Blowoffs
- Yard hydrants with weep holes
- Frost proof faucets
- or swivel type faucets

- Unsanitary hydrants or faucets can result in bad sample results but not because of true water quality.



Collect samples from sites that are:

- **Used frequently**
- **Sampling stations**
- **Indoor sites, if practical**
- **Non-swivel type faucets**

*** Avoid contamination from rain or wind blown dust**

The 5 Steps For Proper Bacti Sampling

Step #1: Flush



- **Let the water rapidly flow long enough to flush out the lines and secure a representative fresh sample.**
- **We recommend two (2) minutes or longer.**

STEP # 2: Check Chlorine Residual



STEP # 3: Decontaminate the Faucet



- Flame the faucet sufficiently to evaporate water.
- Don't flame plastic!
- Vinyl siding is easily damaged!

STEP # 4: Flush Again



- Flush out the heated water.
- ADH recommends minimum of one (1) minute.
- Then slow the flow to a steady non-splashing stream.

STEP # 5: Sample



- **Hold the bottle at a slight angle and fill to the indicator mark.**
- **Avoid letting the water splash against the rim of the bottle, your hands, or near by objects.**
- **Do not let the bottle touch the faucet or any other object.**

Dry the Bottle



- **Check for 100 mL mark**
- **Replace the cap.**
- **After the cap is replaced wipe any moisture off the outside of the bottle and cap.**

The Five Steps to proper Bacti Sampling

- 1. Flush**
- 2. Check Chlorine Residual**
- 3. Flame**
- 4. Flush**
- 5. Sample**



Fill Out the Sample Collection Form Properly



- Use a permanent pen, pencil, or MyPWS online.
- Make sure you fill it out correctly.
- Don't get in a rush.
- Keep the back page for your records or create a copy.
- Do not use “liquid paper or white-out” on sample collection forms. If a mistake is made, strike through, correct the information, then date/initial form.

Complete the Left Side of the Bacteri Form

- The date, Time, Water System, System ID#, Site Code, Location, and Collected by

Bacteriological Collection Form Template

ARKANSAS DEPARTMENT OF HEALTH Public Health Laboratory, 201 South Monroe Street Little Rock, AR 72205-5425				WATER ANALYSIS-BACTERIOLOGICAL			
LABORATORY USE ONLY DO NOT WRITE IN THIS SPACE →		Sample Shipped Via (Laboratory Use Only)		Laboratory Number (Laboratory Use Only)		Date and Time Received (Laboratory Use Only)	
SECTION 1 – Date and Time Sample Collected (Required)							
MONTH	DAY	YEAR	HOUR	(Must Check Box)			
			Exact Time _____	<input type="checkbox"/> AM	<input type="checkbox"/> PM		
SECTION 2 – Public, Non-Community and Semi-Public System Use Only							
Water System Name			Water System ID Number (Required)			Site Code	
Definite Location of Sample			City	County	Collected By:		
SECTION 3 – Private Submitters, ADH, Local Health Units Only							
Definite Location of Sample				Collected By:			
City	County	Note: \$17.00 Fee Per Sample <input type="checkbox"/> Credit on File, No Fee Included					
Send Report To:							
Name		_____					
Address		_____					
City/State/Zip		_____					
SECTION 4 – Sample Type							
<input type="checkbox"/> Public Community <input type="checkbox"/> Non-community <input type="checkbox"/> Semi-Public <input type="checkbox"/> Private - \$17 Fee REQUIRED							
SECTION 5 – Source							
<input type="checkbox"/> Well <input type="checkbox"/> Surface <input type="checkbox"/> Cistern <input type="checkbox"/> Spring							
SECTION 6 – Purpose							
<input type="checkbox"/> Boil Order <input type="checkbox"/> Special/Investigation <input type="checkbox"/> New Construction <input type="checkbox"/> Raw Water <input type="checkbox"/> Raw Water with Count <input type="checkbox"/> Regular Distribution Sample							
Resample Type: <input type="checkbox"/> Repeat				Original Lab # _____			
Original Lab # Required <input type="checkbox"/> Replacement <input type="checkbox"/> Triggered Raw							
Chlorine Residual _____ (circle one) Free or Total							
ENVIRONMENTAL HEALTH SPECIALIST ONLY							
<input type="checkbox"/> Swim Beach <input type="checkbox"/> Investigation							
LABORATORY USE ONLY							
Rejection/Disclaimer Code _____						Initials _____	
Analyst Notes: _____							

Complete the Right Side of the Form:

WATER ANALYSIS-BACTERIOLOGICAL

Date and Time Received (Laboratory Use Only)

SECTION 4 – Sample Type
 Public Community Non-community Semi-Public
 Private - \$17 Fee REQUIRED

SECTION 5 – Source
 Well Surface Cistern Spring

SECTION 6 – Purpose
 Boil Order Special/Investigation New Construction
 Raw Water Raw Water with Count
 Regular Distribution Sample

Resample Type: Repeat
Original Lab # Replacement
Required Triggered Raw

Chlorine Residual _____ (circle one) Free or Total

ENVIRONMENTAL HEALTH SPECIALIST ONLY
 Swim Beach Investigation

LABORATORY USE ONLY
Rejection/Disclaimer Code _____ Initials _____
Analyst Notes:

- Check system type
- In the “Source” section check your source type
- Check what kind of sample it is
- Original Lab# for follow-up samples
- Record chlorine residual

MyPWS

Water Bacti Sample Electronic Submittal Program

TRY THE NEW EASY WAY TO
SUBMIT DRINKING WATER
SAMPLES



Four Easy Steps:

Collect sample
Scan Bottle

Enter information
Ship

WITHIN MINUTES!!



Key Features of MyPWS

Fast

Accurate

Real Time Sample Status and Tracking

No Paperwork

<https://pws.adh.arkansas.gov/>



Electronic Data Submission “MyPWS”

Home About Contact My Submissions Submissions By PWS Register Log in

Arkansas Department of Health
Water Microbiology Sample Submission Program

Getting Started

In order to submit samples, you will first need to register. Please click the button below and we will guide you through the process. Message and data rates may apply.

Register

Learn More

An abundant supply of safe, high-quality drinking water is vital to everyone's health, comfort, quality of life and economic well-being.

Learn More

Contact Us

Have a question or a problem? Please feel free to reach out to us.

Contact Us

Submit Sample

If you already have an account, please use a QR Coded reader app to scan a bottle barcode. Please note the only method of submitting a sample with this application is by using a QR reader, entering samples manually is not allowed for quality purposes.

If you do not have a QR Code reader installed you can visit the app store for your device, there are many free options available for both IOS and Andriod. Please note that some devices/operating systems may include a QR Coder reader and do not require a 3rd party application.

If you can not find an QR Code reader you can try:

<https://www.scan.me/download/>

Please note 3rd party QR Code applications are not maintained nor endorsed by ADH. Any reference to a QC Code reader is provided only for your convenience.

- If interested, you must first register as a user.
- Using a smart phone and the phone camera to read a QR code on the bottle, sample information can be submitted that saves time for both the operator and the laboratory.



FINAL STEP

- **Proofread the form to make sure everything is correct, incomplete forms are usually rejected.**
- **Curl the form around the bottle so that the writing is turned *AWAY* from the bottle; replace the bottle and the form in the container, and mail or deliver immediately.**
- **Make sure you get your receipt from the lab or health unit when you drop off your samples. If the lab does not have a receipt make your own with the date, time, name, and signature of person receiving the samples.**



Keep the Forms With the Bottle

- Three bottles, three papers. Which goes with which, especially when they roll around in shipping.

Global DocuGraphix • Little Rock, AR • (501) 224-1992 • ST-03-0472 FORM NO. 045-002 (10-09)

INSTRUCTIONS HL-01

1. Press firmly - type or print using ball point pen or pencil.
2. Collection Date and Time must be indicated.
3. Community and Non-Community samples must include a water system ID number and a site ID number when available.
4. Private samples must include a \$10.00 fee per sample. Make check or money order payable to Arkansas Department of Health.

Global DocuGraphix • Little Rock, AR • (501) 224-1992 • ST-03-0472 FORM NO. 045-002 (10-09)

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ARKANSAS DEPARTMENT OF HEALTH
Laboratory Services, Slot #47
4815 West Markham Street, Little Rock, AR 72205-3967

LABORATORY USE ONLY
DO NOT WRITE IN THIS SPACE → Laboratory Number (Laboratory Use Only)

Date and Time Sample Collected
MONTH: 5 DAY: 20 YEAR: 04 HOUR: 10:20

Definite Location of Sample or Street & Number/Site ID Number
89 Boozac

City: Okolona County: Clark Collected By: B. Williams

Send Report To:
Name: _____
Street: _____
City: _____ State: _____

Water System Name: Okolona Water

Attach the Form to the Bottle

- This is a bad example!
- Do not cover the date or any other information with the sticker or tape.

ARKANSAS DEPARTMENT OF HEALTH
Laboratory Services, Slot #47
4815 West Markham Street, Little Rock, AR 72205-3867

LABORATORY USE ONLY
DO NOT WRITE IN THIS SPACE →

Laboratory Number (Laboratory Use Only)

DATE AND TIME SAMPLE COLLECTED
YEAR: 21 05
HOUR: 12:00
Time: 12:00

Sample or Street & Number/Site ID Number
565 B001

City: Zero
County: Pul
Collected By: John Sm

Send Report To:
Name: 565
Street:
City:
State:
Zip Code:

Water System Name
Water System ID Number

INSTRUCTIONS
1. Press firmly - type or print using ball point pen
2. Collection Date and Time must be indicated.
3. Community and Non-Community samples must include ID number and a site ID number when available
4. Private samples must include a \$10.00 fee per money order payable to Arkansas Department of Health

Global DocsGraphics • Little Rock, AR • (501) 224-1992 • (10-03)
HL-01
system
leak or

30 Hour Time Limit on Sample

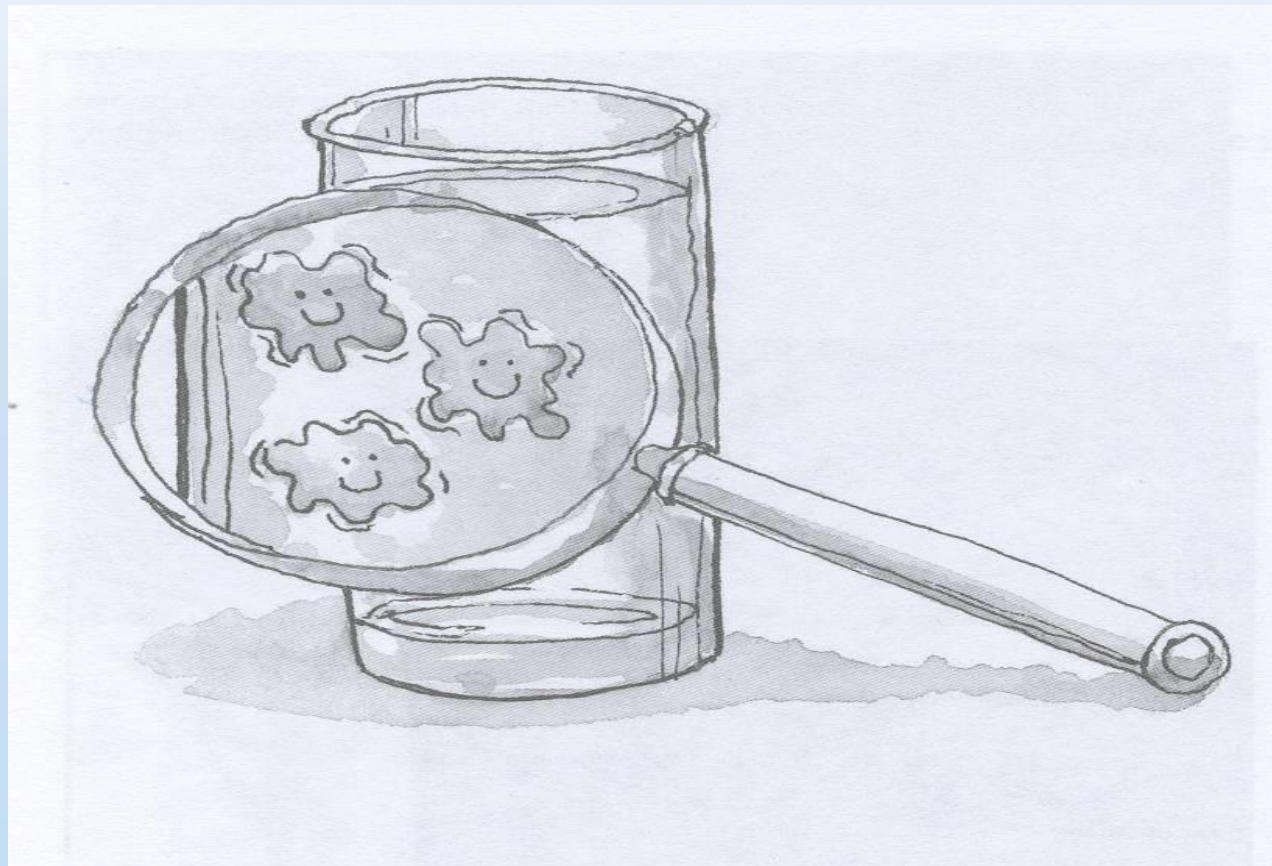


- The sample(s) must be ANALYZED by the laboratory within 30 hours of the time of sample collection or it will be rejected.

The day of receipt by the Lab must be a normal business day - not a weekend or Holiday.

We recommend you collect the sample just prior to delivery.

SAMPLE RESULTS: WHAT DO THEY MEAN?



SAMPLE RESULTS

There are three possible results for your sample

- 1) SAFE (A, Absent)
- 2) UNSAFE (TCP, P, Total Coliform Present,
E-coli Present)
- 3) INVALID



SAFE SAMPLES

- ① Do not have to be replaced
- ② Keep you in compliance!



UNSAFE SAMPLES (Present) or (P)

*******MUST BE RESAMPLED*******

- Site A - Resample Original site**
- Site B - Sample Downstream location**
- Site C - Sample Upstream location**

INVALID SAMPLES

- An Invalid sample is neither safe nor unsafe.
- * If a sample result shows that a sample is “Invalid”, that sample must be replaced with a sample from the original site where it was collected.

Resamples

- To be taken within 24 hours* of receipt of notice of coliform positive result.
- Must be taken at the same site as the original (plus upstream and downstream sites for Coliform positive).
- Must reference the lab number of the original sample triggering the resamples
- Must be marked resample–repeat (following TCP) or resample–replacement (rejected)
- All Repeat samples to be collected on the same day.



Indicate Original Lab Number When Resampling

<u>Lab no</u> 1500675	<u>Site ID</u> 001B003	<u>Site Address</u> 1201 MY LANE	<u>County</u> INDE	<u>Collected Time</u> 7022014 1130	<u>Received Time</u> 7032014 742	<u>Collected by</u> M W
<u>Specimen code</u> WEL	<u>Purpose</u> REG	<u>Category</u> PUB	<u>Rejection</u>	<u>Results</u> TOTAL COLIFORMS Present		
<u>Comments</u>	<u>Chlorine Residual</u> <u>Disclaimer</u>		<u>Results</u> E. COLI Absent			

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LABORATORY USE ONLY DO NOT WRITE IN THIS SPACE →		Sample Shipped Via (Laboratory Use Only)		Laboratory Number (Laboratory Use Only)		Date and Time Received (Laboratory Use Only)	
Date and Time Sample Collected (Required)				<input checked="" type="checkbox"/> Public Community <input type="checkbox"/> Non-community <input type="checkbox"/> Semi-Public <input type="checkbox"/> Private - \$17 Fee REQUIRED			
MONTH	DAY	YEAR	HOUR	(Must Check Box)			
			Exact Time	<input type="checkbox"/> AM <input type="checkbox"/> PM			
Public/Non-Community System Use Only				Source: <input checked="" type="checkbox"/> Well <input type="checkbox"/> Surface <input type="checkbox"/> Cistern <input type="checkbox"/> Spring			
Water System Name		Water System ID Number (Required)		Site Code		<input type="checkbox"/> Plant Tap <input type="checkbox"/> Special/Investigation <input type="checkbox"/> New Construction	
Definite Location of Sample		City	County	Collected By:		<input type="checkbox"/> Regular Distribution Sample <input type="checkbox"/> Boil Order Resample: <input type="checkbox"/> Repeat <input checked="" type="checkbox"/> Replacement	
Private Submitters/Local Health Units Only				<input type="checkbox"/> Raw Water: <input type="checkbox"/> Triggered Raw			
Definite Location of Sample		Collected By:		Chlorine Residual _____ Total <input type="checkbox"/> Free <input type="checkbox"/>			
City	County	Note: Private Submitters Must Enclose a \$17.00 Per Sample Fee					
Send Report To:				ENVIRONMENTAL HEALTH SPECIALIST ONLY <input type="checkbox"/> Swimming Pool <input type="checkbox"/> Swim Beach <input type="checkbox"/> Investigation			
Name		Address		City/State/Zip		LABORATORY USE ONLY Rejection Code _____ Analyst's Initials _____ Unsatisfactory Code _____ Analyst Notes (Laboratory Use Only)	
Name		Address		City/State/Zip		Original Lab # 1500675	

HL-01 (R 10/12)



Resample Within the Site Plan

Following a sample that is total coliform positive repeat samples must be collected from:

- Sample at original site.
- Sample at a downstream site. (within 5 services)
- Sample at an upstream site. (within 5 services)

Must include original sample number reference

Must follow approved sample site plan



Sampling Site Plan Example

SAMPLING SITE PLAN

SITE IDENTIFICATION FORM

Anytown Waterworks 001
PUBLIC WATER SYSTEM NAME **ID #**

SITE NUMBER <u> 1 </u>	PWS ID #	SITE #	LOCATION (STREET ADDRESS)
REGULAR SAMPLE	<u>001 B</u>	<u>001</u>	<u>500 Main St</u>
REGULAR RESAMPLE	<u>001 B</u>	<u>001 A</u>	<u>***** (SAME AS ABOVE) *****</u>
DOWNSTREAM RESAMPLE	<u>001 B</u>	<u>001 B</u>	<u>600 Main St</u>
UPSTREAM RESAMPLE	<u>001 B</u>	<u>001 C</u>	<u>400 Main St</u>
ALTERNATE RESAMPLE	<u>001 B</u>	<u>001 D</u>	<u>550 Main St</u>
SITE NUMBER <u> 2 </u>	PWS ID #	SITE #	LOCATION (STREET ADDRESS)
REGULAR SAMPLE	<u>001B</u>	<u>002</u>	<u>300 Peach St</u>
REGULAR RESAMPLE	<u>001B</u>	<u>002 A</u>	<u>***** (SAME AS ABOVE) *****</u>
DOWNSTREAM RESAMPLE	<u>001B</u>	<u>002 B</u>	<u>400 Peach St</u>
UPSTREAM RESAMPLE	<u>001B</u>	<u>002 C</u>	<u>200 Peach St</u>
ALTERNATE RESAMPLE	<u>001B</u>	<u>002 D</u>	<u>250 Peach St</u>
SITE NUMBER <u> 3 </u>	PWS ID #	SITE #	LOCATION (STREET ADDRESS)
REGULAR SAMPLE	<u>001B</u>	<u>003</u>	<u>1201 My Lane</u>
REGULAR RESAMPLE	<u>001B</u>	<u>003 A</u>	<u>***** (SAME AS ABOVE) *****</u>
DOWNSTREAM RESAMPLE	<u>001B</u>	<u>003 B</u>	<u>1300 My Lane</u>
UPSTREAM RESAMPLE	<u>001B</u>	<u>003 C</u>	<u>1100 My Lane</u>
ALTERNATE RESAMPLE	<u>001B</u>	<u>003 D</u>	<u>1250 My Lane</u>



Repeat Samples

- **RTCR - Failure to conduct all required Repeat sampling will trigger a Level 1 or 2 assessment as appropriate.**
- **“Assessments” are required by federal law when triggered by sample results or failure to collect repeat samples and are designed to help identify a cause that can then be corrected.**
- ****E.Coli* MCL issued in addition to a Level 2 Assessment trigger if all repeat sampling not conducted after an *E.Coli* positive routine sample.**

Repeat Samples

- **If any repeat sample is total coliform positive, an additional set of repeat samples must be collected*.**
- ***The process must be repeated until one complete set is negative, or it is determined that a MCL has been exceeded or an Assessment has been triggered.**



**ARKANSAS DEPARTMENT OF HEALTH
PUBLIC WATER SYSTEM BACTERIOLOGICAL TEST RESULTS**

Review the results of each analysis and refer to the table below for the appropriate action for samples used for compliance with the Revised Total Coliform Rule.

TEST RESULTS		INTERPRETATION	ACTION REQUIRED ¹
A.	Total Coliform Absent (A)	The water sample was free of coliform organisms and safe for drinking purposes at the time of the sampling.	* No action required
B.	Total Coliform Present (P)	<p>The water sample contained coliform organisms and may be unsafe for drinking purposes.</p> <p>More than one total coliform positive samples per month for systems collecting less than 40 samples per month, or more than 5% total coliform positive samples per month for systems collecting 40 or more samples per month, constitutes a Level 1 Assessment trigger.</p> <p>If a previous Level 1 Assessment has been triggered within the past 12 months, then a Level 2 Assessment is triggered.</p>	<p>* If the Total Coliform Positive sample is a regular or replacement Routine sample, then three (3) repeat samples must be collected on the same day: one at the original site, site A; one within 5 service connections upstream, site B; and one within 5 service connections downstream, site C. Use the appropriate site identification number including the A, B, or C designation (see your bacteriological sample site plan).</p> <p>Repeats for total coliform repeat samples are not required if a Level 1 or Level 2 Assessment has been triggered.</p>
C.	E. coli Absent (EA)	The water sample was free of E. coli (fecal) bacteria.	* If the sample was also total coliform absent, no action required. If the sample was Total Coliform Present, see Line B above
	E. coli Present (EP)	<p>The water sample is contained E.coli (fecal) bacteria and is unsafe for drinking.</p> <p>Any <u>E.coli</u> positive repeat sample, or any total coliform positive repeat sample following an <u>E.coli</u> positive regular sample is an E. Coli Maximum Contaminant Level violation and is considered an acute risk to public health. <u>Issue a boil water notice</u> and provide Notice to your customers of the violation within 24 hours through the electronic media, hand delivery, posting or other method approved by the ADH. A notice template can be provided by the ADH.</p>	<p>* See Line B above.</p> <p>* Contact your ADH District Engineer or Environmental Specialist immediately.</p> <p>* Immediately check the distribution system area represented by the sample for adequate chlorine residual and take remedial action.</p> <p>* Systems which have an E.Coli maximum contaminant level will receive a Notice of Violation and will be required to notify their customers of the violation.</p>
D.	Rejected	<p>The water sample was rejected for analysis for various reasons including:</p> <p>Too Old \ Form Incomplete \ No Site ID Form Postdated \ Leaked in Transit Quantity Insufficient \ Unacceptable Container</p>	* Collect one replacement sample at the same site.
E.	Unsatisfactory	<p>The water sample or its test result was unsatisfactory for various reasons including:</p> <p>Excessive Chlorine \ Excess Heterotrophic Bacteria Growth</p>	* Collect one replacement sample at the same site.
F.	xxx Coliforms/100 ML or xxx E.Coli/100 ML	Raw water sample results	* No action required



RESULT CODE	RESULT MEANING	REPEAT SAMPLES REQUIRED (Yes/No) #	LOCATION of REPEAT SAMPLES (Use Repeat Sample Sites indicated in Sampling Site Plan)
A	Coliform Absent	No	No repeat samples needed, sample considered Safe.
P	Total Coliforms Present	Yes, 3 per site*	Upstream (within 5 service connections of original site), downstream (within 5 service connections of original site), and the original site.*
<1	< 1 coliform / 100 ML	No	Raw water sample, No repeat samples needed.
<1F	< 1 Fecal coliform / 100 ML	No	Raw water sample, No repeat samples needed.
EA	E. coli Absent	No*	No repeat sample needed, but repeat sample could be needed if sample result is also Total Coliform Present.*
EP	E. coli Present	Yes, 3 per site*	Upstream (within 5 service connections of original site), downstream (within 5 service connections of the original site), and the original site.*
LA	Lab Accident	Yes, 1 per site**	Site(s) where original sample(s) was collected. Sample results Invalid.***
LTL	Leaked in Transit	Yes, 1 per site	Site(s) where original sample(s) was collected. Sample results Invalid.
NSI	No Site Indicated	Yes, 1 per site	Site(s) where original sample(s) was collected. Include proper site code information on sample collection report form. Sample result Invalid.
QNS	Quantity Insufficient	Yes, 1 per site	Site(s) where original sample(s) was collected. Sample results Invalid.
TIP	Test In Progress	No	Test have not been completed or finalized
Too Old	Too Old	Yes, 1 per site	Site(s) where original sample(s) was collected. Sample did not meet 30 hour time frame. Sample result Invalid.
INC	Inconclusive	Yes, 1 per site	Site(s) where original sample(s) was collected. Test results show too much chlorine. Sample result Invalid.
FPD	Form Post Dated	Yes, 1 per site	Site(s) where original sample(s) was collected. Error on time collected on sample form. Sample result Invalid.

BACTERIOLOGICAL SUMMARY REPORT

**Division of Engineering
Arkansas Department of Health
4815 West Markham Street Slot 37
Little Rock, Arkansas 72205-3867**

Tuesday, April 01, 2003

SUNSET WATER ASSOCIATION PWS ID 472
ANDREW BASS
300 JOHN H JOHNSON BLVD
SUNSET AR 72364

The following samples were Total Coliform and E. Coli absent, no action is required.

<u>Lab No.</u>	<u>Site</u>	<u>Site Address</u>	DOROTHY WADE	<u>County</u>	<u>Collected</u>	<u>Time</u>	<u>Received</u>	<u>Time</u>	<u>Collected By</u>
3045002	472B001		70 HARVARD	CRIT	3262003	800	3272003	740	ABASS
<u>Specimen code</u>	WEL	<u>Purpose</u>	REG	<u>Category</u>	PUB	<u>Rejection code</u>		<u>RESULT</u>	TOTAL COLIFORMS ABSENT/100 ML E. COLI ABSENT/1 00 ML
<u>Comment</u>	ANALYZED 03/27/2003 10:30 AM		<u>Disclaimer</u>						

<u>Lab No.</u>	<u>Site</u>	<u>Site Address</u>	CORNELIUS WHITAKER JR	<u>County</u>	<u>Collected</u>	<u>Time</u>	<u>Received</u>	<u>Time</u>	<u>Collected By</u>
3045003	472B003		111 GANNT	CRIT	3262003	830	3272003	740	ABASS
<u>Specimen code</u>	WEL	<u>Purpose</u>	REG	<u>Category</u>	PUB	<u>Rejection code</u>		<u>RESULT</u>	TOTAL COLIFORMS ABSENT/100 ML E. COLI ABSENT/1 00 ML
<u>Comment</u>	ANALYZED 03/27/2003 10:30 AM		<u>Disclaimer</u>						



Division of Engineering
Arkansas Department of Health
4815 West Markham Street Slot 37
Little Rock, Arkansas 72205-3867

BACTERIOLOGICAL SUMMARY REPORT

Tuesday, April 01, 2003

Your Water System Pws ID XXX
Your name
Your Address
Your City, AR Zip

CHECK THE FOLLOWING RESULTS AND IF REQUIRED TAKE THE APPROPRIATE ACTION LIST BELOW

<u>Lab. No.</u>	<u>Site</u>	<u>Site Address</u>	<u>SHIRLEY PERKINS</u>	<u>County</u>	<u>Collected</u>	<u>Time</u>	<u>Received</u>	<u>Time</u>	<u>Collected By</u>
3045087	378B001	102 BERNICE DR		MISS	3262003	1520	3272003	943	Your Name
<u>Specimen code</u>	WEL	<u>Purpose</u>	REG	<u>Category</u>	PUB	<u>Rejection</u>	QUANTITY INSUFFICIENT		
<u>Comment</u>						<u>Result</u>			
Actions to Take: Collect one repeat sample at the same site.									
1 BOTTLE(S) WILL BE SENT TO YOU FOR RE-SAMPLES <i>Additional information is shown in the column (Interpretation) on the back of this form.</i>									



Division of Engineering
 Arkansas Department of Health
 4815 West Markham Street Slot 37
 Little Rock, Arkansas 72205-3867

BACTERIOLOGICAL SUMMARY REPORT

Tuesday, April 01, 2003

Your Water System Pws ID XXX
 Your name
 Your Address
 Your City, AR Zip

CHECK THE FOLLOWING RESULTS AND IF REQUIRED TAKE THE APPROPRIATE ACTION LIST BELOW

<u>Lab No.</u>	<u>Site</u>	<u>Site Address</u>	<u>County</u>	<u>Collected Time</u>	<u>Received Time</u>	<u>Collected By</u>
3045001	B002	TRUE VINE CHURCH 326 HWY 77 BYPASS	CRIT	3262003 815	3272003 740	Your Name
<u>Specimen code</u>	WEL	<u>Purpose</u> REG	<u>Category</u> PUB	<u>Rejection</u>		
<u>Comment</u>	ANALYZED 03/27/2003 10:30 AM			<u>Result</u> P	TOTAL COLIFORMSPRESENT/100 ML**	
				EA	E. COLI ABSENT/100 ML	
<p>Actions to Take: Three repeat samples must be collected on the same day, one at the original site, site A; one within 5 service connections up stream, site B; & one within 5 service connections down stream, site C. Use the appropriate site identification number including the A,B or C designation (see your bacteriological sample site plan). Water systems with only one service connection, may collect all samples from the same site.</p>						
<p>3 BOTTLE(S) WILL BE SENT TO YOU FOR RE-SAMPLES</p>			<p><i>Additional information is shown in the column (Interpretation) on the back of this form.</i></p>			



Confirmed E-Coli Positive Samples

Acute MCLs

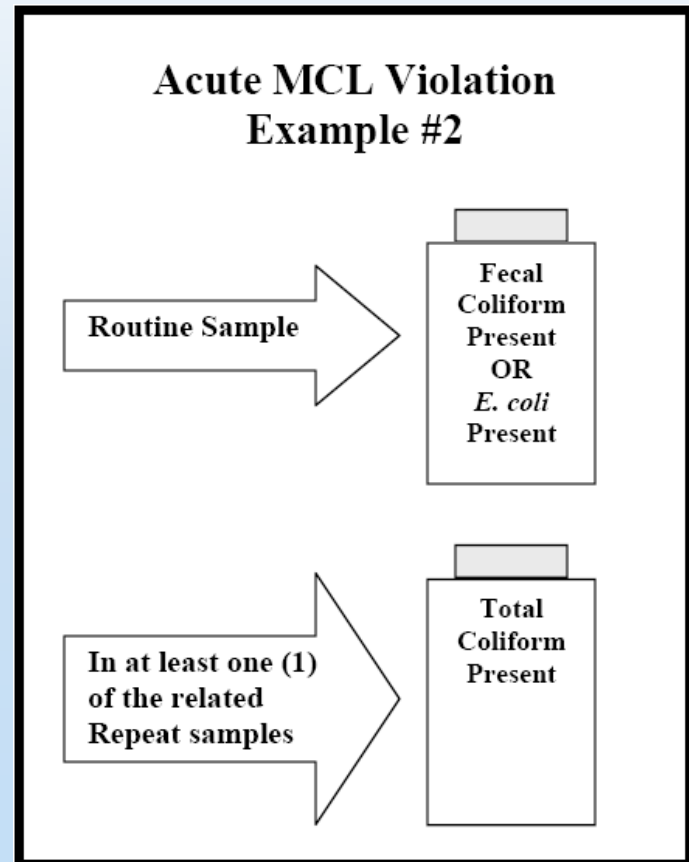
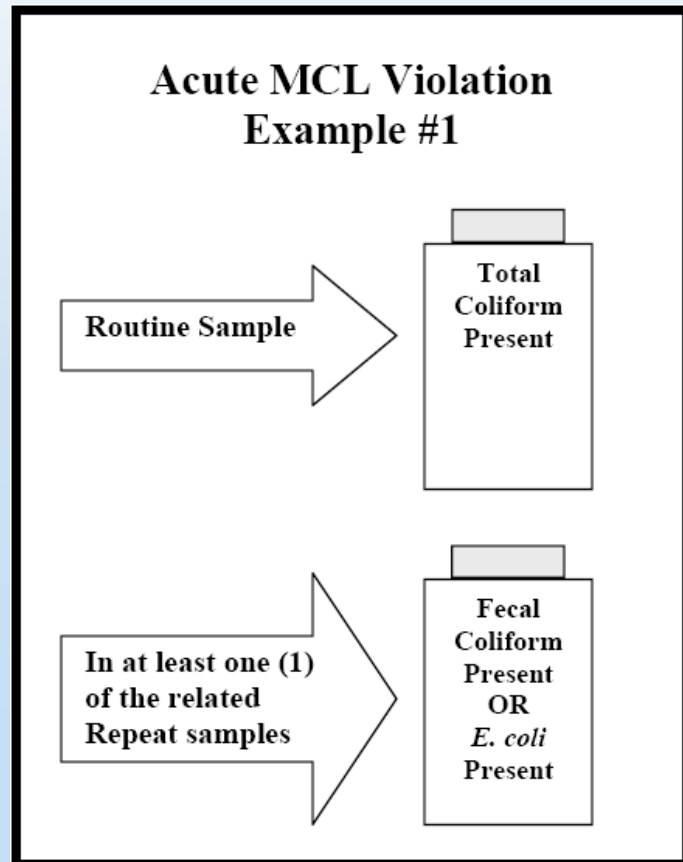
- Confirmed Total Coliform positive repeat sample following an initial *E-Coli* positive sample.
- Confirmed *E-Coli* positive repeat sample following an initial Total Coliform or *E-Coli* positive sample.

RTCR also includes:

- Failure to take all required repeat samples following an *E-Coli* positive sample.
- Failure to test for *E-Coli* when any repeat sample is Total Coliform positive.



Acute MCL Violation



MCL & MCLG

- **Definitions:**
- **Maximum Contaminant Level (MCL)** - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards
- **Maximum Contaminant Level Goal (MCLG)** - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.
- **Source:** www.epa.gov



Acute MCLs

- **When an Acute MCL is issued, the system must conduct public notice within 24-hours. The ADH requires the system issue a Boil-Water Advisory to consumers until follow-up samples verify the presence of disinfectant residual and the absence of Coliform bacteria.**



Acute MCLs

- **The RTCR will also require that a Level 2 assessment of the water system be conducted to identify the possible presence of sanitary defects or monitoring practices and the likely reason for triggering the assessment.**

Multiple Coliform Positive Samples

- **Trigger levels for Coliform positive samples:**
 - **Two (2) or more coliform positive samples for systems collecting less than 40 routine samples per month**
 - **More than 5% coliform positive samples for systems collecting 40 or more routine samples.**
- **Trigger results in a Level 1 Assessment, if a second trigger occurs within 12 months, a Level 2 Assessment is required**



Level 1 Assessments

- **A basic examination of the source water, treatment, distribution system and relevant operational practices**
- **Purpose is to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment.**
- **Conducted by the Water System**



Level 2 Assessments

- **A more in-depth examination of the source water, treatment, distribution system and relevant operational practices**
- **Purpose is to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment.**
- **Conducted by the State**



Assessment Elements

- **Minimum elements include:**
 - **Review and identification of atypical events that could affect distributed water quality or indicate that distributed water quality was impaired.**
 - **Changes in distribution system maintenance and operation that could affect distributed water quality.**
 - **Source and treatment considerations that bear on distributed water quality.**
 - **Existing water quality monitoring data.**
 - **Inadequacies in sample sites, sampling protocol, and sample processing.**

RTCR Level 1 Assessment Form

System Name:		Source Water:		PWSID #	
System Type:		Population Served:		PWS Address:	
Operator in Responsible Charge (ORC):		Phone:		Sample Site info:	
City, State:					
County:					
Person that collected TC samples if different than ORC:		Phone:			
Address, City, State, Zip:					
Date Assessment Completed:		Completed by:			
Questions (1-4)		Reviewed? (Y/N or N/A)	Issue(s) Found? (Y/N)	Issue Description	Corrective Action Taken (Including Date)
1. Evaluate sample site. -condition or location of tap -adequate disinfectant level maintained -regular use of tap/service -history of sample results from site -POE/POU -softeners					
2. Sample protocol followed and reviewed. -flush tap -disinfect/sterilize tap -remove aerator -sample storage acceptable -no swivel -fresh sample bottles					
3. Have any of the following occurred at relevant facilities prior to the collection of TC samples? -any interruptions or upsets in the treatment process -any reported loss of pressure events -reported vandalism and/or unauthorized access to facilities -visible indicators of unsanitary conditions reported -Has there been a fire fighting event, flushing operation, sheared hydrant, etc.					
4. Have there been any recent operational changes to the system? -sources introduced -treatment or operational changes -maintenance activities -potential sources of contamination					



RTCR Level I Assessment Form

Questions (5-8)	Reviewed? (Y/N or N/A)	Issue(s) Found? (Y/N)	Issue Description	Corrective Action Taken (Including Date)
5. Distribution System -system pressure -cross connection -pump station -repairs			-air relief valves -fire hydrants or blow off -breaks	
6. Storage Tank -screens -security -access opening -condition of tank			-vent -drain / overflow -pressure tank -O&M	
7. Treatment Process -interruptions / upsets -O&M -monitoring				
8. Source - Well -sanitary seal -vent screened -air gap -pump to waste line -cross connection -security	Spring -condition of spring development -condition of spring box -security	Surface Water -heavy rainfall -high turbidity -lake turnover -algae blooms -other impacts		

Additional Comments:

Name of person completing form: _____ Signature: _____ Date: _____

Title and Organization: _____

Complete the assessment and submit this form within 30 days to:

Engineering Section, Slot 37
 Arkansas Department of Health
 4815 W. Markham St.
 Little Rock, AR 72205

Reserved for State

1. Assessment has been successfully completed. (Y/N & Date)
2. Likely reason for total coliform positives occurrence is established.
3. System has corrected the problem. (Y/N & Date)
4. Was a reset requested and / or granted? – Rationale
5. Name of State reviewer:



Assessments – Corrective Action

- **The PWS must correct all sanitary defects found during the assessment**
- **For corrective actions not completed by the time the report is submitted, the PWS must complete the corrective actions in compliance with a timetable approved by the State**
 - **The PWS must notify the State when each scheduled corrective action is taken**
- **Corrective actions should be completed in accordance with recognized industry guidance and best professional judgment.**



Assessments - Violations

- **Treatment Technique (TT) Violations**
 - **PWS fails to conduct required Assessment**
 - **PWS fails to conduct required Corrective Action(s) identified during the Assessment**
 - **Public notice required for TT violations.**



Assessments - CCR

- **Annual PWS Consumer Confidence Report (CCR) must contain information about the number of assessments required and corrective actions taken, and, if appropriate, the number of corrective actions not completed.**



SAMPLE RESULTS

- After you send your sample in you should receive your results in 7-10 working days. If you do not- Call and check on your sample.

Why?

- To make sure you will be in compliance.

Because:

- The lab may not have received it.
- It could be lost in the mail.
- Never shipped.
- Or the results may just be behind schedule.





ARKANSAS DEPARTMENT OF HEALTH

ABOUT ADH RULES NEWS RESOURCES & PUBLICATIONS A-Z TOPICS HEALTH UNITS



IT'S FLU SEASON

Flu shots protect the ones you love.

FIGHT THE FLU - GET VACCINATED



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A-Z Index - Rules

- ASBRS Board Members
- ATSC Programs
- ATSC Reports
- ATSDR (Agency for Toxic Substances and Disease Registry)
- Audiologist Information

B

- Bacterial Vaginosis (BV)
- Bacteriological Examination (BE)**
- Be Well Arkansas
- Bed Bugs
- Bella Vista - Trafalgar Road Fire
- Biological Agent Registry
- Blood Pressure (Hypertension)
- Blood Pressure (Hypertension) Resources for Patients and the Public
- Blood Pressure (Hypertension) Resources for Professionals
- Boards
- Body Art-Permanent Cosmetics, Cosmetology, & Massage Therapy Complaint Form
- Body Art-Permanent Cosmetics, Massage Therapy & Cosmetology Complaint Form
- Bottled Water & Out of State Bottled Water
- Breast and Cervical Cancer Screening
- Breast Cancer Control Advisory Board
- Breast Pumps and Breastfeeding Education
- BreastCare Eligibility and Services
- BreastCare Program
- BreastCare Provider Forms and Manuals
- BreastCare Providers
- Breastfeeding FAQ
- Breastfeeding Information and Support
- Breastfeeding Peer Counselor Program
- BRFSS
- BRFSS County Estimates
- BRFSS Questionnaires
- Brucellosis

C

- Cancer
- Cancer Disease Resources



ARKANSAS DEPARTMENT OF HEALTH

ABOUT ADH RULES NEWS RESOURCES & PUBLICATIONS A-Z TOPICS HEALTH UNITS



VITAL RECORDS

Get birth, death, marriage certificates and more

bact|

VITAL RECORDS IN YOUR COUNTY



Certificates & Records

Get Your Vital Records, including birth, death, marriage and divorce, change a certificate or submit a new record for registration



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Sign up for WIC, keep your baby safe, test baby's hearing, get shots, find breastfeeding support



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Find out about our Trauma system, volunteer, or see how we prepare and respond to emergencies



Prevention & Healthy Living



Boards & Committees



Diseases & Conditions



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PUBLIC HEALTH CAREERS



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[Drinking Water - Safety](#)

[Drinking Water - System & Operators](#)

[Bacti Test Results](#)

[Capacity Development](#)

[Cross Connection/Backflow Prevention](#)

[Lead and Copper](#)

[Water System Forms](#)

[HOME](#) / [PUBLIC HEALTH SAFETY](#) / [DRINKING WATER - SYSTEM & OPERATORS](#) / [BACTI TEST RESULTS](#)

BACTI TEST RESULTS

Clicking on a letter in the block below will open a new browser window which will contain a listing of bacteriological sample results for public water systems whose names start with the number or letter indicated. Samples are listed only if the results have been finalized, or if the sample was rejected. **Samples in process are not shown!**

Only samples received by the Arkansas Department of Health Laboratory in the past 30 days are shown.

Raw water samples are not shown. Construction samples not submitted under the water system's ID number are also not shown.

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [0](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)



Samples will only be shown if results have been finalized or if the sample has been rejected.

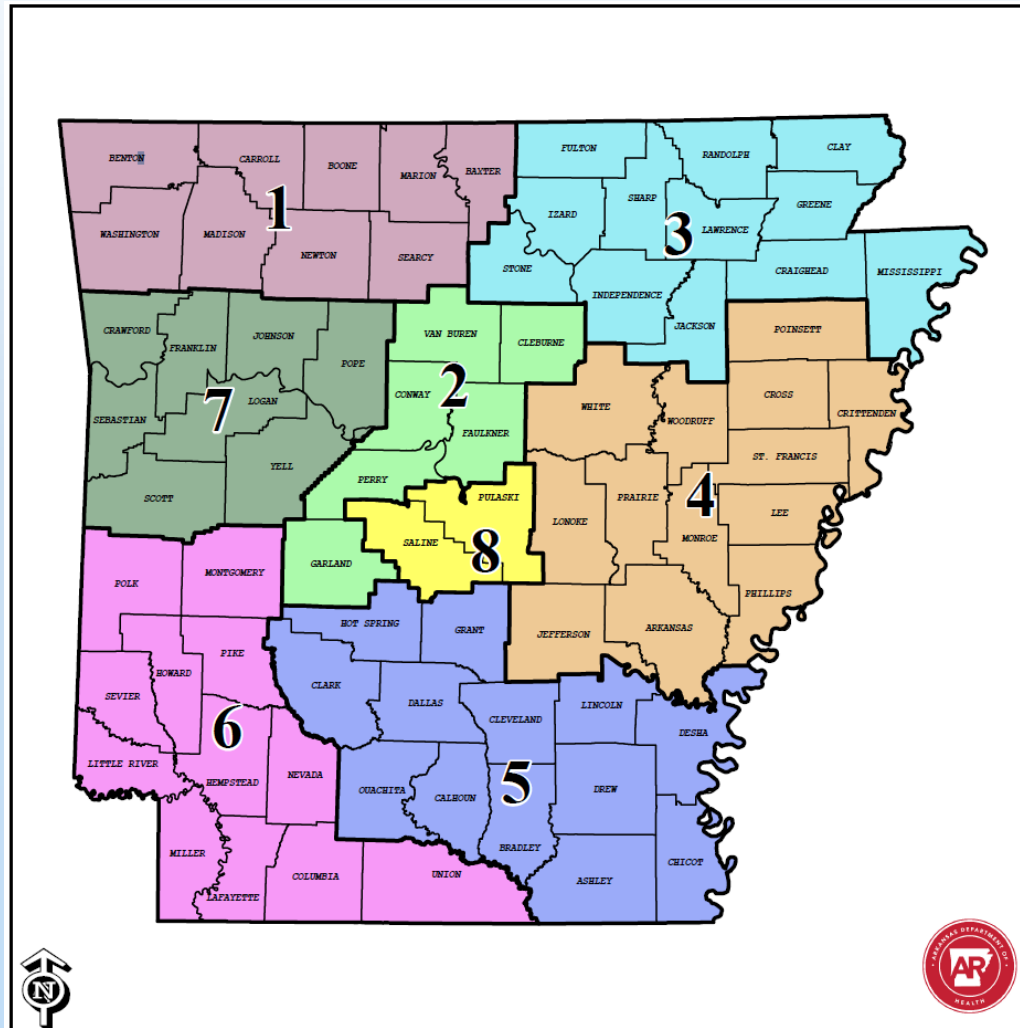
PWS Bacti Results for samples received in the past 30 days

System	PWS	Lab #	Collected	Received	Site ID	Site Location	CollectedBy	Propose	Total Coliform	E Coli	CL2
FAIRCREST WATER ASSOCIATION	544	21054037	9142022	09/15/2022	544B004	ELVIN HELMS, 127 RUSHWOOD RD ELDORADO	GW	REG	Absent	Absent	0.43
FAIRCREST WATER ASSOCIATION	544	21039849	9142022	09/15/2022	544B005	RONNIE COURTNEY , 2648 IRON MTN RD ELDORADO	GW	REG	Absent	Absent	0.38
FAIRCREST WATER ASSOCIATION	544	18075162	9142022	09/15/2022	544B001	LLOYD WOOD, 5423 JCT CITY HWY ELDORADO	GW	REG	Absent	Absent	0.47
FAYETTEVILLE WATERWORKS	569	21100688	9202022	09/21/2022	569ZA1753	ILA & WILSON, FAY	DC	NEW	Absent	Absent	0.7
FAYETTEVILLE WATERWORKS	569	21100372	9202022	09/21/2022	569ZA1755	SHADY & MAPLE, FAYETTEVILLE	DC	NEW	Absent	Absent	0.6
FAYETTEVILLE WATERWORKS	569	21100355	9202022	09/21/2022	569ZA1754	RIVERWALK EAST SAMPLE, FAYETTEVILLE	D GUILD	NI	Absent	Absent	0
FAYETTEVILLE WATERWORKS	569	21100345	9202022	09/21/2022	569ZA1750	VANTAGE APTS FIRE LINE BLDG #4, FAYETTEVILLE	B RUTHERFORD	NEW	Absent	Absent	0
FAYETTEVILLE WATERWORKS	569	21100234	9202022	09/21/2022	569ZA1756	RIVERWALK EAST NORTH SAMPLE, FAYETTEVILLE	D GUILD	REG	Absent	Absent	0



ENGINEERING DISTRICTS

501-661-2623



BACTERIOLOGICAL MONITORING REPORT



BMR

- A copy of all reports and supporting documentation/sample results must be maintained in the water system's files for a minimum of five (5) years.
- The completed form must be submitted to the Engineering Section by the *10th day* of the month following measurement.
- Failure to submit form by the 10th can result in a Monitoring and Reporting violation.



Bacteriological Monitoring Report

- **Required Information:**
 - **Date - date samples are taken**
 - **Sample Site # - For regular and resamples, samples must be from an approved sample site plan**
 - **Type of Sample – Regular, Resample (Repeat/Replacement), Raw, etc.**
 - **Disinfectant Residual - Residual measured from each site sampled for TCR compliance at the time the bacteriological sample is collected.**



PUBLIC WATER SYSTEM - BACTERIOLOGICAL MONITORING RECORD

Arkansas Department of Health / Engineering Section

PUBLIC WATER SYSTEM NAME _____

PWS ID # _____

MONTH _____

YEAR _____

COUNTY _____

DATE SAMPLE COLLECTED	SAMPLE SITE # _____	TYPE - (Regular, Repeat, Raw, Boil-Order, Etc.)	DISINFECTANT RESIDUAL MG/L (Indicate type)	LAB RESULTS	Lab # (for Sample)	ORIGINAL Lab # (for Sample triggering resample)	DATE RESULTS RECEIVED	RESAMPLE CONTAINERS
								Date Received

I certify that the information in this report is true and accurate to the best of my knowledge. I acknowledge that any

Printed Name _____

Signature _____

Put any notes or comments on reverse side; make a copy for your records & return to address on reverse side.



BMR

Type of sample:

- Regular* - normal monthly compliance sample/site plan
 - Repeat* - repeat (w/ upstream, downstream) for sample that was coliform positive, etc.
 - Replacement* - replacement for sample that was invalid - quantity not sufficient, old, leaked in transit, etc.
- Raw (or Triggered Raw) - untreated water from the source of supply (Triggered - GWR).
- Boil Order* - self explanatory
- Special / Investigative*, New Construction*, Plant Tap*
 - samples submitted for special purposes

*Chlorine Residual - Chlorine residual measured at the tap sampled on the day of sampling, left blank for Raw samples.



BMR

- The licensed operator or operator of record for the water system must sign the form, certifying that the information presented on the form is true and accurate.



Laboratory Information

- The ADH uses the “MMO MUG” or Colilert method to test for total coliform bacteria and E-coli bacteria.
 - Colilert is a reagent that is added to a 100 ml sample. A single cell of coliform bacteria will turn the sample yellow. The presence of a single cell of E-coli bacteria will turn the sample blue under fluorescent light.
 - There is an 18 hour and 24 hour Colilert reagent. The 18 hour reagent can only be used for boil order samples. Incubation temperature is 35°C (95°F).



Laboratory Information



Each form is checked for the following info:

- **Time/date of collection**
- **Time critical**
- **Type of test requested (Regular, Raw w Count)**
- **Boil Order, Swim Beaches, Privates**
- **Rejection/Disclaimer criteria**

SAMPLE BOTTLE ISSUES

- Do not write on caps and sides of bottles. The ADH laboratory uses this space to write lab numbers for keeping track of samples. Writing on the sides obstructs the view of the samples and also causes fluorescence & interferes with reading the results.
- Do not place labels on the bottles which obstructs the view of the samples and also causes fluorescence.
- Do not use “liquid paper or White-Out” on the sample collection forms (lab slips). This causes extra time in processing for the samples and delays final results. If a mistake is made, strike through the incorrect information, correct, and initial/date form.



Questions?



REVIEW

- **Who is responsible for the submission of monthly bacti samples?**

A.ADH

B.EPA

C.Water Utility

D.AWW WEA

- **C. Water Utility**

REVIEW

- **What ACT requires all public water systems to collect and analyze water samples?**

- A. Taft-Hartley ACT**

- B. Safe Drinking Water Act**

- C. Act 333 of 1957**

- D. Glen T. Kellogg Act**

- B. Safe Drinking Water Act**



REVIEW

- **What determines the number of regular compliance bacti samples pulled each month?**
 - A. Population**
 - B. License Grade**
 - C. THM levels for previous quarter**
 - D. Type of disinfectant used**
-
- A. Population**

REVIEW

- **Bacteriological monitoring records must be maintained for how long?**
 - A. 10 years**
 - B. Until the next billing cycle**
 - C. 5 years**
 - D. Forever**
- **C. 5 years**

REVIEW

- **Failure to monitor for coliform bacteria will result in?**
 - A. A boil order**
 - B. Double sampling the next month**
 - C. Public notification**
 - D. Lost bonus points**

- **C. Public Notification**



REVIEW

- **A sample site plan must be?**
 - A. Submitted to and approved by the ADH**
 - B. Submitted by a professional engineer**
 - C. 2 pages long**
 - D. Submitted and filed with the Governor's Office**

- **A. Submitted to and approved by the ADH**

REVIEW

- **How often must Community Public Water Systems submit bacti samples?**
 - A. As needed**
 - B. Quarterly**
 - C. When the operator has time**
 - D. Monthly**
- **D. Monthly**

REVIEW

- **The minimum number of monthly samples that a system can submit?**

A. 1

B. 3

C. 5

D. 0

- **B. 3**

REVIEW

- **All sample bottles should be?**
 - A. Clear, volumetric and collated**
 - B. Supplied by the ADH**
 - C. Only reused after washing and air drying**
 - D. Filled to the top with no air gap**
- **B. Supplied by the ADH**

REVIEW

- **The underlying basis for the Total Coliform Rule is the detection of?**
 - A. Germs**
 - B. Aliens**
 - C. Coliforms**
 - D. Diatoms**

- **C. Coliforms**

REVIEW

- **Routine compliance samples without a sample site code may be?**
 - A. Analyzed first**
 - B. Rejected**
 - C. Carbonized for later analysis**
 - D. Published in the newspaper**

- **B. Rejected**

REVIEW

- **All bacti samples must be?**
 - A. Held for 2 days**
 - B. Pulled by the ADH**
 - C. Received by the lab within 30 hours**
 - D. Chilled for shipment**

- **C. Received by the lab within 30 hours**



REVIEW

- **Bacti bottles should ?**
 - A. Be rinsed and air dried**
 - B. Be disinfected by the operator**
 - C. Be stored in a refrigerator**
 - D. Have a sterilization seal**

- **D. Have a sterilization seal**

REVIEW

- **Resamples should be taken?**
 - A. Within 24 hours of notice of coliform positive result**
 - B. During the next months sample period**
 - C. Only during flushing periods**
 - D. About 11:00 in the morning**
- **A. Within 24 hours of notice of coliform positive result**

REVIEW

- If a sample is total coliform positive?
 - A. No resamples are required
 - B. Resamples can only be pulled from alternate sites
 - C. Resamples must be from upstream, downstream, and original site
 - D. Resamples must be from side stream sites
- C. Resamples must be from upstream, downstream, and original site

REVIEW

- **An invalid sample is?**
 - A. A good thing to have**
 - B. Unsafe**
 - C. Safe**
 - D. Neither safe or unsafe**

- **D. Neither safe or unsafe**

REVIEW

- **Chemical analysis reports should be maintained for?**
 - A. 5 years**
 - B. 10 years**
 - C. Until notified by mayor**
 - D. Until next analysis**
- **B. 10 years**

REVIEW

- **Who is responsible for the submission of compliance bacti samples?**
 - A. ADH**
 - B. AR Rural Water Association**
 - C. Water System**
 - D. Tiger Woods**

- **C. Water System**

REVIEW

- **All repeat samples should be collected?**
 - A. By the most senior operator**
 - B. On the same day**
 - C. On consecutive days**
 - D. By the same person as the original**

- **B. On the same day**

REVIEW

- In order to be analyzed, a bacti sample must contain?
 - A. 1 liter of water
 - B. 10 mg/l of water
 - C. Parts water/1 part bourbon
 - D. 100 ml. Of water
- D. 100 ml. Of water



REVIEW

- **The five steps to sampling are?**
 - A. Flame, flush, fill, empty, refill**
 - B. Flush, check chlorine, flame, flush, sample**
 - C. Flame, flush, flame, flush, sample**
 - D. Flame, check chlorine, flush, sample**
- **B. Flush, check chlorine, flame, flush, sample**

REVIEW

- **Which of the following results would be considered a safe sample**
 - A. LTL - leaked in transit**
 - B. P- coliform present**
 - C. NSI - no site indicated**
 - D. A - coliform absent**

- **D. A - coliform absent**

REVIEW

- **Failure to receive sample bottles?**
 - A. Relieves the system of sampling for the month**
 - B. Does not relieve the system from sampling for the month**
 - C. Is an indication of safe water**
 - D. Is an indication of unsafe water**
- **B. Does not relieve the system from sampling for the month**

Thank you!

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