Revised Total Coliform Rule and Triggered Ground Water Rule for Transient Systems

EPA and Wyoming Association of Rural Water Systems (WARWS) Transient Public Water System Workshop

Yellowstone NP, Cody, Jackson, & Casper, Wyoming

April 28, April 29, April 30, & May 1, 2026

The views expressed in this presentation are those of the author(s) and do not necessarily reflect the views or policies of the U.S. Environmental Protection Agency.

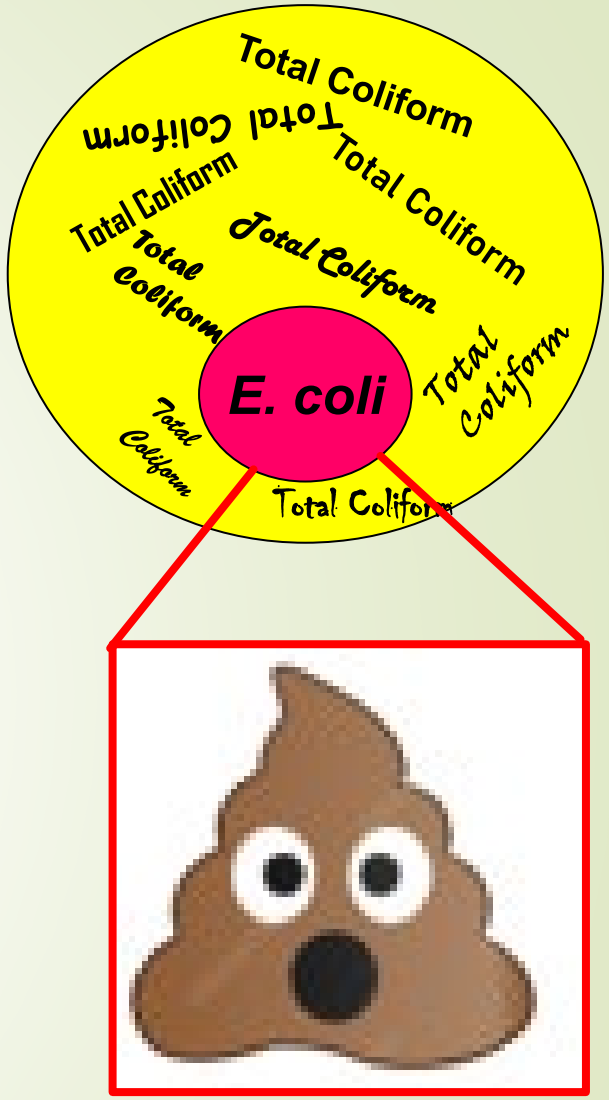
EPA
United States
Environmental Protection
Agency

Agenda

- Monthly Monitoring
- Monitoring & Reporting Requirements
- Drinking Water Watch
- Sample Siting Plans
- Chain of Custody
- How to Sample
- What to do if result TC+
- Seasonal Startup Checklist
- Assessments

Monthly Monitoring

- **<u>The total coliform test is used to indicate if there MIGHT be *E. coli* (poop) in the water.</u>**
- **<u>ALL</u>** public water systems are required to monitor for total coliform monthly and make sure EPA has sample results by the 10th of the following month.
- A sample is due in April, the April sample must be received by EPA by close of business May 10.
- An April sample cannot be collected March 31 or May 1, it must be collected in the calendar month of April.



Triggered Source Sample(s)

- A source sample, often called the Triggered Ground Water Rule sample, is required any time there is a total coliform positive (TC+) sample result (if the source is classified as groundwater).
- Sample(s) must be collected from any well(s) that were in operation at the time of the TC+.
- No source water sample is required from a surface water system or a GWUDI system, unless the PWS has its own wells too or the system provides 4-log disinfection for viruses.
- If the GWR tap is near the pressure tank make sure the pump is running when collecting the sample so that source/well water is captured and not water from the pressure tank.

EPA United States Environmental Protection Agency

Monitoring and Reporting Requirements
Calendar Year 2026

Water System Inventory

PWS: Type: NC

System: Source: GW

Contact: 1

You must write the facility codes and sample point codes on the chain of custody or lab slip submitted to a lab with each other sample. The codes are listed with the sampling directions.

Where to Monitor and Whom to Call

The "rule managers" responsible for administering the various drinking water rules are listed here. Any questions or discussion should be directed to the appropriate rule manager at the number givenbelow, or you can call toll-free at 1-800-227-8917 and ask for the appropriate contact.

Category	Manager	Phone
Revised Total Coliform Rule (RTCR)	Jamie Harris	303-312-6072
Ground Water Rule (GWR)	Jamie Harris	303-312-6072
Nitrate	Pragati Sharma	303-312-7285
Nitrite	Pragati Sharma	303-312-7285
Pressure Loss (PRLS)	Kyle St. Clair	303-312-6791

Contact: https://www.epa.gov/region8-waterops/epa-region-8-drinking-water-program-contact-list

IMPORTANT

You must use a laboratory certified to test for each specific contaminant in drinking water, see the list below.
Certified labs: https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-laboratories

Send sample results with PWS ID# and PWS Name to our office using one of the methods listed below.

Email: R8DWU@epa.gov OR Fax: 1-303-312-7517

Mail: US-EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129. Mail Code: 8WD-SD

EPA After Hours Emergency Contact: 303-312-6327

Generated on: 2026-02-20 Page 1

WATER SOURCE:
WATER SYSTEM TYPE:

CONTACT:
ADDRESS:
PHONE:

NITRATE RULE: Pragati Sharma

RTCR & TRIGGERED GROUND WATER RULE: Jamie Harris

RTCR Sample Plans: Emily Bedell

NEW FAX NUMBER:
303-312-7514

AFTER HOURS EMERGENCY PHONE NUMBER:
303-312-6327

Revised Total Coliform Rule (RTCR)

Helpful Total Coliform Sample Definitions

- **Routine** = Total coliform (TC) samples marked **Routine** are compliance samples that are collected each month from within the distribution system.
- **Repeat** = TC Repeat samples are 3 required compliance samples collected from the distribution system within 24 hours after a system is notified of at least one TC+ result.
- **Special** = A **Special** sample is a *non-compliance sample*. It does not count as a **Routine** or **Repeat** monthly sample.

Take **Routine** samples each month the system is open to the public. Carefully review the schedule in the table below and notify EPA if the schedule is not correct by filling out a Seasonal Change Form at PWS Seasonal Operational Change Form and submit it to EPA as soon as possible.

BEFORE serving water to the public every season a Seasonal Startup Checklist (Checklist) must be completed, certified, and submitted to EPA. **Sampling requirements may change based on the schedule written on the Checklist**. Check Drinking Water Watch for the most up to date sampling requirements. The Checklist is found at RTCR Seasonal Startup Checklist.

The Startup sample must be marked as a **Special** sample and cannot be used for compliance. Failure to complete the Checklist prior to serving water may result in a violation. If the Checklist is completed the same month the system serves water to the public 2 rounds of monitoring will be needed, one for **Special** sample(s) and the other for **Routine** sample(s). Only the **Routine** sample(s) will be used for compliance. For help on labeling samples from the distribution system for RTCR or the raw water for the **Triggered** source sample(s) under the Ground Water Rule please go to at Revised Total Coliform Rule Implementation in Wyoming and on Tribal Lands in EPA Region 8.

The system must comply with the RTCR requirements, as defined by EPA, by taking one **Routine** sample from **each month**, according to the RTCR Sample Siting Plan at sites that are representative of water throughout the distribution system. Collect the sample(s) on a Monday or Tuesday at the beginning of each month in case **Repeat** samples are required. If there is a **positive Routine** sample, see Addressing Total Coliform Positive or E. coli Positive Sample Results in EPA Region 8 for instructions on further sampling and notification requirements. If any sample results are *E. coli* positive, contact EPA the same day the system is notified of the sample results. Also, be sure to label samples with the address or location where the samples were collected along with the facility code DIST (for example: kitchen sink-DIST). If the system uses chlorine/chloramines as a disinfectant, measure and report the residual with every total coliform sample result. Please use the RTCR Lab Sample Form in addition to the lab's Chain of Custody form when sample results are submitted. The EPA RTCR lab form is found at RTCR Lab Sampling Form.

F_DESCRIPTION=Facility Description, S_FREQUENCY=Sampling Frequency, COL_OR_DUE = Collection Period OR Due Date,YR=Year, MN=Month, RT=Routine

F_DESCRIPTION	SAMPLE_POINT	ANALYTE	MONITORING_PERIOD	S_FREQUENCY	COL_OR_DUE
DIST	DIST			1 RT every MN	04/01-10/31

F_DESCRIPTION=Facility Description, S_FREQUENCY=Sampling Frequency, COL_OR_DUE = Collection Period OR Due Date,YR=Year, MN=Month, RT=Routine

F_DESCRIPTION	SAMPLE_POINT	ANALYTE	MONITORING_PERIOD	S_FREQUENCY	COL_OR_DUE
DIST	DIST			1 RT every MN	04/01-10/31

- Review the listed schedules for all sampling requirements.
- Review the different RTCR sample type definitions.
- Is a Seasonal Startup Checklist required?
- How many routine samples are required?
- Do TC samples have to be collected on different days?

Special Conditions Impacting RTCR Requirements – Read the ToDo CAREFULLY

- **Does the population change a lot between winter and summer?**
  - Number of RTCR Routine samples may increase.
- **Are there independent distribution systems fed by different water sources?**
  - One sample is required from each distribution system.
- **Is part of the distribution system valved off or goes unused during part of the year?**
  - A Seasonal Startup Checklist may be required even though RT samples are required year-round.

Ground Water Rule (GWR)

A **Triggered (TG) Ground Water Rule (GWR) source** sample is required from water systems (using their own wells or springs), that do not provide 4-log treatment of viruses, when a **Routine** Revised Total Coliform Rule (RTCR) sample is total coliform positive (TC+). It is a required compliance sample, collected from the source within 24 hours after a system is notified of at least one **Routine** TC+ result.

Within 24 hours of being notified of a **Routine** Revised Total Coliform Rule (RTCR) total coliform positive (TC+) sample in the distribution system, **Triggered** source sample(s) must be collected from ALL groundwater sources, BEFORE treatment, that may have contributed to the **Routine** TC+ sample and analyzed for *E. coli*. Collect at least one **Triggered** source sample at each well/spring for every **Routine** TC+ sample. *For example, if there are 2 TC+ samples, then 2 Triggered source samples are required from each well/spring that may have contributed water at the time of the TC+.* If all groundwater sources were *not* in use at the time of the TC+ then EPA must be notified which sources were and were not contributing to the **Routine** TC+ sample. Failure to notify EPA, in writing, will result in a monitoring violation.

All **Triggered** source samples must be collected at a location BEFORE any physical or chemical treatment (e.g., filters, UV, chlorine, etc.). Use the *EPA Triggered Groundwater Source Sampling Form* at EPA Triggered Groundwater Source Sampling Form or your lab's sample form. Be sure to write the correct Sample Point Code (ex: GWR WL01), which can be found below, and mark the sample(s) **'Triggered'**.

If a **Triggered** sample is *E. coli* positive (EC+), 5 more samples from the source, BEFORE treatment must be collected immediately, and EPA must be notified.

This sampling is in addition to the RTCR **Repeat** samples from the distribution system.

F_DESCRIPTION=Facility Description, S_FREQUENCY=Sampling Frequency, COL_OR_DUE = Collection Period OR Due Date,YR=Year, MN=Month, RT=Routine

F_DESCRIPTION	SAMPLE_POINT	ANALYTE	MONITORING_PERIOD	S_FREQUENCY	COL_OR_DUE
WELL #1	GWR WL#1				

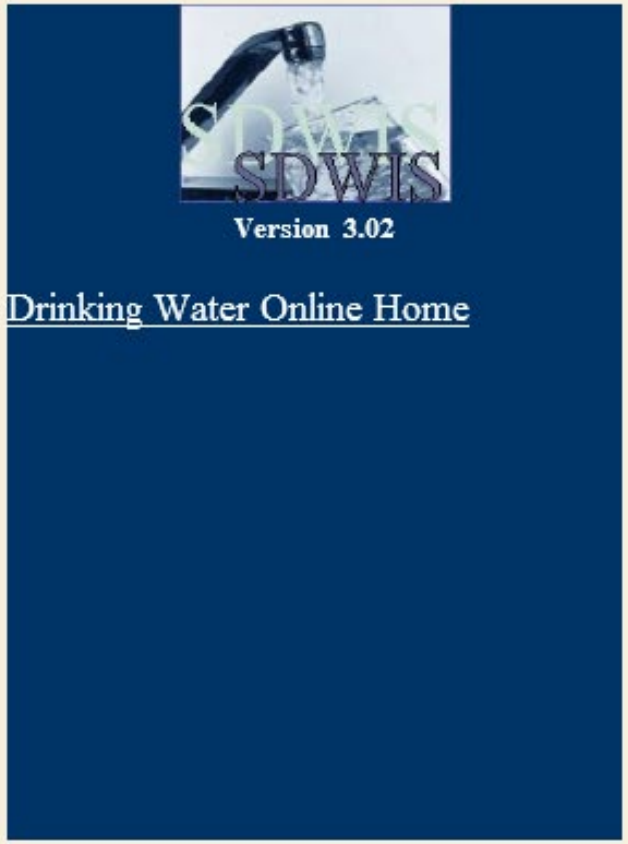
- Are all the sources at the water system listed?

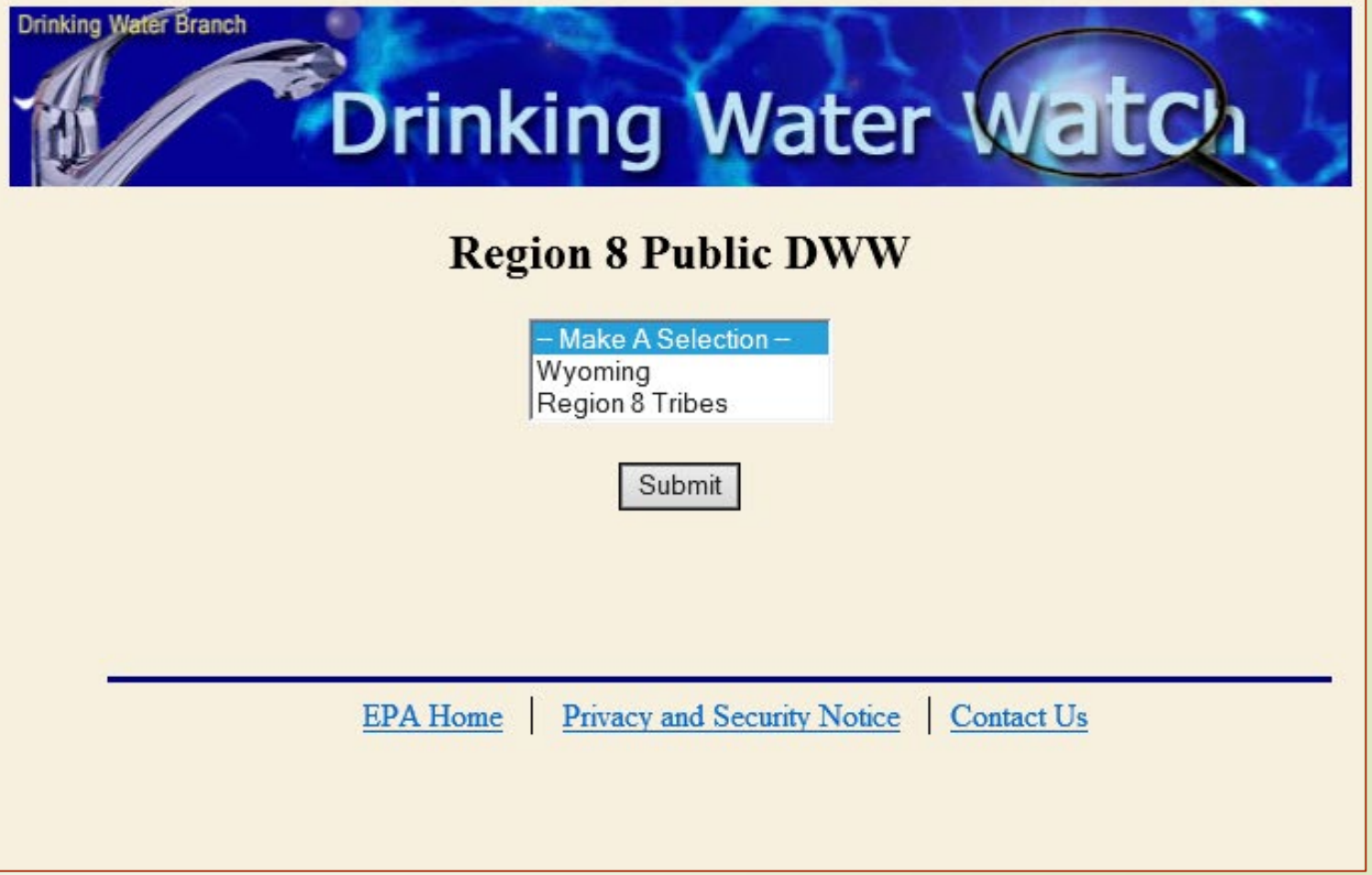
Drinking Water Watch

Internet search term: DRINKING WATER WATCH WYOMING

- No password needed.
- Check annual monitoring and reporting requirements.
- Check sample results for all reported analytes.
  - Give EPA about a week to enter results after you received them from your lab.
- Send all data to R8DWU@epa.gov with the PWSID and contaminant in the email subject line.

Drinking Water Watch





Drinking Water Watch

Drinking Water Branch

Water System Details

Water System No. :	WY560(	**Federal Type :**	C
Water System Name :		**State Type :**	C
Principal County Served :	LARAMIE	**Primary Source :**	GW
Status :	A	**Activity Date :**	05-01-1978

Links

- Water System Facilities and Schematics
- Sample Schedules, Reminders, and ChemRad Sample Form
- Coliform/Microbial Sample Results
- Coliform Sample Summary Results
- Lead And Copper Sample Summary Results
- Chem/Rad Samples/Results
- Chem/Rad Samples/Results by Analyte
- Violations/Enforcement Actions
- Site Visits
- Milestones

Return Links

- Water Systems
- Water System Search
- County Map

Glossary

Points of Contact

Name	Job Title	Type	Phone	Address
	OWNER	OW		
	CONTRACT OPERATOR	DO		
	CONTRACT OPERATOR	EC		
	CONTRACT OPERATOR	AC		

Annual Operating Periods & Population Served

Start Month	Start Day	End Month	End Day	Population Type	Population Served
1	1	12	31	R	50

Service Connections

Type	Count	Meter Type	Meter Size Measure
RS	24	UM	0

Sources of Water

Name	Type Code	Status
	WL	A

Service Areas

Code	Name
R	MOBILE HOME PARK

Sample Collection Date From [ ] **To** [ ] SEARCH

Type	Lab Sample No.	Collection Date & Time	Sampling Point	Sample Location	Presence/ Absence Indicator	Free CL Res	Tot CL Res	Analyte Code	Analyte Name	Monitoring Period Begin Date	Monitoring Period End Date	Laboratory
RT	S2209048-001	09-05-2022 14:15:00	DIST	DISTRIBUTION SYSTEM	A			3100	COLIFORM (TCR)	09-01-2022	09-30-2022	PACE ANALYTICAL SERVICES - SHERIDAN
RT	S2209048-001	09-05-2022 14:15:00	DIST	DISTRIBUTION SYSTEM	A			3014	E. COLI	09-01-2022	09-30-2022	PACE ANALYTICAL SERVICES - SHERIDAN
RT	S2208005-001	08-01-2022 06:00:00	DIST	DISTRIBUTION SYSTEM	A			3100	COLIFORM (TCR)	08-01-2022	08-31-2022	PACE ANALYTICAL SERVICES - SHERIDAN
RT	S2208005-001	08-01-2022 06:00:00	DIST	DISTRIBUTION SYSTEM	A			3014	E. COLI	08-01-2022	08-31-2022	PACE ANALYTICAL SERVICES - SHERIDAN
RT	S2207199-001	07-12-2022 16:30:00	DIST	DISTRIBUTION SYSTEM	A			3100	COLIFORM (TCR)	07-01-2022	07-31-2022	PACE ANALYTICAL SERVICES - SHERIDAN
RT	S2207199-001	07-12-2022 16:30:00	DIST	DISTRIBUTION SYSTEM	A			3014	E. COLI	07-01-2022	07-31-2022	PACE ANALYTICAL SERVICES - SHERIDAN

Sample Siting Plans

Sample Siting Plans

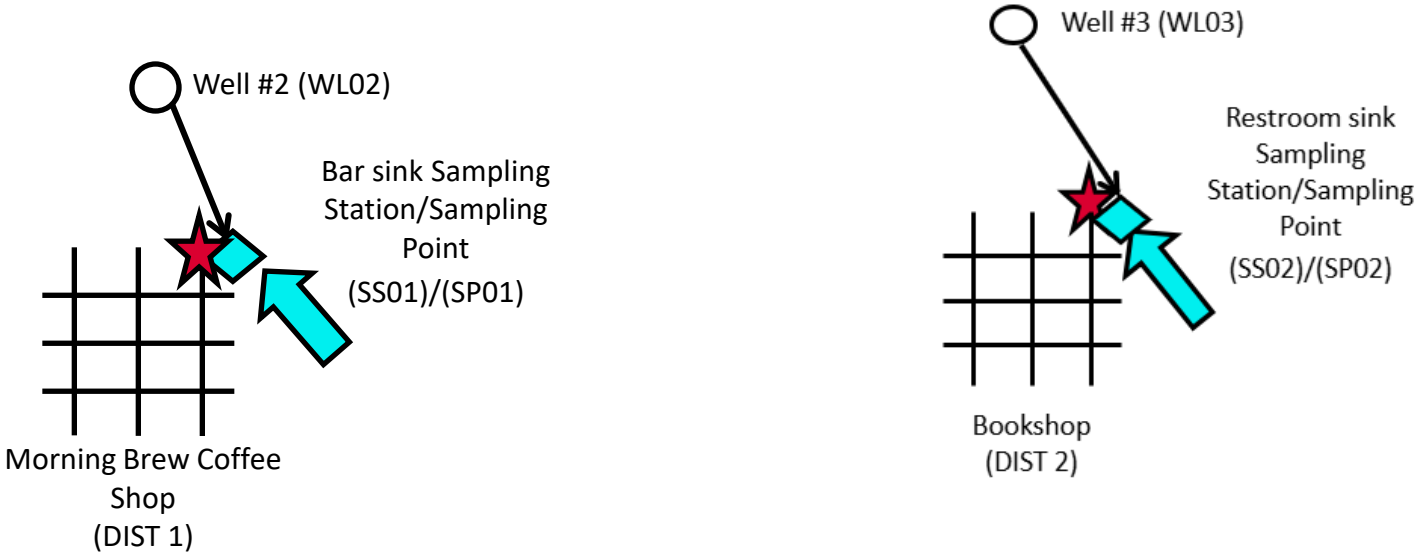
- **Can't use the schematic for RTCR –** must use a map that indicates all buildings in the distribution system.
- Do not write SS01 or SP01 on your total coliform sample siting plan or total coliform sample bottles.
- The chart and map must include the Routine, Repeat and Triggered Source sample locations along with any wells, intakes and pressure/storage tanks.
- Sample locations must be representative of water in the distribution system.

Sample Taps

Sample Locations

- If possible, select taps that have separate hot and cold faucet handles.
- AVOID THE FOLLOWING TAPS:
  - taps that are pressure- or movement-activated
  - taps that have a boiled or chilled water loop
  - taps that have any other point-of-use treatment (charcoal filter, softener, etc.)
  - taps that have a pull-out or pulldown neck
  - hose or sprayer

Morning Brew Coffee House
WY5601995



Entry Point - **Sample Points (SP) shown on the schematic are <u>ONLY</u> for Nitrates, RADs, IOCs, SOCs, and VOCs. If you sample for other contaminants, please refer to your individual Site Sampling or Monitoring Plans.**

SCHEMATIC NOT TO SCALE

Agreed to by:_____

Date:_____

Sample Siting Plan - Chart

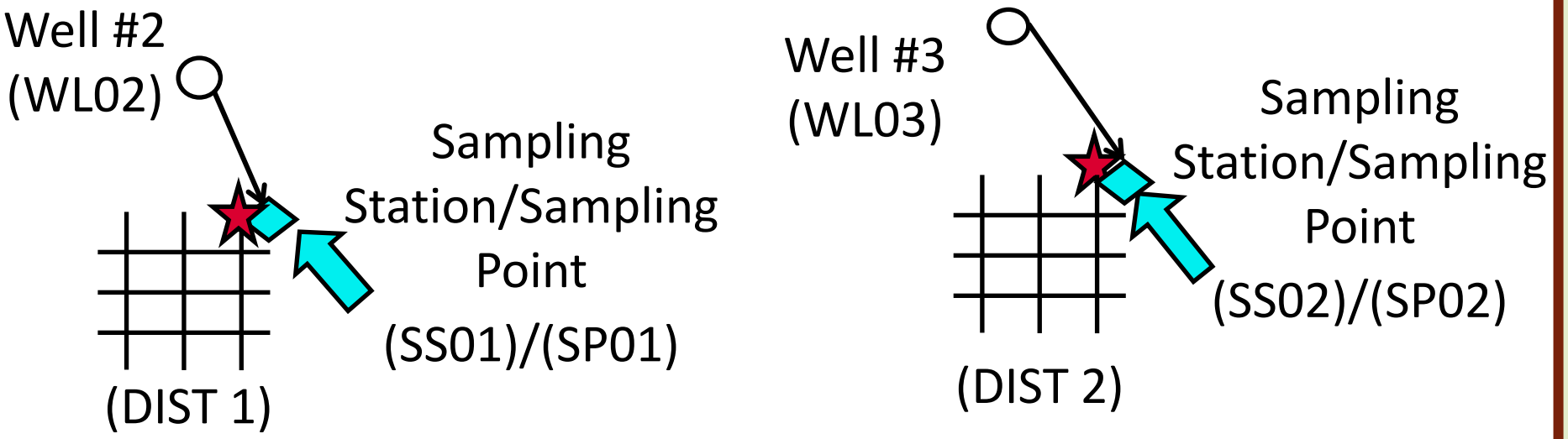
Month	Routine Sample Site	Repeat Sample Site	Source
January	Bar Sink - DIST 1	1. (same as routine)	WL02
		2. Restroom - DIST 1	
		3. Kitchen sink - Dist 1	
February	Kitchen Sink - DIST 1	1. (same as routine)	WL02
		2. Restroom - DIST 1	
		3. Bar Sink - DIST 1	
March	Restroom - DIST 1	1. (same as routine)	WL02
		2. Bar Sink - DIST 1	
		3. Kitchen sink - Dist 1	
April	Bar Sink - DIST 1	1. (same as routine)	WL02
		2. Restroom - DIST 1	
		3. Kitchen sink - Dist 1	
May	Kitchen Sink - DIST 1	1. (same as routine)	WL02
		2. Restroom - DIST 1	
		3. Bar Sink - DIST 1	

Month	Routine Sample Site	Repeat Sample Site	Source
January	Restroom - DIST 2	1. (same as routine)	WL03
		2. Unit #1 sink - DIST 2	
		3. Unit #2 sink - Dist 2	
February	Apartment sink - DIST 2	1. (same as routine)	WL03
		2. Restroom - DIST 2	
		3. Unit #2 sink - Dist 2	
March	Unit #2 sink - Dist 2	1. (same as routine)	WL03
		2. Apt sink - DIST 2	
		3. Restroom - DIST 2	
April	Restroom - DIST 2	1. (same as routine)	WL03
		2. Unit #2 sink - Dist 2	
		3. Apt sink - DIST 2	
May	Apartment sink - DIST 2	1. (same as routine)	WL03
		2. Restroom - DIST 2	
		3. Unit #2 sink - Dist 2	

WY5601995 Morning Brew Coffee House and Bookstore

WY5600000 Town of Moosetrax
Well 2
Storage tank /
Entry point to the
distribution system
Well 3

Morning Brew Coffee House & Bookshop OR Town of Moosetrax?



★ Entry Point - **Sample Points (SP) shown on the schematic are ONLY for Nitrates, RADs, IOCs, SOCs, and VOCs. If you sample for other contaminants, please refer to your individual Site Sampling or Monitoring Plans.**

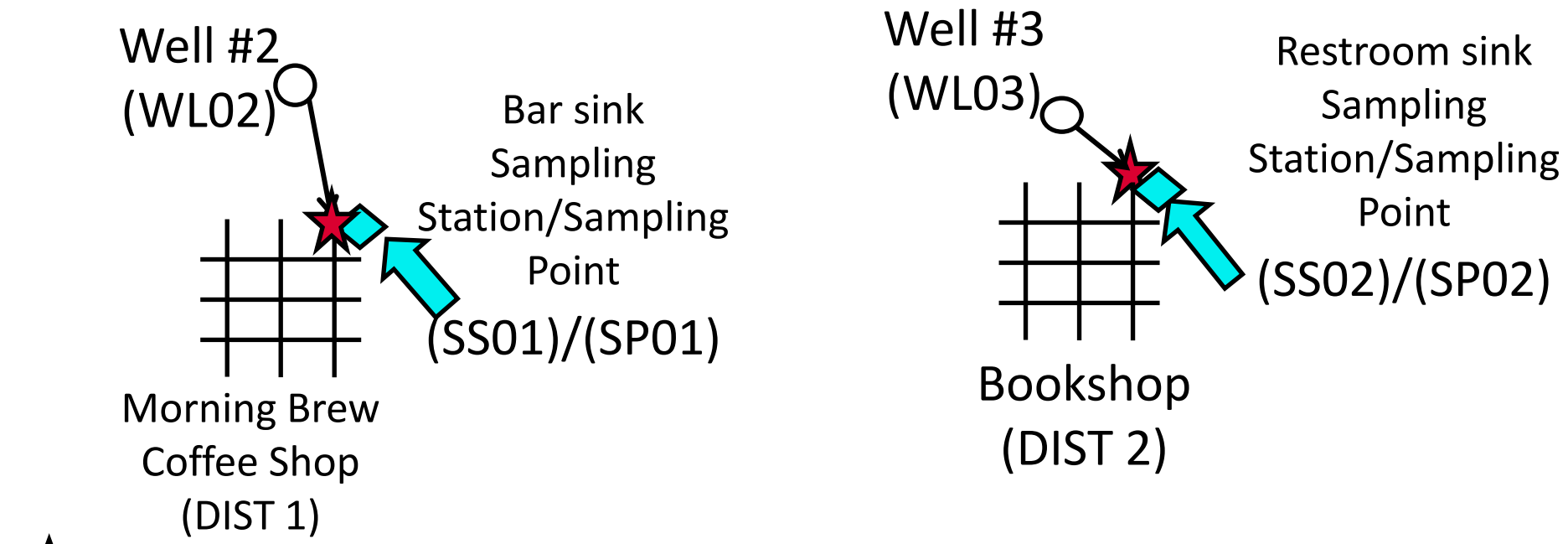
Agreed to by:_____

Date:_____

SCHEMATIC NOT TO SCALE

What if the nitrate sample and total coliform sample are collected from the same location?

Morning Brew Coffee House & Bookshop
WY5601995



Entry Point - **Sample Points (SP) shown on the schematic are <u>ONLY</u> for Nitrates, RADs, IOCs, SOCs, and VOCs. If you sample for other contaminants, please refer to your individual Site Sampling or Monitoring Plans.**

SCHEMATIC NOT TO SCALE

Agreed to by:_____

Date:_____

Nitrate and Total Coliform Samples

- Samples collected from the same location in different bottles and labeled differently.
- **Nitrate** samples called:
  - SP01 - Bar sink sampling point
  - SP02 - Restroom sink sampling point
- **Total Coliform** samples called:
  - Bar sink – Dist 1
  - Restroom sink – Dist 2

What if there are only one or two taps or it’s just a hand pump?

Hand Pumps

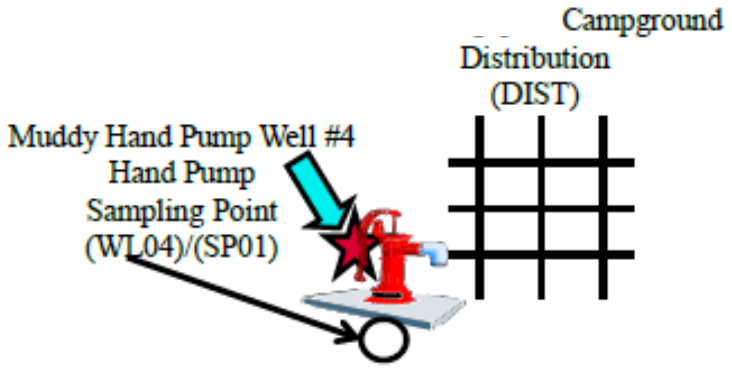
Hand Pumps & Sample Siting Plan

- What if there is no a distribution system?
- The Sample Siting Plan will list the hand pump as the Routine and Repeat samples and the TG source sample!
- This ONLY applies if the well is not hooked up to ANYTHING else, it is just a hand pump.

Campground

PWSID WY5680000

NC/GW



Sample Points (SP) shown on the schematic are **ONLY** for Nitrates, RADs, IOCs, SOCs, and VOCs. If you sample for other contaminants, please refer to your individual Site Sampling or Monitoring Plans.

Agreed to by:_____

Date:_____

SCHEMATIC NOT TO SCALE
02/04/2013-C. Lamb
05/02/2016-D. Roberts (2015SS)
05/19/2022-P. DeSantis – (2020SS) No Changes

Addendum C: Example forms. Expand the following table as necessary. Feel free to detach and use this example form:

	PWS NAME: Lodgepole Campground #4	PWS ID #:	GWR sample location (any sources running at the time of a routine TC+)
(1 sample/mo)	Routine sample location	Repeat sample locations	
January	1) Site Closed for winter	1) (same as routine location)	
		2)	
		3)	
February	1) Site Closed for winter	1) (same as routine location)	
		2)	
		3)	
March	1) Site Closed for winter	1) (same as routine location)	
		2)	
		3)	
April	1) Site Closed for winter	1) (same as routine location)	
		2)	
		3)	
May	1)Lodgepole Campground #4 Hand Pump. Depending on weather site may be closed for winter.	1) (same as routine location)	Lodgepole Campground #4
		2) (same as routine location)	
		3) (same as routine location)	

Lodgepole Campground #4 PWS#
T31R7E
Lodgepole Campground #4 Hand Pump

EPA Region 8 doesn't allow any samples to count as both a Repeat and Triggered source sample.

REPEAT SAMPLES

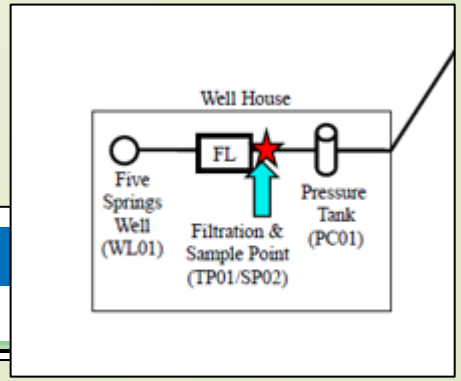
TRIGGERED SOURCE SAMPLE(S)

Three <u>REPEAT</u> and (at least) one <u>TRIGGERED</u> source samples (from all wells running at the time of the TC+) are ALWAYS required for each Routine TC+.

Nitrate and Total Coliform Samples

- Samples collected from the same location in different bottles and labeled differently.
- **Handpump Only**
  - **Nitrate** samples: **SP01** – hand pump sampling site (from schematic & ToDo)
  - **Total Coliform** samples: **Handpump WL01** (from RTCR Sample Plan)
- **Distribution System**
  - **Nitrate** samples: **SP02** – Sample point (from schematic & ToDo)
  - **Total Coliform** samples: **DS-01P** (from RTCR Sample Plan)

SAMPLE_POINT	DESCRIPTION	ANALYTE	MONITORING_PERIOD	S_FREQUENCY	COL_OR_DUE
SP02	SAMPLE POINT	NITRATE-NITRITE (1038)	01/01/2026-12/31/2026	1 RT every YR	



SAMPLE SITING PLAN EXERCISE

WY5600000 Moosetrax Ranch
E
Storage tank / Entry point to the distribution system
B
C
D
F
Well 1 (WL01)
G
A
H
Emergency Well (WL02)

Sample Siting Plan Locations

The following locations have sample taps and are possible total coliform sample sites for your sample siting plan. Determine the most appropriate sample location for 1) Routine total coliform sample 2) Triggered Ground Water Rule source sample site, and 3) Nitrate sample site*. Explain why the site is a good or bad sample location.

(*The nitrate sample site is extra credit!)

One Seasonal Distribution System

Site ID	Sample Site Description	RTCR Preferable Location?	Explanation for Choice of Sample Site
A	Tennis Court Water Fountain		
B	Lodge – kitchen faucet		

Site ID	Sample Site Description	RTCR Preferred Location?	Explanation for Choice of Sample Site
A	Tennis Court Water Fountain	No	Outside faucets are not great locations since they are open to the elements. Water fountains are difficult to sample from since the bottle must be held sideways and it's difficult to determine if the bottle is filled to the 100 mL line.
B	Lodge – kitchen faucet	Yes	The Lodge kitchen is one of the busiest areas of the Ranch, so this is a great total coliform sample location, make sure the faucet and sink area are clean!
C	Nurse's Station	Yes	Although there may be many germs in the Nurse's Station you will disinfect the faucet before collecting your sample. Since there is a steady stream of homesick kids and those needing band-aids and itch lotion this is a good location for a total coliform sample site.

Site ID	Sample Site Description	RTCR Preferred Location?	Explanation for Choice of Sample Site
D	Storage Tank	No*	The Storage Tank is not ok for total coliform sampling since it is not in the distribution system. **Routine total coliform samples collected from the Storage Tank (or marked as being from the Storage Tank) will be rejected.** If you don't have a sample tap on your well, and there is no treatment before the storage tank, it **might** be an approved location for your GWR triggered source sample. If there is no GWR sample tap at the well, before the storage tank, it might be a significant deficiency at the next sanitary survey. This might be an approved sample location for your nitrate sample.
E	Caretaker's Residence	No	The Caretaker's Residence is hardly used while the camp is open to the public, from May thru October. It is not a very good sampling location. The residence is away from the main part of the camp, and the public is not drinking this water. Although it is not required, EPA recommends taking special samples from the Caretaker's Residence during the off-season, but it is not a requirement.

Site ID	Sample Site Description	RTCR Preferred Location?	Explanation for Choice of Sample Site
F	Well 1	No*	Well 1 is not ok for monthly routine total coliform samples since it's not in the distribution system. It's also not ok for repeat samples. However, this is the place where the triggered Ground Water Sample would be collected for Well 1 if there was a TC+ sample in the distribution system. Any Routine total coliform sample collected from Well 1 (or marked as being from Well 1) will be rejected. If a water system doesn't have any treatment, it might be an acceptable nitrate sample location, but it would need to be approved by the nitrate manager.
G	Yard Hydrant	MAYBE	Outside faucets are not an ideal total coliform sample location. By using it you are accepting the risk of a TC+ sample result and repeat sampling. However, if there is no other location, then samples can be collected here. Be sure to remove any hoses or attachments and thoroughly disinfecting and flushing the sample site before collecting the sample.

Site ID	Sample Site Description	RTCR Preferred Location?	Explanation for Choice of Sample Site
H	Horse Stable Restroom	Yes	The Horse Stable Restroom is a good sample location since water is running in that part of the distribution system for the horses and flushing toilets. It is important to remember to wash your hands and disinfect and flush the faucet BEFORE collecting any samples to reduce the chances of getting an *E. coli* positive (EC+) sample result due to outside contamination!
I	Emergency Well	No*	The Emergency Well is not an acceptable monthly routine sample site since it's not in the distribution system. Any Routine total coliform sample collected from the Emergency Well (or marked as being from the Emergency Well) will be rejected. If the Emergency Well was in use at the time the TC+ sample result was collected, a triggered Ground Water Rule source sample would be required from this well. Annual Nitrate samples may be required from Emergency Wells, if your Emergency Well requires an annual Nitrate sample it will be indicated on your Annual Monitoring and Reporting Requirements.

BIO BREAK?

Creating an RTCR Sample Siting Plan

Create an RTCR Sample Siting Plan

PWS Name: Moosetrax Ranch		**PWSID:** WY5600000	__1_ (#) Sample(s)/month
Month	**Routine Sample Location**	**Repeat Sample Location**	**GWR sample location (any sources running at the time of a routine TC+)**
April	1)	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	
May	1)	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	
June	1)	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	
July	1)	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	

PWS Name: Moosetrax Ranch		PWSID: WY5600000	__1_ (#) Sample(s)/month
Month	Routine Sample Location	Repeat Sample Location	GWR sample location (any sources running at the time of a routine TC+)
April	1) Complete & Submit Startup	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	
May	1) **Lodge – kitchen faucet**	1) (Same as routine location)	**WL01 - BEFORE FILTER**
	(within 5 taps upstream)	2) **Nurse's Station**	
	(within 5 taps downstream)	3) **Yard Hydrant**	
June	1) **Horse Stable Restroom**	1) (Same as routine location)	**WL01 - BEFORE FILTER**
	(within 5 taps upstream)	2) **Nurse's Station**	
	(within 5 taps downstream)	3) **Lodge – kitchen faucet**	
July	1) **Nurse's Station**	1) (Same as routine location)	**WL01 - BEFORE FILTER**
	(within 5 taps upstream)	2) **Horse Stable Restroom**	
	(within 5 taps downstream)	3) **Yard Hydrant**	
August	1) **Lodge – kitchen faucet**	1) (Same as routine location)	**WL01 - BEFORE FILTER**
	(within 5 taps upstream)	2) **Nurse's Station**	
	(within 5 taps downstream)	3) **Yard Hydrant**	
September	1) **Nurse's Station**	1) (Same as routine location)	**WL01 - BEFORE FILTER**
	(within 5 taps upstream)	2) **Horse Stable Restroom**	
	(within 5 taps downstream)	3) **Lodge – kitchen faucet**	
October	1) **Horse Stable Restroom**	1) (Same as routine location)	**WL01 - BEFORE FILTER**
	(within 5 taps upstream)	2) **Nurse's Station**	
	(within 5 taps downstream)	3) **Lodge – kitchen faucet**	
November	1) Notify EPA of season close date	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	

CHAIN OF CUSTODY
(aka Lab Form)

Revised Total Coliform Rule (RTCR)

Helpful Total Coliform Sample Definitions

- Routine = Total coliform (TC) samples marked Routine are compliance samples that are collected each month from within the distribution system.
- Repeat = TC Repeat samples are 3 required compliance samples collected from the distribution system within 24 hours after a system is notified of at least one TC+ result.
- Special = A Special sample is a *non-compliance sample*. It does not count as a Routine or Repeat monthly sample.

There is no such thing as a non-EPA TC sample. The lab may have that as an option for private homeowners, but every TC sample collected at a public water system must have the PWSID and be reported to EPA.

RTCR Chain of Custody (COC)

PWS info

Sample info

WY and Tribal Revised Total Coliform Rule (RTCR)
LABORATORY SAMPLE FORM

Sampler(s) Section *(For field sampler use only):*

Reminder: Collect RTCR samples every month. If you have a total coliform positive or an E. Coli-positive, you must collect **three** (3) **REPEAT** samples according to your Sample Siting Plan. For each positive **ROUTINE** sample, you must collect **REPEAT** samples from: 1) the same site as the positive **ROUTINE** sample, 2) a REPEAT sample from a site within 5 taps upstream from the positive sample, and 3) a **REPEAT** sample from a site within 5 taps downstream of the positive sample. You must also collect a ground water source sample from any wells or springs in use at the time the positive **ROUTINE** sample was collected. This is the triggered GWR sample. Write the correct Sample Point Code on the form below (e.g., DIST), which may be found in the yearly Monitoring and Reporting Requirements and the address where the sample was taken. Chlorine Residuals are required on routine and repeat samples.

You cannot use RTCR samples as a GWR source sample, or vice versa.

Public Water System (PWS) Name:		**Sampler's Name:**	
PWS Identification Number (PWSID):		**Cell Phone Number:**	
PWS Street Address:	**City:**	**State:**	**Zip Code:**
Comments:			

Sample Collection Date	Time	**Sample Point Address** (Found on your Sample Siting Plan.)	**Chlorine Residual** (circle one) Total or Free mg/L	**RTCR Sample Type - Check One** **ROUTINE** - First set of required samples collected during a month. **REPEATS** – samples required AFTER any routine sample is positive. **SPECIAL** – Is a non-compliance sample that may be collected, for example, to determine if disinfection is adequate after pipe replacement or repair or to find a source of contamination. It is also used for the Seasonal Startup Checklist required sampling and daily sampling required by an Emergency Administrative Order. It cannot be used to determine compliance with the maximum contaminant level.		
				☐ Routine	☐ Repeat	☐ **Special**
				☐ Routine	☐ Repeat	☐ Special
				☐ Routine	☐ Repeat	☐ Special
				☐ Routine	☐ Repeat	☐ Special
Sampler(s) name (Print):		**Sampler(s) signature:**				**Date signed:**

Ground Water Rule (triggered source sample) COC

PWS info

Sample info

WY and Tribal Ground Water Rule (GWR)

TRIGGERED GROUNDWATER SOURCE SAMPLING FORM

Sampler(s) Section (For field sampler use only)

Reminder: Collect GWR source samples anytime you have a routine RTCR positive result. **Collect the same number of samples from each active groundwater source as the number of routine TC+ results received (e.g., if you have two routine TC+ results, you will need to collect two source water samples from *each* active groundwater source).** Write the correct Sample Point Code on the form below (e.g. GWR WL), which may be found in the yearly Monitoring and Reporting Requirements document sent to all systems. The GWR source samples are **in addition** to your RTCR repeat samples. You cannot use RTCR samples as a GWR source sample, or vice versa.

Public Water System (PWS) Name:		Sampler's Name:	
PWS Identification Number (PWSID):		Cell Phone Number:	
PWS Street Address:	City:	State:	Zip Code:
Comments: (List sources that were inactive or any other information regarding why all groundwater sources were not sampled)			

Sample Collection Date	Time	Sample Point Code (Found in the yearly Monitoring and Reporting Requirements document in the GWR section.)	Groundwater Sample Type- Check One Triggered - 1st source sample(s) after being notified of a routine RTCR positive Additional Routines - Required 5 source samples after a GWR EC+ routine result Replacement- If a sample wasn't analyzed previously (e.g. over holding time)
			☐ Triggered ☐ Additional Following EC+ ☐ Replacement
			☐ Triggered ☐ Additional Following EC+ ☐ Replacement
			☐ Triggered ☐ Additional Following EC+ ☐ Replacement
			☐ Triggered ☐ Additional Following EC+ ☐ Replacement
			☐ Triggered ☐ Additional Following EC+ ☐ Replacement

Sampler(s) name (Print):	Sampler(s) signature:	Date signed:

Laboratory Section (For laboratory use only):

Generic Chain of Custody

Chain of Custody & Analytical Request Record

Page _____ of _____

Account Information *(Billing Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Invoice ☐Hard Copy ☐Email	Receive Report ☐Hard Copy ☐Email
Purchase Order	Quote / Bottle Order

Report Information *(If different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report ☐Hard Copy ☐Email	

Comments

Project Information

Project Name, PWSID, Permit, etc.	
Sampler Name	Sampler Phone
Sample Origin State	EPA/State Compliance ☐ Yes ☐ No

Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Other
- DW - Drinking Water

Analysis Requested

See Attached

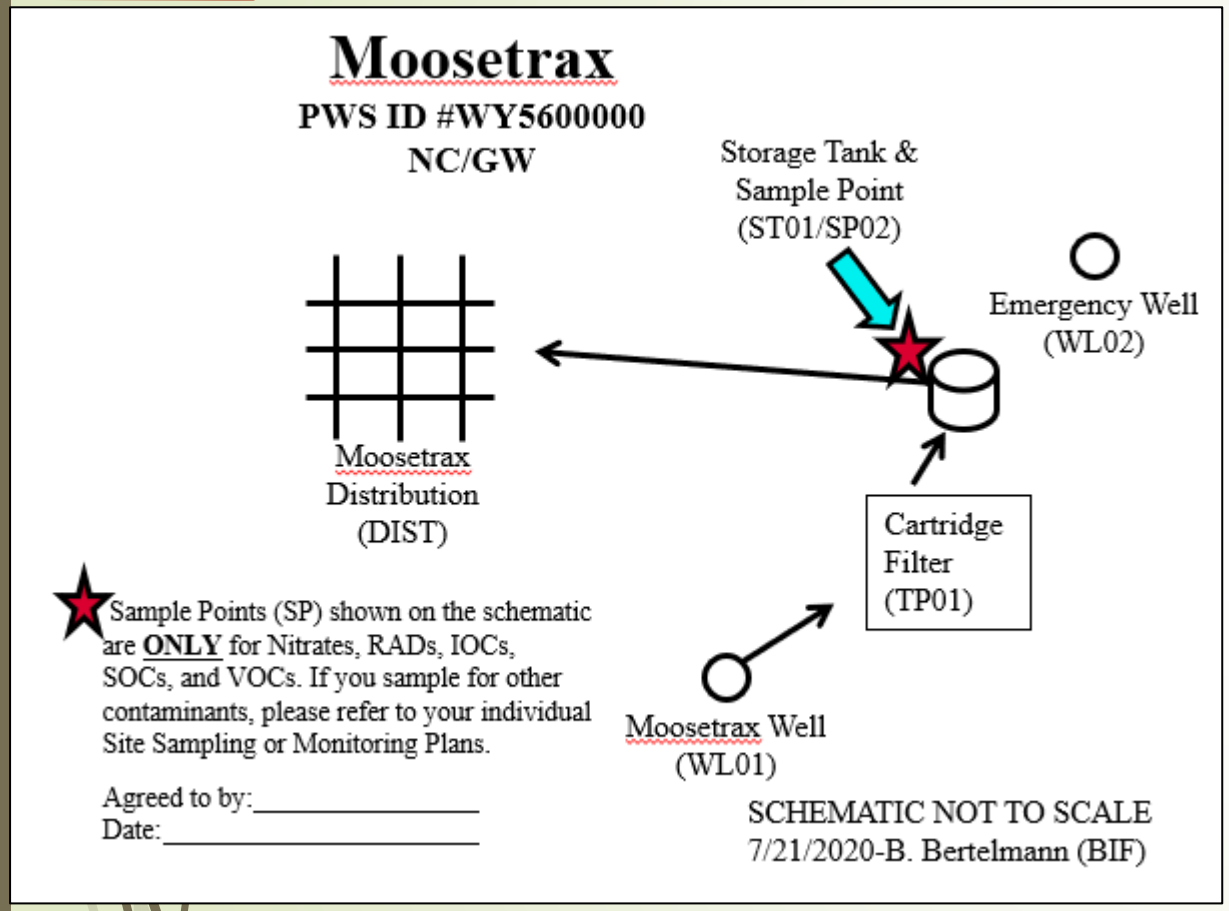
All turnaround times are standard unless marked as RUSH.

Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	RUSH TAT	LAB ID (Laboratory Use Only)
1							
2							
3							
4							

HOW WOULD YOU COMPLETE YOUR CHAIN OF CUSTODY FOR NITRATE AND TOTAL COLIFORMS?

Moosetrax Ranch
PWSID WY5600000



PWS Name: Moosetrax Ranch		**PWSID**: WY5600000	__1_ (#) Sample(s)/month
Month	**Routine Sample Location**	**Repeat Sample Location**	**GWR sample location (any sources running at the time of a routine TC+)**
April	1) Complete & Submit Startup	1) (Same as routine location)	
	(within 5 taps upstream)	2)	
	(within 5 taps downstream)	3)	
May	1) **Lodge – kitchen faucet**	1) (Same as routine location)	
	(within 5 taps upstream)	2) **Nurse's Station**	**WL01 - BEFORE FILTER**
	(within 5 taps downstream)	3) **Yard Hydrant**	
June	1) **Horse Stable Restroom**	1) (Same as routine location)	
	(within 5 taps upstream)	2) **Nurse's Station**	**WL01 - BEFORE FILTER**
	(within 5 taps downstream)	3) **Lodge – kitchen faucet**	
July	1) **Nurse's Station**	1) (Same as routine location)	
	(within 5 taps upstream)	2) **Horse Stable Restroom**	**WL01 - BEFORE FILTER**
	(within 5 taps downstream)	3) **Yard Hydrant**	
August	1) **Lodge – kitchen faucet**	1) (Same as routine location)	
	(within 5 taps upstream)	2) **Nurse's Station**	**WL01 - BEFORE FILTER**
	(within 5 taps downstream)	3) **Yard Hydrant**	
September	1) **Nurse's Station**	1) (Same as routine location)	
	(within 5 taps upstream)	2) **Horse Stable Restroom**	**WL01 - BEFORE FILTER**
	(within 5 taps downstream)	3) **Lodge – kitchen faucet**	
October	1) **Horse Stable Restroom**	1) (Same as routine location)	
	(within 5 taps upstream)	2) **Nurse's Station**	**WL01 - BEFORE FILTER**
	(within 5 taps downstream)	3) **Lodge – kitchen faucet**	
November	1) Notify EPA of season close date	1) (Same as routine location)	

Chain of Custody & Analytical Request Record

Page ____ of ____

Account Information *(Billing Information)*

Company/Name	Moosetrax Ranch
Contact	Operator Name/Sample Coll/PWS Contact
Phone	307-666-6666
Mailing Address	123 ABC Ln
City, State, Zip	Wyoming
Email	happy@golucky.com
Receive Invoice	☐Hard Copy ■Email
Receive Report	☐Hard Copy ■Email
Purchase Order	
Quote	
Bottle Order	

Report Information *(If different than Account Information)*

Company/Name	Same as Account Information
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email

Comments

Field Chlorine Residual: (indicate free or total)

RTCR Sample Type: Special, Routine, Repeat, Triggered, Pressure Loss

Nitrate Sample Type: Routine, Confirmation

Project Information

Project Name, PWSID, Permit, etc.	WY5600000
Sampler Name	Jerry Garcia
Sampler Phone	307-[illegible]-6666
Sample Origin State	GW
EPA/State Compliance	■ Yes ☐ No

Matrix Codes

A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

Analysis Requested

All turnaround times are standard unless marked as RUSH.

Laboratory MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Total Coliform Bacteria	Nitrate - routine	See Attached	RUSH TAT	LAB ID (Laboratory Use Only)
1										
2	Lodge Kitchen	6/16/25	1:12 pm	1	DW	✓				
3	SP02	6/16/25	1:00 pm	1	DW		✓			
4										
5										
6										
7										
8										
9										
10										

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

Account Information (Billing Information)

Company/Name	Moosetrax Ranch
Contact	Operator Name/Sample Coll/PWS Contact
Phone	307-666-6666
Mailing Address	123 ABC Ln
City, State, Zip	Wyoming
Email	happy@golucky.com

Receive Invoice ☐Hard Copy ■Email | Receive Report ☐Hard Copy ■Email

Purchase Order	Quote	Bottle Order

Chain of Custody & Analytical Request Record

Report Information (If different than Account Information)

Company/Name	Same as Account Information
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	

Receive Report ☐Hard Copy ☐Email

/PWS Contact

eport ☐Hard Copy ■Email
Bottle Order

one 307-666-6666

Compliance ■Yes ☐No

Email to R8DWU@epa.gov

Matrix Codes
A - Air
W - Water
S - Soils/ Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

Analysis Requested

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Total Coliform Bacteria	Nitrate - routine
1						

Comments

Field Chlorine Residual: (indicate free or total)

RTCR Sample Type: Special, Routine, Repeat, Triggered, Pressure Loss

Nitrate Sample Type: Routine, Confirmation

Project Information

Project Name, PWSID, Permit, etc.	WY5600000
Sampler Name	Jerry Garcia
Sampler Phone	307-666-6666
Sample Origin State	GW
EPA/State Compliance	■ Yes ☐ No

Email to R8DWU@epa.gov

Matrix Codes
A - Air
W - Water
S - Soils/ Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

Analysis Requested

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Total Coliform Bacteria	Nitrate - routine
1							
2	Lodge Kitchen	6/16/25	1:12 pm	1	DW	✓	
3	SP02	6/16/25	1:00 pm	1	DW		✓

Signature

Signature

Receipt Number (cash/check only)

HOW TO COLLECT A TOTAL COLIFORM SAMPLE

Sample Bottle Labels

- Write on your bottle with permanent ink before you collect your sample.
- Bottle must indicate that samples were from the distribution system – write DIST along with the location, like kitchen sink – DIST.
- EPA database doesn’t recognize a total coliform sample that is called SP01. It will reject the sample and a violation letter will be sent.

BEST PRACTICES TO COLLECT A TOTAL COLIFORM WATER SAMPLE

- https://www.youtube.com/watch?v=K_l294gppAk

- See if you can find any problems with the video?
- What do you do differently than the video?

Best Practices To Collect A Total Coliform Water Sample

Some tips on collecting total coliform samples

- Remove any attachments on the faucet
- Allow water to flow for 5 or 6 minutes before sampling (begin to fill out the Chain of Custody while flushing the water)
- Do not rinse or overfill container
- Always collect cold water; never sample hot water
- Do not touch the inside of the sample bottle or its cap

Best Practices To Collect A Total Coliform Water Sample

Avoid these sampling sites for total coliform, if possible:

- Outdoor faucets
- Faucets connected to cisterns, softeners, pumps, pressure tanks or hot water heaters
- New plumbing and fixtures or those repaired recently
- Faucets that hot and cold water come through
- Threaded taps
- Swing spouts
- Faucets positioned close to sink or ground
- Leaky faucets

Best Practices To Collect A Total Coliform Water Sample

Bottle to use

- Sterile 125 or 150 mL plastic bottles must be used (from the lab).

Preservatives to use

- Sodium thiosulfate if sample is chlorinated **and**
- Cool to < 10 °C (< 50 °F) for source water and groundwater samples (recommended for drinking water as well) but do not allow samples to freeze

Holding times

- Holding times are generally very short – 30 hours for drinking water samples. Deliver samples to the lab the day of collection, if possible, or ship via overnight delivery.

Best Practices To Collect A Total Coliform Water Sample

Sampling instructions

- Wear (non-powdered) gloves when collecting samples.
- Do not rinse the bottle(s). The bottle(s) are sterile so care must be taken not to contaminate the bottle or cap.
- Once the distribution line is flushed and the flow reduced, quickly open the bottle (but do not set the cap down), hold the cap by its outside edges only, and fill the sample bottle to just above the 100 mL line leaving a one inch headspace.
- Cap the bottle immediately and place it into a cooler with ice for delivery or overnight shipment to the laboratory.

TOTAL COLIFORM POSITIVE

STEPS TO TAKE AFTER A *ROUTINE* TOTAL COLIFORM POSITIVE

1) **Within 24 hours of notification of the *routine* TC+ sample result:**

   - **Notify EPA of your TC+ by calling 303-312-6072 and ask to speak to the RTCR Manager (best to send an email too).**
   - Collect three (3) REPEAT samples in the distribution system for each positive sample; use your regular lab form along with the RTCR Lab Sample form, and mark the samples as RTCR REPEATS.

2) **Collect your triggered GWR source sample(s) if you use a groundwater (e.g., well or spring) source.**

REMEMBER: Anytime you have an *E. coli* positive (EC+) sample, call EPA IMMEDIATELY at 303-312-6072 and ask to speak to the RTCR Manager (best to send an email too).

Review Your Repeat Samples

Are any of the three (3) REPEAT samples positive? ***or***
Is there more than one *ROUTINE* sample that is positive? ***or***
Did you fail to collect all three (3) repeat samples?

NO

Conduct ROUTINE sampling the following month.

YES

1. You will need to complete a Level 1 Assessment* and submit it to the EPA R8 Office within 30 days.
2. Conduct ROUTINE sampling the following month.

* Or a Level 2 Assessment.

Hand Pumps & Routine TC+

- If the PWS does not have a distribution system, are repeat and triggered source samples collected?
- Collect 4 samples, in succession, from the hand pump, in 4 different bottles.
- Label 3 bottles as Repeat samples and 1 as the GWR Triggered Source sample.

E. Coli positive (EC+) in Distribution

- If the lab calls to tell you **any** sample result is *E. coli* positive, ***call EPA right away***.
- There is a chance that anyone who is drinking EC+ water may become sick.
- If it's a Routine sample the ***Repeat samples*** must be collected ***within 24 hours***, no extension allowed, even if Friday.
- After talking to EPA, you might be directed to issue a ***boil water advisory***. EPA will send an email with the next steps that are required.

DO NOT DISINFECT THE SOURCE OR DISTRIBUTION SYSTEM UNTIL EPA GIVES WRITTEN APPROVAL.

E. Coli positive (EC+) in the Well/Spring

- If the *E. coli* positive is in the triggered source sample, ***call EPA right away***.
- After talking to EPA, you ***must*** fill out and distribute a ***boil water advisory***. EPA will send an email with the next steps that are required.
- ***Collect five (5) more samples*** **from the well/spring source immediately.**

DO NOT DISINFECT THE WELL (SOURCE) UNTIL EPA GIVES WRITTEN APPROVAL.

No Triggered Source Sample after a RT TC+?

Failure to monitor the well/spring = Violation

To come back into compliance, the triggered source sample(s) from the well must be collected, analyzed, and received by EPA.

If fewer samples are collected than listed on the TC+ email EPA must be notified in writing or it will result in a monitoring violation.

SEASONAL SYSTEMS

SEASONAL STARTUP CHECKLIST

Seasonal Systems

A seasonal system is….

when your water system isn't open to the public year-round, or part of it is closed and re-opened during the year, even if it remains pressurized.

A seasonal startup checklist must be completed each year, and EPA must receive it BEFORE the system serves water to the public.

EPA Region 8 Seasonal Start-up Checklist

For Public Water Systems in Wyoming or on Tribal Lands in EPA Region 8

If your public water system (PWS) is open to the public only part of the year, it is considered a seasonal system. Under the Revised Total Coliform Rule (RTCR), you are required to complete the following steps and submit this form to our office **prior to serving water to the public** for the season. You will be in violation of the RTCR and subject to enforcement action if you serve water to the public before completing these start-up procedures **and** submitting this form to our office.

Wyoming and EPA R8 Tribal water systems can submit this checklist to:

RTCR Manager
8WD-SDR
1595 Wynkoop Street
Denver, CO 80202
Or fax at: 303-312-7517 or email at: R8DWU@epa.gov

PWS Name: _____
PWS ID number: _____
Today's Date: _____
Date water system opens to the public*: _____
Estimated closure date for the season:** _____
Is your system open to the public year-round with a portion that closes seasonally? _____

*Sampling requirements may change based on the schedule you put in the Checklist. Check Drinking Water Watch (https://sdwisdww.epa.gov/DWWR8WY/) for the most up to date sampling requirements.

**This date will be used as the seasonal shutdown date. If you write that the PWS closes on September 1, 2025, then EPA will expect a September sample result. If the system actually closes on August 15, 2025, let EPA know of the early closure so that an adjustment can be made to the sampling schedule, and the system will not receive a monitoring violation.

SEASONAL STARTUP CHECKLIST

- EPA uses last season's schedule as the basis for the next year's season. Unless you tell us differently, that is schedule for the next year.
- EPA knows the opening and closing dates are subject to weather. If they are going to be different than projected, it is **your** responsibility to notify EPA of the change, preferably via email.
- The opening date that you write down on the checklist should be the date the PWS opens to the public.
- The closing date is an estimate of when you think the PWS will be closing. Put that date on a calendar because if it changes you need to tell EPA to avoid a violation.
- If you write that the PWS closes on 10/01/25, EPA will be expecting a sample result for October. If a PWS is open for even one day in a month a routine sample is required for that month.
- This is **not** a yes/no document. Please write what you have actually done, you checked the filters and they are good, there are no leaks in the distribution, etc.
- You may have to collect a special and a routine sample in the same month.

Certification of Completion:

I hereby certify that the information in this form is the truth and each start-up procedure listed above was completed before water was delivered to my customers.

Name (Printed) Jerry Garcia

Signature

Date 04/05/18

Phone Number 307-444-4444

Email JGarcia@Moosetrax.net

Seasonal Startup Checklist

- **IF:** The seasonal system has more than one source serving more than one distribution system (please see the article in the 2018 EPA Region 8 Newsletter).
- **IF:** Parts of the seasonal system distribution system(s) open or close during different months (i.e., one closes in November and the another in October).

Well Name (i.e., WL0x)	**Distribution System Name** (i.e., DS0x)	**Planned Startup Activity** (use additional space if necessary)	**Startup Date** (if different than other sources)	**Shutdown Date** (if different than other sources)	**Date Special Sample Collected**
WL02	Coffee House	All startup activities are listed in the main form.	05/01/2018	**11/15/18**	04/05/18
WL03	Book Shop	All startup activities are listed in the main form.	05/01/2018	10/15/18	04/05/18

Seasonal System Opened Early

F_DESCRIPTION=Facility Description, S_FREQUENCY=Sampling Frequency, COL_OR_DUE = Collection Period OR Due Date, YR=Year, MN=Month, RT=Routine

F_DESCRIPTION	SAMPLE_POINT	ANALYTE	MONITORING_PERIOD	S_FREQUENCY	COL_OR_DUE
DIST	DIST			1 RT every MN	06/01-09/30

Today's Date: April 21, 2026
Date water system opens to the public*: May 1, 2026
Estimated closure date for the season:** ~~Oct~~ Sept 30, 2026
Is your system open to the public year-round with a portion that closes seasonally? NO

TCR Schedules

Sample Count	Sample Type	Sample Frequency	Effective Begin Date	Effective End Date	Seasonal Start MM/DD	Seasonal End MM/DD
1	RT	MN	05-01-2025	04-30-2026	6/1	9/30
1	RT	MN	05-01-2026		5/1	9/30

Effective Begin Date	Effective End Date	Seasonal Start MM/DD	Seasonal End MM/DD
05-01-2025	04-30-2026	6/1	9/30
05-01-2026		5/1	9/30

Seasonal Startup Checklist

Special Samples vs Routine Samples

- **Special samples** are included as part of the Seasonal Startup Checklist. Remember to mark these samples as Special. They should be collected prior to serving water to the public.
- **Routine samples** are required monthly and must be collected once water is being served to the public at sites identified on your sample siting plan.

ASSESSMENTS

What are Assessments?

- When sampling results show that your PWS may be vulnerable to contamination, PWSs must perform an Assessment (Level 1 or Level 2) and **FIND AND FIX ANY "SANITARY DEFECTS."**
- A sanitary defect can provide a **pathway** of entry **for microbial contamination** into the distribution system or indicate imminent failure in an existing barrier (e.g., cracked tank, rat droppings on wellheads, or broken well or hatch seals).

RTCR ASSESSMENTS
VS.
SANITARY SURVEYS

An RTCR Assessment is REACTIVE

and a Sanitary Survey is PROACTIVE!

Level 1 Assessment Triggers

Triggered by TC+ sample(s)

1. Have two or more TC+ samples (routine and/or repeat results) in one month*.

OR

2. Failure to collect and analyze at least 3 repeat samples for each routine TC+.

* For systems collecting 40 fewer samples per month

Review Level 1 Assessment Form

- Level 1 Assessment Form – 3 pages
- Completed by the PWS operator
- Corrective action must be completed already or include a timeline for completion (within 30 days)
- Example Sanitary Defects:
  - Rat poop around the well head
  - No sanitary seal on well

Level 1 Assessment Scenario (Multiple TC+)

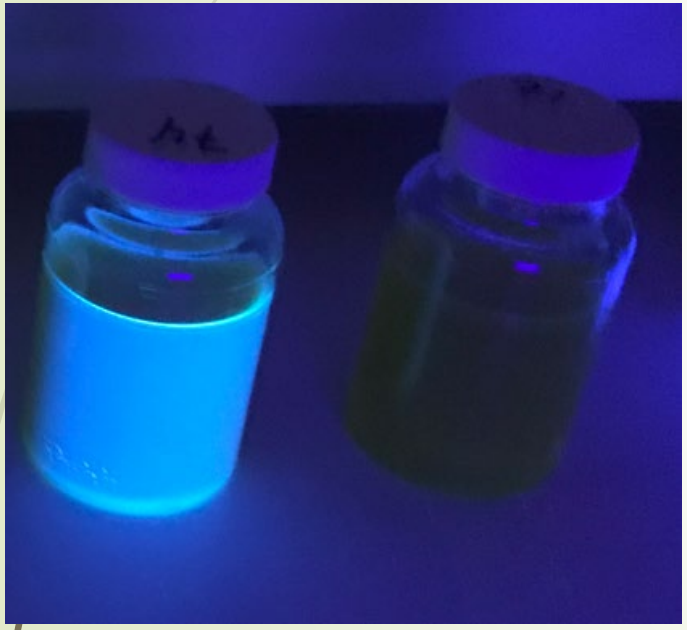
- System had a Routine sample TC+ on a Thursday, called EPA immediately to notify of TC+ and ask for extension on 24-hour requirement to collect repeats.
- On Monday, the PWS collected 3 repeats and a triggered source sample.
- On Tuesday the lab notified the PWS, who then called EPA, to report that one of the repeats was TC+/EC-.
- While completing the Level 1 Assessment the PWS found that the sanitary seal on the well was defective and there were insects in the well.
- The PWS immediately disinfected the well and distribution system and installed a new sanitary seal.
- The PWS took a photo of the new well seal, labeled it and sent it to EPA along with the complete Level 1 Assessment within 30 days.
- The Assessment form stated that corrective action was taken on X date –shock chlorination and replacement of sanitary seal. PWS emailed the completed Assessment to EPA.

Level 1 Assessment Scenario (too few RP & incomplete Assessment)

- System had a Routine TC+ on a Tuesday and didn't contact EPA.
- The PWS didn't collect any Repeat samples.
- When EPA got the sample results 2 weeks later and saw that there was a TC+/EC- sample with no repeats the PWS was triggered into completing a Level 1 Assessment. (They also received a failure to monitor violation for not collecting a TG source sample.)
- The system found that they had a missing bolt on their well head and that their chlorinator was out of chlorine.
- On the Level 1 Assessment the PWS identified the issues but didn't describe any corrective action.
- The PWS emailed the Assessment to EPA at 5.30 pm the day it was due. Since the PWS didn't completely fill out the Level 1 Assessment **AND** they submitted the Assessment on the very last possible day, the PWS received a violation for an incomplete Level 1 Assessment.

Level 2 Assessment Triggers

1. *E. coli* MCL violation:



Routine	Repeat
TC+ & EC-	*E. coli*-positive (EC+)
TC+ & EC-	TC+ but not analyzed for EC
TC+ & EC+	TC+
TC+ & EC+	One or more samples is missing

2. Two Level 1 Assessment triggers in a rolling 12-month period.

Review Level 2 Assessment Form

- Level 2 Assessment Form – 10 pages
- Completed in cooperation between an EPA approved 3rd party and a PWS representative.
- Corrective action must be completed already or described and include a timeline for completion.
- Example Sanitary Defects:
  - SSUC said the well was disinfected but it wasn't.
  - Storage tank not cleaned within 5 years.
- **Failure to complete corrective actions or request an extension will result in a violation.**

Level 2 Assessment Scenario

- After completing the Level 1 Assessment and corrective actions the water system triggered another Assessment with multiple TC+ routine and repeat samples.
- Since it was within 12 months a Level 2 Assessment was required.
- EPA arranged for a contractor to go on-site and work with the operator to investigate each part of the water system to try and figure out where the contamination could be entering the system.
- The contractor sends the L2 Assessment report to EPA and EPA determines what the sanitary defects are and a timeline for correcting them.

Level 2 Assessment (multiple TC+ / 2nd L1 in 12-months)

- **Sanitary Defects**: Sanitary Defects that were found included:
  - The operator was not sampling according to their sample siting plan and was taking samples from the pump house.
  - There was a hose in the stock tank that created a cross-connection.
  - The ground surface around the well was sloped so runoff from snow melt and rain was directed towards the well and not away from it.

US EPA REGION 8 DRINKING WATER PROGRAM

REVISED TOTAL COLIFORM RULE (RTCR) LEVEL 2 ASSESSMENT

REQUIRED CORRECTIVE ACTIONS and DUE DATES

PWS ID#: TRAINING EXAMPLE	**PWS Name:** Morning Brew
Primary Operator (print name): Bob Weir	
Assessment trigger date: 08/01/2017	**Date Assessment Conducted:** 08/09/2017
Seasonal System?: YES _X_ NO __	**Reason for Assessment:** 2nd Level 1 Assessment in 12 months
Was an Emergency Administrative Order Issued? YES __ NO _X_	
Emergency Admin. Order Contact:	**EPA Drinking Water Program Contact:** Jamie Harris (303) 312-6072

Please note the required actions and due dates listed for each sanitary defect that was identified in the attached Level 2 Assessment. Failure to complete corrective actions by the due dates required by EPA will result in a violation. If a completion date cannot be met it is your responsibility to contact EPA BEFORE the due date and obtain approval for a different completion date. The recommended actions are not required but review them and strive to implement those changes. Please refer to the Level 2 Assessment Form for a description of the issues identified during the Assessment.

Assessment Elements	Issues? Yes	Issues? No	Recommended Action	Required Corrective Action	Completion Date Proposed by PWS	Due Date Required by EPA
1. Review of the sample sites						
1.1 Was the sample taken at the routine coliform site?	**X**			1.1) Revise Sample Siting Plan: - Routine site cannot be "at pump house". - Include a map (i.e., from a mapping computer program like Google) that adequately shows your distribution system	1.1) Sample Siting Plan will be revised and sent to EPA by **9/15/2017**.	1.1) Revised Sample Siting Plan due to EPA by **09/30/2017**.
1.8 Are there any possible cross connections around the sample site (including yard hydrants and stock tanks)?				1.8) Install cross-connection prevention device. Without an atmospheric breaker, bacteria can grow from	1.8 Operator is working with an engineer to install	1.8 Provide labeled photo documentation that back flow

Level 2 Assessment (multiple TC+ / 2nd L1 in 12-months)

- The PWS committed to the following Corrective actions during the Assessment:
  - The PWS committed to revising their Sample Siting Plan and finding other routine sample sites that were not at the pump house.
  - They installed a cross-connection control device on the nozzle that the hose was attached to and installed a rack for the hose near the stock tank so that the hose did not get submerged when it was filling the tank.
- However, they did not indicate a fix for the ground surface around the well.

Level 2 Assessment (multiple TC+ / 2nd L1 in 12-months)

- In the Corrective Actions form sent to the PWS, EPA included the first two items, and the requirement to re-grade the ground surface around the well to re-direct water away from the well casing. The due date was 30 days from the date the PWS received the Corrective Actions in the mail.
- In order to fix the sanitary defect, the operator needed approval from the PWS owner to rent a small earth mover. The PWS couldn't meet the EPA deadline, so she contacted EPA (a week before the due date) and requested an extension. EPA granted a 30-day extension to re-grade the land.

Level 2 Assessment Scenario (*E. coli* MCL)

- System had a Routine sample TC+ on a Thursday, called EPA immediately to notify of TC+ and ask for extension on 24-hour requirement to collect repeats.
- On Monday, the PWS collected 3 repeats and a triggered source sample.
- On Tuesday the lab notified the PWS, who then called EPA, to report that one of the repeats was **TC+/EC+** and the other two were TC-. The TG source sample was TC-.
- The system received an *E. coli* MCL violation and had to issue a boil water advisory within 24 hours.
- EPA Enforcement Division issued an Emergency Administrative Order that required alternative water for all consumers.
- A Level 2 Assessment was conducted immediately, and sanitary defect corrections were required within 30 days.
  - The storage tank was professionally scrubbed and cleaned.
  - The leak near the sample site was fixed.

Ground Water Rule Corrective Action Plan (*E. coli in the source water*)

- If there is ***E. coli*** in the triggered source sample, it triggers a Corrective Action Plan.
- ***Corrective action alternatives*** *(141.403(a)(6))*:
  - (i) Correct all significant deficiencies;
  - (ii) Provide an alternate source of water;
  - (iii) Eliminate the source of contamination; or
  - (iv) Provide treatment that reliably achieves at least 4-log treatment of viruses (using inactivation, removal, or a State-approved combination of 4-log virus inactivation and removal) before or at the first customer for the ground water source.

Violations

RTCR Violations

- ***E. coli*** MCL
- Treatment Technique (Ex: Fail to do Assessment; corrective actions; seasonal startup)
- Monitoring (Ex: Fail to take a routine sample)
- Reporting (Ex: Fail to submit a routine sample on time)

Ground Water Rule Violations (related to source sampling)

- Monitoring/Reporting (Ex: fail to take the triggered sample or send it in late)
- Failure to maintain 4-log disinfection (if required)

PUBLIC NOTICE REQUIRED WITH ALL VIOLATIONS

What Questions Do You Have?

Revised Total Coliform Rule (RTCR) Manager

& GWR Triggered Source Sample Manager

Jamie Harris

Harris.jamie@epa.gov

303-312-6072

RTCR Sample Siting Plans

Emily Bedell

Bedell.Emily@epa.gov

303-312-6269