Public Water System
Monitoring Plan

System Name Meadow Mountain Water Supply Company

PWSID # CO0207504

Date September 30th, 2020

This Monitoring Plan is for public water systems classified as:

- Community
- Using Surface Water or Groundwater Under the Direct Influence of Surface Water

Table of Contents

Introduction

Purpose of the Individual Rule Sampling Plans

Each public water system must develop individual rule sampling plans. The plans show how a system intends to comply with the monitoring requirements of the *Colorado Primary Drinking Water Regulations*. The plans serve as a uniquely tailored road map for each specific system to demonstrate that the water quality self-monitoring performed by the system is representative of the water distributed to consumers and is consistent with regulatory requirements.

Submittal to the Department

Submit one (1) copy of the final individual rule sampling plans to:

Colorado Department of Public Health and Environment
Water Quality Control Division/Compliance Assurance Section
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Fax: (303) 758-1398
Email: cdphe.drinkingwater@state.co.us

Revisions

Water systems are required to submit any changes related to the individual rule sampling plans to the Department within thirty (30) calendar days following the effective date of the change. Each plan may be submitted separately, if only one plan is affected by the change.

General Requirements and Definitions

An unofficial copy of the *Colorado Primary Drinking Water Regulations,* 5 CCR 1003-1, can be accessed online at http://www.cdphe.state.co.us/wq/drinkingwater/index.html

General Requirements

How to choose a laboratory
Laboratories must be certified for the specific method/analysis. Laboratories can be certified by the EPA or the Department. For a list of certified labs, see http://www.cdphe.state.co.us/lr/certification/SDWlist.pdf

Sample collection and analytical methods
Samples must be collected as described in the method. Contact the certified laboratory that will perform the analysis for direction on sample containers, sample collection, and preservation.

All analysis must be conducted using a Department-approved method. These may be found in 5 CCR 1003-1 Article 10.

Reporting deadlines
Results of all required monitoring must be submitted to the Department within the first ten calendar days following the month in which the result is received, or within the first ten calendar days following the end of the required monitoring period, whichever is shorter. *For radionuclides, public water systems are required to report results of any test measurement or analyses to the Department within the first 10 calendar days following the month in which the result is received.* The Department issues monitoring and reporting violations based on adherence to these requirements. The Department prefers that reporting be done through the laboratory, but the system is ultimately responsible for ensuring that reports are received by the Department in a timely manner.

In the event that the lab is compositing samples for the water system, the system must notify the Department of the intention to composite and the name of the laboratory used.

Process for re-evaluating sample points
Sample sites described in the sampling plans must be reviewed and updated to account for system changes (such as population growth, new sources or change in treatment). Water systems are required to submit any changes related to the individual rule sampling plans to the Department within thirty (30) calendar days following the effective date of the change. Each plan may be submitted separately, if only one plan is affected by the change.

Calculating a running annual average (RAA)
The running annual average is calculated by averaging the results of each monitoring period within the last twelve (12) months. This calculation is done at the end of each calendar quarter. If any single sample result would cause the RAA to exceed the MCL, the system is out of compliance immediately. If the system fails to collect all the required samples, compliance will be based on the number of samples collected. Any sample that is below the regulatory detection level will be considered to be zero (0) in the running annual average calculation.

Definitions

Public Water System Identification Number (PWSID) – The identification number assigned to a water system by the Colorado Department of Public Health and Environment.

Colorado Department of Public Health and Environment (the Department) – The agency that oversees and enforces the *Colorado Primary Drinking Water Regulations* according to a primacy agreement with the US Environmental Protection Agency (EPA).

Maximum contamination level (MCL) – The maximum permissible level of a contaminant in water, which is delivered to any user of a public water system.

Maximum residual disinfectant level (MRDL) – A level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.

Treatment technique requirement (TT) – A requirement of the *Colorado Primary Drinking Water Regulations* that specifies, for a contaminant, a specific treatment technique(s) known to EPA which leads to a significant reduction in the level of such contaminant to comply with the requirements of the *Colorado Primary Drinking Water Regulations*.

Action Level (AL) – The concentration of lead or copper in water which determines, in some cases, the treatment requirements that the water system is required to complete.

Maximum residence time – A point in the distribution system where the treated water has been in the system for the longest or maximum time, as measured by water transport time. For purposed of selecting a sampling location, locations between 90 – 100 percent of the maximum are considered to be representative of maximum residence time.

Average residence time – A point in the distribution system where treated water has been in the system for approximately half of its longest or maximum time, as measured by water transport time. For purposes of selecting a sampling location, locations between 25 – 75 percent of the maximum are considered to be representative of average residence time, provided that in total, the average of the selected locations approximate 50 percent of the maximum residence time and take into account populations densities and their locations.

Entry point – A sampling point after complete water treatment (including disinfection contact time) but before the first consumption tap. A water system may have multiple entry points, especially if it has multiple treatment plants. A water system may have multiple treatment plants but only one entry point if, for example, those treatment plants blend in a storage tank for disinfection contact time before distribution (in this example, the storage tank is the entry point).

First customer – The first potable water service connection downstream of the point of where complete water treatment, including disinfection contact time, has occurred. Sometimes the first customer is the water treatment plant's domestic water system.

Public Water System Summary

System Name	Meadow Mountain Water Supply Company
PWSID	CO0207504
Date	September 30th, 2020

Introduction

Purpose of the Drinking Water System Inventory
The Drinking Water System Summary identifies all contacts, populations, sources, treatment and chemicals, and facilities used to produce finished drinking water.

Submittal to the Department

Colorado Department of Public Health and Environment
Water Quality Control Division/Compliance Assurance Section
4300 Cherry Creek Drive South
Denver, CO 80246-1530
Fax: (303) 758-1398
Email: cdphe.drinkingwater@state.co.us

Revisions
Water systems are required to submit any changes related to the inventory to the Department within thirty (30) calendar days following the effective date of the change. Each part may be submitted separately, if only one part is affected by the change.

Contact Information

Contact information completed by Rachel C. Barkworth, Board Member, MMWSC

Signature RCBarkworth Date 09/30/20
Revision? ☒ Actual date of changes described in this revision: As of September 30th, 2020

System Administrative Mailing Address: PO Box 354
City: Allenspark County: Boulder State: CO Zip: 80510

System Physical Address: 137 Meadow Mountain Road
City: Allenspark County: Boulder State: CO Zip: 80510

System Phone: Contact Rachel Barkworth, Administrative Contact (303) 823-2318
E-mail: rcbarkworth@yahoo.com

Administrative Contact Name: Rachel Barkworth
(The administrative contact is the primary contact person for all Department mail or other communications regarding drinking water compliance.)
Mailing Address: PO Box 354
City: Allenspark State: CO Zip: 80510
Phone: (303) 823-2318 Ext: _____ Fax: _____
E-mail: rcbarkworth@yahoo.com

Owner/Legal Entity Contact Name: Meadow Mountain Water Supply Company (MMWSC)
(The legal owner is an individual, corporation, partnership, association, state or political subdivision thereof, municipality, or other legal entity.)
Mailing Address: PO Box 162
City: Allenspark State: CO Zip: 80510

Emergency Contact Name: Doug Hill, MMWSC Board President
(The emergency contact should be someone that the Department can contact in an emergency if the administrative contact is unavailable.)
Mailing Address: 6006 Jordan Dr
City: Loveland State: CO Zip: 80537-7805
Phone: (970) 622-0931 Ext: _____ Fax: _____

System Operator in Responsible Charge Name: Andrew Griffiths
Operator ID#: 2432 Certification Type: W-A Certification No.: CWP-WA-00573-1211 (24384)
Expiration Date: December 29th, 2020
Mailing Address: PO Box 394
City: Allenspark State: CO Zip: 80510
Phone: (303) 747-2066
E-mail: andyaus@earthlink.net

Distribution Operator in Responsible Charge Name: _Andrew Griffiths _____
Operator ID#: 2432 Certification Type: _D-1__ Certification No.: CWP-D1-00235-0810 (Old: 22645)
Expiration Date: 08/09/2022 (Distribution)_____
Mailing Address: __PO Box 194_____
City: _Allenspark_____ State: _CO__ Zip: __80510____
Phone: _(303) 747-2715_____
E-mail: _andyaus@earthlink.net_____

Population Types and Seasons

System Population Certification

Revision? ☐ Actual date of changes described in this revision _____

Resident Population means the average number of people whose primary residence is served by the system. The individual need not live at the residence for 365 days per year for it to be considered his/her primary residence.

___41 permanent, 100p maximum during summer months_ ***Number of year-round residents served by system***

___41 permanent, potential for 54 taps_ ***Number of taps (buildings/houses) serving year-round residents***

Non-Transient Population means the average number of individuals served per day, during the year or normal operating period(s), who do not reside at the place served by the water system but have a regular opportunity to consume water produced by the system. Regular opportunity is defined as four or more hours per day, for four or more days per week, for six months or more per year.

_____10_____ ***Number of non-transients served by system***

___Year-Round___ _____***Months in operation (example: May – September)***

Transient Population means the average number of individuals served per day during the year or annual operating period(s), who have an opportunity to consume water from the system but who do not meet the definition of either residents or non-transient customers. (Restaurant patrons are an example of transient consumers.)

_____4_____ ***Number of transients served by system***

____Year Round_____ ***Months in operation (example: May – September)***

Certification of Accuracy

"By signing this document, I herby certify that the information above is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment."

Signature _____ RCBarkworth _____ Date __09/30/2020_____

Department Use: Classification

_____

Water Sources Definitions

Water Types

Groundwater (GW) – Any water under the surface of the ground being neither "surface water" nor "groundwater under the direct influence of surface water."

Surface water (SW) – Any water source that is open to the atmosphere and subject to surface runoff.

Groundwater under the direct influence of surface water (GWUDI or GU) – Any water beneath the surface of the ground with significant occurrence of insects or other macro-organisms, algae or large-diameter pathogens such as *Giardia lamblia* or *Cryptosporidium*; or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity or pH that closely correlate to climatological or surface water conditions.

Purchased water (GWP, SWP or GUP) – Water that you receive (whether or not you purchase it) from another water system or water hauler.

Integration agreement – An agreement between two or more public water systems, one of which is a wholesale/supply system, whose distribution systems are physically connected. The systems agree to operate using a common set of standards that the wholesale system establishes for the purpose of maintaining and protecting drinking water quality. Integrated systems must submit their agreement to the Department for approval.

Availability

Permanent (P) – A primary water facility

Emergency (E) – A water facility that is used only as the result of extreme circumstances, and is otherwise kept offline. These facilities may be either connected or disconnected from a treatment plant/distribution system. This type of facility is most likely never used. Nitrate and total coliform samples would need to be obtained within 2 days after start-up. The division would need to be notified of start-up within 24-hours.

Interim (I) – A water facility that is either used as a result of high water demand or out of necessity to maintain water rights. The facility may be used once every few weeks or months or once every few years. These facilities may be either connected or disconnected from a treatment plant/distribution system. Routine Sampling will be required at the Entry Point to the Distribution System.

Seasonal (S) – A water facility that is typically used every year to aid a system in meeting high water demands. While a water system may not know when it will need a seasonal source, it is most often used every year. These also may be referred to as peaking facilities. Routine sampling will be required at the Entry Point to the Distribution System.

Other (O) – A facility that is no longer used for drinking water.

System Name _____ *PWSID#* _____

Water Source Details

Inventory of water sources completed by __Rachel C. Barkworth, MMWSC Board Member

Signature _____ RCBarkworth _____ Date ___09/30/2020_____
Revision? ☐ Actual date of changes described in this revision _____

Groundwater Sources

ID (assigned by Department)	Source Name	Aquifer Name	Availability (P, E, I, S or O) If seasonal, include months anticipated to be in operation	Well Depth	First Draw	Latitude*	Longitude*

*Latitude and longitude data collection method ☐ GPS ☐ Map ☐ Google Earth ☐ Other Date _____

Surface Water Sources

ID (assigned by Department)	Source Name	Availability (P, E, I, S or O) If seasonal, include months anticipated to be in operation	Intake Latitude*	Intake Longitude*
002	Willow Creek	Permanent	40N, 11’ 21.5124”	105W, 32’ 28.0638”
003	South Fox Creek	Permanent	40N, 11’ 30.9978”	105W, 32’ 32.3736”

*Latitude and longitude data collection method ☐ GPS ☐ Map ☒ Google Earth ☐ Other Date _____

Expand tables or add pages as needed for additional sources

Groundwater Under the Direct Influence of Surface Water Sources

ID (assigned by Department)	Source Name	Aquifer Name	Availability (P, E, I, S or O) If seasonal, include months anticipated to be in operation	Well Depth	First Draw	Latitude*	Longitude*

*Latitude and longitude data collection method ☐ GPS ☐ Map ☐ Google Earth ☐Other Date _____

Purchased Water Sources

Name of Supplying Water System	Connection Location (cross-streets and/or latitude/longitude*)	Type (GW, SW or GU)	Do you receive treated or raw water?	Availability (P, E, I, S or O) If seasonal, include months anticipated to be in use	Approved Integration Agreement? Yes / No

*Latitude and longitude data collection method ☐ GPS ☐ Map ☐ Google Earth ☐Other Date _____

Expand tables or add pages as needed for additional sources

Water Treatment Codes and Objectives

Treatment Codes –

The codes below are generated by the USEPA for the purpose of standardizing the treatment processes as they are cataloged and tracked within the federal and state database programs. Water systems should have individual process flow diagrams for treatment; from these diagrams, each process should have an associated code. If you struggle to understand the different treatment codes below, please contact the Division's Engineering Section for assistance.

DISINFECTION

401	Gaseous Chlorination (Primary or Post filtration)
403	Gaseous Chlorination, Pre filtration
421	Hypochlorination, Bleach, (Primary or Post filtration)
423	Hypochlorination, Bleach, Pre filtration
200	Ammonia (Chloramines)
220	Chlorine Dioxide
885	Chlorination – Calcium Hypochlorite (HTH)
887	Chlorination – Manual/Hand
825	Contact Time
541	Ozonation, Post filtration
543	Ozonation, Pre filtration
720	Ultraviolet Radiation

PRETREATMENT, COAGULATION AND SEDIMENTATION

520	Microscreening
840	Presedimentation
820	Aeration
240	Coagulation
600	Rapid Mix – mechanical mixing
830	In line static mixing
831	Hydraulic jet mixing
125	Activated Carbon, Powdered
560	Permanganate, Potassium or Sodium
360	Flocculation
880	Dissolved Air Flotation (DAF)
845	Upflow Clarifier
660	Sedimentation

FILTRATION

345	Filtration, Granular Media
344	Filtration, Pressure Sand
343	Filtration, Greensand
801	Filtration, Bag
810	Filtration, Bag - Roughing
341	Filtration, Cartridge
865	Filtration, Cartridge - Roughing
895	Filtration, Microfiltration (MF)
347	Filtration, Ultrafiltration
890	Filtration, Nanofiltration
640	Filtration, Reverse Osmosis
121	Filtration, Granular Activated Carbon
826	Natural or Riverbank Filtration (GWUDI)
835	Cation Exchange
836	Anion Exchange

OTHER FORMS OF TREATMENT

100	Activated Alumina
160	Algae Control
380	Fluoridation
815	Inhibitor/Sequestering Agent, Phosphate based
449	Inhibitor, Silicate based
847	pH Adjustment - suppression
848	pH Adjustment - elevation
580	Peroxide
620	Reducing Agent
700	Sludge Treatment

Treatment Objective Codes

D	Disinfection
P	Particulate Removal
F	Iron Removal
M	Manganese Removal
I	Inorganic Chemicals Removal
O	Organic Chemicals Removal
R	Radionuclide Removal
T	Taste / Odor Control
S	Softening (Hardness Removal)
C	Corrosion Control
B	Disinfection Byproduct Control
E	Dechlorination
A	pH Adjustment

Water Treatment Details

Inventory of treatment plants completed by _ Rachel C. Barkworth, MMWSC Board Member

Signature _____ RCBarkworth _____ Date ____0930/2020_____
Revision? ☒ Actual date of changes described in this revision __09/30/2020_____

Treatment Plant Name and ID **(ID assigned by Department)**	Meadow Mountain Water Supply Company PWSID No. CO0207504
Contributing Sources	Willow Creek, South Fox Creek

Rated Capacity **Million Gallons per Day (MGD)**	**Availability (P, E, I, S or O)** **If seasonal, include months anticipated to be in operation**	**Latitude***	**Longitude***
0.05 MGD	Permanent	40N, 11', 35.0838"	105W, 32' 30.1122"

Treatment Codes (from previous page) List in Order of Flow **(including descriptions of tanks used for disinfection contact time)**	**Treatment Objective and Objective Codes (from previous page)**
345 Filtration, Granular Media—Gravel Infiltration Galleries at Intake	P-Particulate Removal
801 Filtration, Bag—Pre-Filters, 1 micron pore size equivalency	P – Particulate Removal
347 – Filtration, Ultrafiltration	P – Particulate Removal
421 Hypochlorination, Bleach, (Primary)—Post-Filtration	D - Disinfection
848 - pH Adjustment - elevation	C – Corrosion Control

*Latitude and longitude data collection method ☐ GPS ☐ Map ☒ Google Earth ☐Other Date _____

Distribution System Definitions

Entry point – A sampling point after complete water treatment (after disinfection contact time) but before the first consumption tap. A water system may have multiple entry points, especially if it has multiple treatment plants. A water system may have multiple treatment plants but only one entry point if, for example, those treatment plants blend in a storage tank for disinfection contact time before distribution (in this example, a sampling point at the storage tank is the entry point).

Distribution system storage facility – Any finished water storage tank at the treatment plant or in the distribution system that is not considered part of disinfection contact time.

Booster treatment facilities – Any chemical booster stations after the treatment plant (such as disinfection or corrosion control chemical booster stations in the distribution system).

Consecutive connection – A master meter connection from your water system to another water system for purposes of supplying drinking water to the other system.

Integration agreement - An agreement between two or more public water systems, one of which is a wholesale/supply system, whose distribution systems are physically connected. The systems agree to operate using a common set of standards that the wholesale system establishes for the purpose of maintaining and protecting drinking water quality. Integrated systems must submit their agreement to the Department for approval.

Pump station – A facility used to pump water or increase water pressure. Pump stations are not used for chemical additions or other treatment and do not need to be reported on this form.

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Distribution System Details

Inventory of distribution system completed by _Rachel C. Barkworth, MMWSC Board Member
_____

Signature _____ RCBarkworth _____ Date ____09/30/2020_____
Revision? ☐ Actual date of changes described in this revision _____

Number of Distribution Systems

Does the water system have multiple distribution systems? ☒ No ☐ Yes; How many? _____
If yes, how are the distribution systems operated? (i.e. are they completely independent of each other or does water flow from one to another through operator-controlled valves, etc.) _____
_____
_____

Entry Points

ID (assigned by Department)	Location Description and Contributing Treatment Plants (or Sources)	Latitude*	Longitude*
001	Meadow Mountain Water Supply Company Drinking Water Treatment Facility	40N, 11' 35.0838"	105W 32' 30.1122"

*Latitude and longitude data collection method ☐ GPS ☐ Map ☒ Google Earth ☐Other Date _____

Storage Facilities & Other Finished Water Reservoirs

ID (assigned by Department)	Storage Facility Name	Contributing Treatment Plants (or Sources)	Volume (gallons)	Latitude*	Longitude*
	Meadow Mountain Water Supply Company Drinking Water Treatment Facility Water Holding Station (Lot #54, 518 Meadow Mountain Drive, Allenspark, Colorado)	Meadow Mountain Water Supply Company Drinking Water Treatment Facility (CO0207504)	640 (Eight 80 gallon pressure tanks)	40N, 11' 25.407"	105W, 32' 30.3432"

*Latitude and longitude data collection method ☐ GPS ☐ Map ☒ Google Earth ☐Other Date _____

Booster Treatment Facilities (Post Entry-Point Treatment)

ID (assigned by Department)	Facility Name	Treatment Codes (Refer to water treatment definitions)	Latitude*	Longitude*

*Latitude and longitude data collection method ☐ GPS ☐ Map ☐ Google Earth ☐Other Date _____

Consecutive Connections Serving Another Water System

Receiving PWSID	Receiving System Name	Do you supply treated or raw water?	Connection Latitude*	Connection Longitude*	Integrated Agreement? Yes / No

*Latitude and longitude data collection method ☐ GPS ☐ Map ☐ Google Earth ☐Other Date _____

Expand tables or add pages as needed for additional facilities and connections

Additional Information

Include any additional information that would be helpful to understand

- the water source(s) and how the sources are operated within your overall production scheme;
- the treatment plants or processes; or
- the distribution system.

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Records Locations

These records must be made available for inspection for Department staff during site visits.

Type of Record	Location Address	Retain no less than…
Total Coliform and Fecal Coliform/*E. coli* results AND distribution system residual disinfection monitoring results	287 S Skinner Road, Allenspark, CO, 80510	5 years
Chemical analyses results	Same as Above	10 years
Violations of the *Colorado Primary Drinking Water Regulations*, including corrective action	Same as Above	3 years after corrective action is completed
Sanitary surveys, including any written reports, summaries or correspondences	Same as Above	10 years
Variances or exemptions granted by the Department	Same as Above	5 years after expiration
Public notices and consumer confidence reports, including certification	Same as Above	3 years
Individual rule sampling plans	Same as Above	10 years
Individual filter turbidity monitoring results AND entry point residual disinfection monitoring results	Same as Above	3 years
Disinfection profiling results, including raw data and analysis	Same as Above	Indefinitely
Disinfection benchmark, including raw data and analysis	Same as Above	Indefinitely
Recycle flows information • Copy of original recycle notification and information submitted to Department • List of all recycle flows and frequency with which they are returned • Average and maximum backwash flow rate • Average and maximum backwash duration • Typical filter run length and how it is determined • Treatment provided for the recycle flow (including chemicals and doses) • Physical dimensions of the equalization/treatment units • Typical and maximum hydraulic loading rates • Frequency of solids removal	Same as Above	Indefinitely
Source water monitoring for Long Term 2 Surface Water Treatment Rule	Same as Above	3 years after bin classification

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Type of Record	Location Address	Retain no less than…
Notification to the Department that system meets criteria to avoid source water monitoring for Long Term 2 Surface Water Treatment Rule	Same as Above	3 years
Treatment monitoring associated with microbial toolbox options for Long Term 2 Surface Water Treatment Rule	Same as Above	3 years
Initial distribution system evaluation (IDSE) report submitted for the Stage 2 Disinfectants and Disinfection Byproducts Rule	Same as Above	10 years after report submitted
Corrective actions taken for the Groundwater Rule	NA	10 years
Invalidation of fecal indicator-positive groundwater source samples for the Groundwater Rule	NA	5 years
For consecutive systems, documentation of notification to the wholesale system(s) of total coliform-positive samples	NA	5 years
For systems conducting compliance monitoring for the Groundwater Rule • Department-specified minimum disinfectant residual	NA	10 years
For systems conducting compliance monitoring for the Groundwater Rule • Lowest daily disinfectant residual, date and any failure to maintain the Department-specified minimum disinfectant residual for a period of more than 4 hours • Department-specified compliance requirements for membrane filtration, date and duration of any failure to meet those requirements for more than 4 hours	NA	5 years

Schematics and Maps

Sketch of Water Sources

Include a schematic, diagram or sketch depicting how the flow from each source is connected to the treatment plant and/or the distribution system. Indicate all applicable sample sites described in the individual rule sampling plans.

Process Schematic of Water Treatment Plants

Provide a process flow diagram for each treatment plant. Include locations (in the process) of all chemical additions, chemical storage, monitors/meters, piping and physical components of the treatment plant. Designate water flow direction throughout the schematic. All components must be clearly labeled. Indicate all applicable sample sites, and include parameters measured at each site described in the individual rule sampling plans.

Map of Distribution System

Provide a map of the distribution system showing locations of all storage facilities, booster treatment facilities, consecutive connections and entry points as well as all applicable sample sites described in the individual rule sampling plans. You may provide this detail all in one map or in several different maps. Clearly indicate if there are multiple distribution systems and if those distribution systems are connected to each other. If applicable, include an evaluation and description of the extent to which zones of influence from each source overlap.

INDIVIDUAL RULE SAMPLING PLANS

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Total Coliform Rule and Residual Disinfectant

The Total Coliform Rule may be found in 5 CCR 1003-1, Article 5.
Residual disinfectant requirements may be found in 5 CCR 1003-1, Articles 7 and 13.

I, _Rachel C. Barkworth_____ have reviewed this Total Coliform Rule and Residual Disinfectant sampling plan, and that the provided information is true and correct to the best of my knowledge.

Signature _____ RCBarkworth _____ Date ___04/30/19_____
Revision? ☒

Laboratory Information

Preferred lab: _ Larimer County Health Department _____

Address: _1601 Brodie Avenue, Estes Park, Colorado 80517 _____

Phone: __(970) 577-2050 _____

Secondary lab: _Colorado Analytical _____

Address: __P.O. Box 507, Brighton, CO 80601_____

Phone: ___(303) 659-2313_____\

Secondary lab: _____

Address: _____

Phone: _____\

Secondary lab: _Boulder County Health Department _____

Address: 5605 North 63rd Street, Boulder, Colorado 80301_____

Phone: __(303) 413-7426 _____

Secondary lab: _CDPHE Lowry Labs _____

Address: 8200 Lowry Boulevard, Aurora, Colorado 80230 _____

Phone: __(303) 692-3488 _____

Routine Monitoring Requirement

Number of routine total coliform samples required: _____1_____ **per month**

Total Coliform Sample Sites

Identify each routine sample site with its respective upstream and downstream repeat sample sites (within five service connections)

	Site Location Identifier (if used on map)	Site Name	Site Address
RTOR - Routine #1	Bleed Valve #1	MORRIS	Refer to Distribution and Collection System Map.
Repeat # 1 Upstream	Lot #13	Azari Residence	223 Dale Drive, Allenspark, Colorado 80510
Repeat #1 Downstream	Lot #10	Morris Residence	416 Dale Drive, Allenspark, Colorado 80510
RTOR - Routine #2	Bleed Valve #2	NEWTON	Refer to Distribution and Collection System Map.
Repeat # 2 Upstream	Lot #6	Novic Residence	512 Dale Drive, Allenspark, Colorado 80510
Repeat #2 Downstream	Lot #9	Newton Residence	472 Dale Drive, Allenspark, Colorado 80510
RTOR - Routine #3	Bleed Valve #3	RUCH	Refer to Distribution and Collection System Map.
Repeat # 3 Upstream	Lot #4	Pierce Residence	328 Dale Drive, Allenspark, Colorado 80510
Repeat #3 Downstream	Lot #7	Warren Residence	494 North Skinner Road, Allenspark, Colorado 80510
RTOR - Routine #4	Bleed Valve #4	KESSON	Refer to Distribution and Collection System Map.
Repeat # 4 Upstream	Lot #51	Kesson Residence	845 South Skinner Road, Allenspark, Colorado 80510
Repeat #4 Downstream	Lot #50	Ross Residence	911 South Skinner Road, Allenspark, Colorado 80510

Sample site distribution and rotation: The routine samples must represent the entire distribution system and should be rotated to different locations within the system if possible. This method allows for coverage of the distribution system without increasing the need for additional samples. Explain sample site rotation method representing the entire distribution system below:

Routine samples are taken at four different bleed valves in the finished water distribution system. The sampling schedule is conducted as follows:

January, May, September - Bleed valve #1
February, June, October - Bleed Valve #2
March, July, November - Bleed Valve #3
April, August, December - Bleed Valve #4

Sample site schedule: A public water system must collect samples at regular time intervals throughout the month. It is recommended that samples be taken early in the week and early in the month, so if repeat samples are needed, they can be taken before the end of the week or month. Explain sample schedule below: _Samples are collected at the beginning of the month, so that repeat samples can be taken if need be.

Repeat Monitoring

A system that collects one routine sample per month or fewer must collect no fewer than four repeat samples for each total coliform-positive sample found. A system required to collect more than one routine sample per month must collect no fewer than three repeat samples for each total coliform-positive sample found.

Number of repeat samples required per positive routine sample: ☐ Three or ☒ Four

- All repeat samples must be taken within 24 hours of notification of a positive routine sample;
- One repeat sample is required to be taken from the same tap as the original sample;
- Two repeat samples must be taken within five taps of the original, one upstream and one downstream;
- If a fourth sample is required, it may be taken anywhere in the distribution system that may help identify a potential problem. If a fourth repeat sample is required, describe the sampling location. If that location is not specifically designated, explain how that location will be chosen: __MMWSC has designated four (4) repeat sampling residences both upstream and downstream of each designated sampling location. These residences are located within five (5) service connections of the bleed valve sampling location. _Any one of these locations may be used for repeat sampling. _____
- Repeat sample process must be repeated until either:
  (1) a complete set of repeat samples are total coliform negative, or
  (2) the system has exceeded the MCL for total coliform and notifies the state.

Note: For systems using a groundwater source and serving 1,000 people or fewer, the fourth repeat total coliform sample may be used to satisfy the Groundwater Rule triggered source water monitoring requirements if the sample is from the source, prior to disinfection and *E. coli* is the fecal indicator used. See the Groundwater Rule section for details.

Non-Acute MCL Compliance Determination

The total coliform MCL is exceeded for this system if there are

- ☒ More than 1 positive sample in a calendar month
- ☐ More than 5% positive samples in a calendar month (only applies to systems collecting 40 or more samples per month)

A public water system that has exceeded the MCL for total coliform must report the violation to the Department within 24 hours.

Fecal Coliform or *E. coli* Testing and Acute MCL Compliance Determination

- Any positive total coliform sample will be analyzed for fecal coliform or *E. coli*.
- If fecal coliform or *E. coli* are present, the system must notify the Department within 24 hours.
- If fecal coliform or *E. coli* are present, this may represent an acute violation of the MCL for total coliform, and may represent an acute risk to public health.
- Public notification may be required within 24 hours.

Any fecal coliform or *E. coli*-positive repeat sample or any total coliform-positive repeat sample following a fecal coliform or *E. coli*-positive routine sample constitutes an acute violation of the MCL for total coliform. All acute violations or situations require immediate consultation with the Division.

For Acute Total Coliform Rule Violations
Contact the Colorado Department of Public Health and Environment
Phone Number 303-692-3308 or 303-692-3541
Or After-Hours Incident Reporting: 1-877-518-5608

Routine Monitoring After a Positive Sample

If a system collecting fewer than five routine samples per month has one or more total coliform-positive samples, it must collect at least five routine samples during the next month the system provides water to the public. Number of routine samples required in the month following a total coliform positive:

☒ Five or ☐ Return to routine monitoring requirement

Investigation of Total Coliform-Positive Samples

After repeat samples are taken, the system must investigate the cause of the positive sample. The results of the investigation must be available at the time repeat sample results are available. The investigation results may be used by the Department in the event that the system has an acute maximum contaminant level violation.

A template for this investigation may be found at
http://www.cdphe.state.co.us/wq/drinkingwater/PublicWaterSystemReportingForms.html

Residual Disinfectant Monitoring in the Distribution System

- The residual disinfectant must be measured at the same time and the same location as each total coliform bacteria sample
- These measurements must be conducted in the field by a certified operator (or under the direction of the certified operator)
- Residual disinfectant measurements must be written on each total coliform sample slip when it is submitted to the laboratory
- Systems must maintain a detectable residual in all locations in the distribution system. Detectable is considered at or above the detection limit of the field test kit method.

Disinfectant used in the distribution system:

☒ chlorine (residual must be measured as free chlorine)
☐ chloramines [residual must be measured as total chlorine (or combined chlorine with Department approval)]

Residual disinfectant quality assurance/quality control (QA/QC) – explain the exact procedures to be followed to ensure that the field test measurement will be accurate. This may be found in the manufacturer's literature.
The plant operator collects monthly samples in the same locations as the coliform samples. The water is sent for analysis.

If the system measures residual disinfectant at other sites in addition to the required total coliform sampling sites, designate those sites in the table below.

Additional Residual Disinfectant Sampling Sites in Distribution System

Site ID (if used on map)	Sample Site Name	Address
	N/A	

Expand table or add pages as needed for additional sample sites

Explain the frequency of the additional residual disinfectant monitoring.
N/A

Residual Disinfectant Treatment Technique Compliance Determination

The system is required to maintain a detectable residual disinfectant level in the distribution system. If the system fails to have a detectable residual in more than 5 percent of samples per month, for two consecutive months, the system is in violation of the treatment technique.

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Inorganics, Organics and Radionuclide Rules

The Chemical Contaminants [Inorganic Chemicals (IOCs), Volatile Organic Chemicals (VOCs) and Synthetic Organic Chemicals (SOCs)] Rules and the Radionuclide Rule may be found in 5 CCR 1003-1 Article 6.

I, _Rachel C. Barkworth_____ have reviewed this Inorganic Chemicals, Organic Chemicals and Radionuclides Rules sampling plan, and that the provided information is true and correct to the best of my knowledge.

Signature _____ RCBarkworth _____ Date ___09/30/2020____ Revision? ☒

Laboratory Information

Inorganic chemicals lab: Colorado Analytical

Address: __P.O. Box 507, Brighton, CO 80601_____

Phone: (303)-659-2313_____

Volatile organic compounds lab: _ Colorado Analytical_____

Address: _P.O. Box 507, Brighton, CO 80601_____

Phone: __ (303)-659-2313_____

Synthetic organic chemicals lab: Colorado Analytical Laboratory_____

Address: 240 South Main Street, Brighton, Colorado 80601_____

Phone: (303) 659-2313_____

Radionuclide lab: __ALS Global_____

Address: __225 Commerce Drive, Fort Collins, Colorado 80524_____

Phone: __(800) 443-1511_____

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Initial, Routine and Reduced Monitoring Requirements

List of inorganic chemicals (IOC) Group:

Antimony	Cadmium	Nitrate
Arsenic	Chromium	Nitrite
Asbestos	Cyanide (as free cyanide)	Selenium
Barium	Fluoride	Thallium
Beryllium	Mercury	

Entry Point ID (IDs assigned by Department)	IOC Sampling Frequency	Fluoride Sampling Frequency	Nitrate Sampling Frequency	Nitrite Sampling Frequency	Monitoring Waivers
001	☐ Quarterly ☐ Yearly ☒ Every 9 Years This frequency is: ☐ Increased/Initial ☐ Reduced ☒ Routine	☐ Quarterly ☐ Yearly ☒ Every 9 Years This frequency is: ☐ Increased/Initial ☐ Reduced ☒ Routine	☐ Quarterly ☐ Monthly ☒ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☒ Routine	☐ Quarterly ☐ Yearly ☒ Every 9 Years This frequency is: ☐ Increased/Initial ☐ Reduced ☒ Routine	Asbestos Cyanide
_____	☐ Quarterly ☐ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Monthly ☐ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly ☐ Every 9 Years This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	Asbestos Cyanide
_____	☐ Quarterly ☐ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Monthly ☐ Yearly This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly ☐ Every 9 Years This frequency is: ☐ Increased/Initial ☐ Reduced ☐ Routine	Asbestos Cyanide

Expand table or add pages as needed for additional entry points

The Department may reduce the total number of samples that must be analyzed by allowing the use of compositing. Composite samples from a maximum of five sampling points may be allowed. Compositing of all samples must be done in the laboratory. Prior to using compositing, systems should consult with the Department regarding sample dates, locations and the lab to be used.

List any samples that are composited: _N/A_____

List entry points to be included in the composite sample:_____

List of organic chemicals:

- Volatile Organic Chemicals (VOC) Group:

1,1- dichloroethylene	o-dichlorobenzene	Monochlorobenzene
1,1,1- trichloroethane	para-dichlorobenzene	Styrene
1,1,2- trichloroethane	trans-1,2 dichloroethylene	Tetrachloroethylene
1,2-dichloroethane	Benzene	Trichloroethylene
1,2-dichloropropane	Dichloromethane	Toluene
1,2,4-trichlorobenzene	Carbon tetrachloride	Xylenes (total)
cis-1,2 dichloroethylene	Ethylbenzene	

- Synthetic Organic Chemicals (SOC) Group:

Alachlor	Heptachlor epoxide	Dinoseb
Aldicarb	Lindane	Diquat
Aldicarb sulfoxide	Methoxchlor	Endothall
Aldicarb sulfone	Polychlorinated byphenyls	Endrin
Atrazine	Pentachlorophenol	Glyphosate
Carbofuran	Toxaphene	Hexachlorobenzene
Chlordane	2,4,5-TO (Silvex)	Hexachlorocyclopentadiene
Dibromochloropropane	Benzo[a]pyrene	Oxamyl (Vyndate)
2,4-D	Dalapon	Picloram
Ethylene dibromide	di(2-ethylhexyl)adipate	Simazine
Heptachlor	di(2-ethylhexly)phthalate	2,3,7,8-TCCD (Dioxin)

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Entry Point ID (IDs assigned by Department)	**VOC Sampling Frequency**	**SOC Sampling Frequency**	**Monitoring Waivers**
001	☐ Quarterly ☒ Yearly This frequency is ☐ Increased/Initial ☐ Reduced ☒ Routine	☐ Quarterly (List chemicals)_____ _____ _____ ☒ 1 Every 3 Years ☐ 2 Quarterly per 3 Years (>3,300 population) This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	Dioxin Aldicarbs (under Department administrative stay)
_____	☐ Quarterly ☐ Yearly This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly (List chemicals)_____ _____ _____ ☐ 1 Every 3 Years ☐ 2 Quarterly per 3 Years (>3,300 population) This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	Dioxin Aldicarbs (under Department administrative stay)
_____	☐ Quarterly ☐ Yearly This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly (List chemicals)_____ _____ _____ ☐ 1 Every 3 Years ☐ 2 Quarterly per 3 Years (>3,300 population) This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	Dioxin Aldicarbs (under Department administrative stay)

Expand table or add pages as needed for additional entry points

The Department may reduce the total number of samples that must be analyzed by allowing the use of compositing. Composite samples from a maximum of five sampling points may be allowed. Compositing of all samples must be done in the laboratory. Prior to using compositing, systems should consult with the Department regarding sample dates, locations and the lab to be used.

List any samples that are composited N/A

List entry points to be included in the composite sample _____

System Name *Meadow Mountain Water Supply Company* *PWSID#* *CO0207504*

List of radionuclide contaminants:

Combined radium-226 and radium-228 Gross alpha particle activity Uranium

Entry Point ID **(IDs assigned by Department)**	**Combined radium-226 and radium-228**	**Gross alpha particle activity**	**Uranium**
____001____	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☒ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☒ Routine	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☒ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☒ Routine	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☒ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☒ Routine
_____________	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☐ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☐ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☐ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine
_____________	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☐ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☐ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine	☐ Quarterly ☐ Yearly ☐ Every 3 Years ☐ Every 6 Years ☐ Every 9 Years This frequency is ☐ Increased/Initial ☐ Reduced ☐ Routine

The Department may reduce the total number of samples that must be analyzed by allowing the use of compositing. Composite samples from a maximum of five sampling points may be allowed. Compositing of all samples must be done in the laboratory. Prior to using compositing, systems should consult with the Department regarding sample dates, locations and the lab to be used.

List any samples that are composited __N/A____

List monitoring periods to be included in the composite sample ____________________________________

Increased Monitoring Requirement

Inorganic chemicals
For new sources, the Department requires four (4) consecutive quarters of IOC sampling. Sampling must be done at the entry point associated with the new source.

If any chemical in the IOC group is above the MCL, a confirmation sample is required within two (2) weeks. If the average of the two samples is still above the MCL, the system will begin quarterly monitoring for that chemical beginning the next calendar quarter. Quarterly sampling is required at the entry point where the sample result was above the MCL.

If a nitrate or nitrite sample is above half the MCL the system will begin quarterly monitoring for that chemical beginning the next calendar quarter. Quarterly sampling is required at the entry point where the sample result was above half the MCL.

Special 24-hour confirmation sampling for nitrate and nitrite
If a sample is greater than the MCL a confirmation sample is required at that entry point within 24 hours of receiving notification of the result. Systems unable to collect the confirmation sample within 24 hours must issue a public notice within 24 hours and collect the confirmation sample within two (2) weeks. The system must immediately consult with the Department regarding the public notice.

Organic chemicals
For new sources, the Department requires four (4) consecutive quarters of organics sampling. Sampling must be done at the entry point associated with the new source.

If any chemical in the SOC group is above the regulatory detection limit, the system will begin quarterly monitoring for that chemical beginning the next calendar quarter. Quarterly sampling is required at the entry point where the sample result was above the detection limit.

If any chemical in the VOC group is above the regulatory detection limit, the system will begin quarterly monitoring for all VOCs beginning the next calendar quarter. Quarterly sampling is required at the entry point where the sample result was above the detection limit.

Radionuclides
For new sources, the Department requires four (4) consecutive quarters of radionuclide sampling. Sampling must be done at the entry point associated with the new source.

If any radionuclide is above the MCL, the system will begin quarterly monitoring for that radionuclide beginning the next calendar quarter. Quarterly sampling is required at the entry point where the sample result was above the MCL.

Note: Gross alpha particle activity results are reported along with uranium concentrations. Therefore, the gross alpha particle activity result should be calculated by subtracting the uranium concentration from the total result.

MCL Compliance Determination

Inorganic chemicals, organic chemicals and radionuclides
Compliance is determined at each entry point for each individual chemical/radionuclide based on a running annual average. Each entry point is evaluated independently for each chemical/radionuclide.

Note: Gross alpha particle activity results are reported along with uranium concentrations. Therefore, gross alpha particle activity should be calculated by subtracting the uranium concentration from the total result.

Nitrate and nitrite
Compliance is based on an average of the original sample and the confirmation sample unless a confirmation sample is not taken within the required timeframe, then it is based on the original sample. All nitrite and nitrite violations require immediate consultation with the Division.

For Nitrate or Nitrite MCL Violations
Contact the Colorado Department of Public Health and Environment
Phone Number 303-692-3541
Or After-Hours Incident Reporting: 1-877-518-5608

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Surface Water Treatment Rules

The Surface Water Treatment Rules may be found in 5 CCR 1003-1, Article 7.

I, ___Rachel C. Barkworth____ have reviewed this Surface Water Treatment Rules sampling plan, and that the provided information is true and correct to the best of my knowledge.

Signature _____*R C Barkworth*_____ Date ____04/30/19___ Revision? ☒

Laboratory Information

Microscopic Particulate Analysis (MPA) lab (if required): _____

Address: _____

Phone: _____

Routine Monitoring Requirement

Turbidity

Turbidity must be monitored as close to the filter as possible but before disinfection contact time. Systems must monitor at least every 4 hours, except systems serving 500 or fewer people may monitor once per day.

Treatment Plant Name and ID (IDs assigned by Department)	Treatment Technique Requirement	Combined Filter Effluent Sampling Requirement	Individual Filter Effluent Monitoring
001	95% limit 1.0 NTU Maximum _____ NTU	Number of samples 1 per day ☐ in-line ☐ bench-top sampling	☐ Yes ☐ No
	95% limit _____ NTU Maximum _____ NTU	Number of samples _____ per day ☐ in-line ☐ bench-top sampling	☐ Yes ☐ No
	95% limit _____ NTU Maximum _____ NTU	Number of samples _____ per day ☐ in-line ☐ bench-top sampling	☐ Yes ☐ No

Describe the system's plan for turbidity monitoring that deviates from this plan due to operational issues (such as filter backwash cycles, start-ups/shut-downs, or filter to waste).

_____

_____

_____

Turbidity quality assurance/quality control (QA/QC) – explain the exact procedures to be followed to ensure that the test result will be accurate. _No longer required per CDPHE._____

Entry point residual disinfectant

Treatment technique requirement: maintain a minimum disinfectant residual of 0.2 mg/L at the entry point unless the Department requires a higher minimum to meet log inactivation requirements. Residual disinfectant must be monitored after contact time but before the first consumption tap.

Treatment Plant Name and ID (IDs assigned by Department)	**Minimum Residual Disinfectant**	**Residual Disinfectant Sampling Requirement**
001	0.2 mg/L at entry point	Number of samples 1 per day ☒ in-line ☒ bench-top sampling
	_____ mg/L at entry point	Number of samples _____ per day ☐ in-line ☐ bench-top sampling
	_____ mg/L at entry point	Number of samples _____ per day ☐ in-line ☐ bench-top sampling

Residual disinfectant quality assurance/quality control (QA/QC) – explain the exact procedures to be followed to ensure that the test result will be accurate. Entry point residual disinfectant is measured daily with inline Chlorine Analyser testing. The finished water is pulled from the clearwell and tested for residual disinfectant concentrations.

Microscopic particulate analysis (MPA)

The Department may require an MPA on raw and finished water (at the combined filter effluent monitoring location) to demonstrate filter performance. If yearly monitoring is required, the MPA must be collected in the assigned calendar quarter. The Department will rotate the required calendar quarter each year.

Treatment Plant Name and ID (IDs assigned by Department)	**MPA Sampling Requirement (if required)**
002	☐ Yearly (assigned quarter) ☐ Every Three Years (April – June) ☐ Every Six Years (April – June)
003	☐ Yearly (assigned quarter) ☐ Every Three Years (April – June) ☐ Every Six Years (April – June)
001	☐ Yearly (assigned quarter) ☐ Every Three Years (April – June) ☐ Every Six Years (April – June)

CDPHE has recently indicated that MPA testing is no longer required for this water system, per letter sent.

Long Term 2 source water monitoring

Systems are required to conduct periodic *E. coli* or *Cryptosporidium* source water monitoring to assess treatment adequacy. The first rounds of monitoring began between October 1, 2006, and October 1, 2008, depending on a system's schedule. The second rounds of monitoring will begin between April 1, 2015, and October 1, 2019. New sources subject to this requirement should begin each round of monitoring on a Department approved schedule. Each system must complete a unique source water sampling plan in consultation with the Department for each round of sampling.

Long Term 2 Bin Classification (if applicable) N/A

Based on the results of the Long Term 2 source water monitoring, the system may be required to install additional treatment. The Department will specify monitoring requirements to demonstrate proper operation of additional treatment. Describe the monitoring requirements. _____

_____

_____

Increased Monitoring Requirement

Combined filter effluent turbidity, individual filter effluent turbidity and microscopic particulate analysis (MPA)
There is no increased monitoring requirement.

Entry point residual disinfectant
Systems conducting desk-top monitoring less frequently than every 4 hours must begin collecting samples at least every 4 hours if the entry point residual disinfectant drops below 0.2 mg/L. The system must continue this monitoring until the residual is above 0.2 mg/L.

Long Term 2 source water monitoring
There is no increased monitoring requirement for Long Term 2 source water monitoring. However, the Department will specify any increased monitoring requirements to demonstrate proper operation of additional treatment.

Treatment Technique (TT) Compliance Determination

Compliance with the treatment technique is determined monthly. Any month when the system does not meet the treatment technique requirements, the system is in violation of the treatment technique.

Acute treatment technique violations occur when the combined filter effluent is 5 NTU or more. An acute treatment technique violation may occur when the entry point residual disinfectant is not maintained for a period of time. All acute violations or situations require immediate consultation with the Division.

For Acute Surface Water Treatment Rule Violations
Contact the Colorado Department of Public Health and Environment
Phone Number 303-692-3541
Or After-Hours Incident Reporting: 1-877-518-5608

Disinfectants and Disinfection Byproducts Rule

The Disinfectants and Disinfection Byproducts Rule may be found in 5 CCR 1003-1, Article 7.

I, __Rachel C. Barkworth_____ have reviewed this Disinfectants and Disinfection Byproducts Rule sampling plan, and that the provided information is true and correct to the best of my knowledge.

Signature ___ RCBarkworth _____ Date __09/30/2020_____ Revision? ☒

Laboratory Information

Haloacetic acids lab: ___Colorado Analytical_____

Address: P.O. Box 507, Brighton, CO, 80601_____

Phone: (303)-659-2313_____

Total trihalomethanes lab: ____Colorado Analytical_____

Address: P.O. Box 507, Brighton, CO, 80601 _____

Phone: (303)-659-2313_____

DISINFECTANTS

Routine and Reduced Monitoring Requirement

Chlorine and/or chloramines

Monitoring requirements are described in other sampling plans –

- The residual disinfectant must be measured at the same time and the same location as each total coliform bacteria sample. See the Total Coliform and Residual Disinfectant sampling plan.
- Systems that filter surface water (or groundwater under the direct influence of surface water) must also measure the residual disinfectant at the entry point. See the Surface Water Treatment Rules sampling plan.
- Systems conducting compliance monitoring under the Groundwater Rule may be required to measure residual disinfectant at the entry point. See the Groundwater Rule sampling plan.

Chlorine dioxide

If chlorine dioxide is used for any purpose, it must be monitored **daily** at each entry point
List entry point IDs (assigned by Department) to be sampled __N/A_____

Increased Monitoring Requirement

Chlorine and/or chloramines

Monitoring may be increased due to repeat/increased monitoring under the Total Coliform Rule and/or the Surface Water Treatment Rule.

Chlorine dioxide

If any daily sample exceeds the MRDL, the system must take a 3-sample set in the distribution system the next day in addition to the sample required at the entry point. The location and frequency of the samples depends on the type of disinfectant dosing in the distribution system as shown in the following table.

Only complete one of the following tables.

Chlorine Dioxide Sampling Sites in the Distribution System
For systems using chlorine in the distribution system with at least one chlorine booster station

Site ID (if used on map)	Sample Site Name/Address	Location Type
		Near the First Customer
		Average Residence Time
		Maximum Residence Time

OR

Chlorine Dioxide Sampling Sites in the Distribution System
For all other systems

Site ID (if used on map)	Sample Site Name/Address	Location Type	Frequency
		Near the First Customer	At least 6 hours between samples. (three samples total)

Chlorine dioxide quality assurance/quality control (QA/QC) – explain the exact procedures to be followed to ensure that the test result will be accurate. This may be found in the test kit manufacturer's literature. _____
_____
_____

MRDL Compliance Determination

Chlorine and/or chloramines MRDL
Compliance is based on a running annual average of distribution system monitoring, computed quarterly. If the average is above the MRDL, the system is in violation of the MRDL. To protect public health, systems are allowed to temporarily increase residual disinfectant beyond the MRDL to address a specific microbiological contamination event.

Non-acute chlorine dioxide MRDL
Compliance is based on consecutive daily samples at the entry point. If any two daily samples are above the MRDL, but all distribution system samples are at or below the MRDL, this is considered a non-acute MRDL violation. Failure to monitor at the *entry point* the day after an entry point sample exceeds the MRDL is also considered a non-acute MRDL violation

Acute chlorine dioxide MRDL
Compliance is based on the daily sample at the entry point and the distribution system monitoring on the next day. If a daily sample at the entry point is above the MRDL and on the following day at least one sample in the distribution system is also above the MRDL, this is considered an acute MRDL violation. Failure to monitor in the *distribution system* the day after an entry point sample exceeds the MRDL is also considered an acute MRDL violation. Public notification will be required within 24-hours.

For Acute Chlorine Dioxide MRDL Violations
Contact the Colorado Department of Public Health and Environment
Phone Number 303-692-3541
Or After-Hours Incident Reporting: 1-877-518-5608

DISINFECTION BYPRODUCTS

Routine and Reduced Monitoring Requirement

STAGE 1 total trihalomethanes (TTHM) and haloacetic acids (HAA5)
TTHM and HAA5 must be monitored in the distribution system.

Number of samples required: ___1_____

Monitoring frequency required: ☐ Quarterly, ☒ Yearly (in August) or ☐ Every Three Years (in August)

This frequency is ☐ Reduced or ☒ Routine

Has the Department approved the system to reduce sampling locations based on multiple wells in the same aquifer? ☐ Yes ☒ No

If the system collects more than the minimum required samples, explain how the extra sampling will be scheduled and located to represent system conditions. Explain how this data will be used for compliance.
_____
_____

Explain if sampling will be modified for seasonal treatment plants/sources. _____
_____
_____

If system uses surface water (or groundwater under the direct influence of surface water) and has been granted a reduced frequency, raw water total organic (TOC) must also be conducted **quarterly** from each SW/GU source.
List SW/GU sources on quarterly TOC monitoring _N/A_____

STAGE 1 TTHM and HAA5 Sampling Sites

Site ID (if used on map)	**Sample Site Name/Address**	**Does this site represent maximum residence time or average residence time?**
	472 Dale Drive, Allenspark, Colorado 80510	Maximum

Expand table or add pages as needed for additional sampling sites

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

STAGE 2 total trihalomethanes (TTHM) and haloacetic acids (HAA5)
The system will stop conducting Stage 1 monitoring and begin Stage 2 compliance monitoring in (month/year) ___After January 2014_____

If the system was required to complete an Initial Distribution System Evaluation (IDSE) Report, monitoring must be conducted per the recommendations of the IDSE Report.

TTHM and HAA5 must be monitored in month of highest disinfection byproduct formation.
Calendar month of highest disinfection byproduct formation: ___August
Number of samples required: 2 samples_____

Monitoring frequency required:
☐ **Quarterly (every 90 days).** List months to sample _____
☒ **Yearly**. List month to sample August_____
☐ **Every Three Years**. List month to sample _____

This frequency is ☐ Reduced or ☒ Routine

If system uses surface water (or groundwater under the direct influence of surface water) and has been granted a reduced frequency, raw water total organic (TOC) must also be conducted quarterly **(every 90-days)** from each SW/GU source.
List SW/GU sources on quarterly (every 90 days) TOC monitoring _____
List months to sample _____

STAGE 2 TTHM and HAA5 Sampling Sites

Site ID (if used on map)	Sample Site Name/Address	Sample Site for TTHM, HAA5 or Both?
	472 Dale Drive, Allenspark, Colorado 80510	Both
	494 North Skinner Road, Allenspark, Colorado 80510	Both

Chlorite (only applies to systems using chlorine dioxide)
Chlorite must be monitored **daily** at each entry point that uses chlorine dioxide.
List entry point IDs (assigned by Department) to be sampled ____N/A_____
Amperometric titration may be used for daily monitoring at the entry point.

Chlorite quality assurance/quality control (QA/QC) – explain the exact procedures to be followed to ensure that the test result will be accurate.
_N/A_____
_____
_____

Chlorite must also be monitored in the distribution system. The distribution system samples must be analyzed at a certified laboratory by ion chromatography. The system must collect a **3-sample set**
☐ Monthly (routine frequency) or ☐ Quarterly (reduced frequency)

Chlorite Sampling Sites in the Distribution System

Site ID (if used on map)	Sample Site Name/Address	Location Type
		Near the First Customer
		Average Residence Time
		Maximum Residence Time

Bromate (only applies to systems using ozone)
Bromate must be monitored at each entry point that uses ozone treatment:
☐ Monthly (routine frequency) or ☐ Quarterly (reduced frequency)

List entry point IDs (assigned by Department) to be sampled
____N/A_____

Increased Monitoring Requirement

STAGE 1 total trihalomethanes (TTHM) and haloacetic acids (HAA5)
Any system monitoring less than quarterly must begin quarterly monitoring if either TTHM or HAA5 results (or average of results if multiple samples are required) are above the MCL. The system will begin quarterly monitoring for both TTHM and HAA5 beginning the next calendar quarter.

For systems on a reduced monitoring frequency - if any monitoring period exceeds 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, the system must return to the routine monitoring frequency. Also, if the system is required to perform raw water TOC monitoring to qualify for reduced TTHM/HAA5 monitoring, and the annual average TOC level is greater than 4.0 mg/L, the system must return to routine monitoring frequency.

STAGE 2 total trihalomethanes (TTHM) and haloacetic acids (HAA5)
Any system monitoring less than quarterly must begin quarterly monitoring if any TTHM or HAA5 results are above the MCL at any sampling location. The system will begin quarterly monitoring for both TTHM and HAA5 beginning the next calendar quarter at all sample locations.

For systems on a reduced monitoring frequency - if on quarterly monitoring and the LRAA at any location in any monitoring period exceeds either 0.040 mg/L for TTHM or 0.030 mg/L for HAA5, or if the annual or triennial sample at any location exceeds 0.060 mg/L for TTHM or 0.045 mg/L for HAA5, the system must return to the routine monitoring frequency at all sample locations. Also, if the system is required to perform raw water TOC monitoring to qualify for reduced TTHM/HAA5 monitoring, and the annual average TOC level is greater than 4.0 mg/L, the system must return to routine monitoring frequency at all sample locations.

Chlorite (only applies to systems using chlorine dioxide)
If any daily sample exceeds the MCL, the system must take a 3-sample set in the distribution system the next day in addition to the sample required at the entry point. The locations must be the same as the routine distribution system monitoring. The system may use these samples to meet the routine distribution system requirement.

For systems on a reduced distribution system monitoring frequency - if any sample at the entry point or in the distribution system exceeds 1.0 mg/L, the system must return to monthly distribution system monitoring.

Bromate (only applies to systems using ozone)
For systems on a reduced monitoring frequency - if the running annual average, computed quarterly, exceeds 0.0025 mg/L using methods 317.0 r 2.0, 326.0 or 321.8, the system must return to monthly monitoring.

MCL Compliance Determination

STAGE 1 total trihalomethanes (TTHM) and haloacetic acids (HAA5)
For both TTHM and HAA5, compliance is based on a running annual average of quarterly sampling. The running annual average is computed system-wide, not at each sampling location. If the average is above the MCL, this is considered a MCL violation.

STAGE 2 total trihalomethanes (TTHM) and haloacetic acids (HAA5)
For both TTHM and HAA5, compliance is based on a running annual average of quarterly sampling. The running annual average is computed for each sampling location independently (locational running annual average). If the average is above the MCL at any location, this is considered a MCL violation.

Chlorite (only applies to systems using chlorine dioxide)
Compliance is based on the average of the 3-sample set collected from the distribution system. If the average is above the MCL, this is considered a MCL violation.

Bromate (only applies to systems using ozone)
Compliance is based on a running annual average of quarterly sampling. The running annual average is computed for each sampling location independently. If the average is above the MCL at any location, this is considered a MCL violation.

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

CONTROL OF DISINFECTION BYPRODUCT PRECURSORS

This monitoring only applies to systems using conventional surface water filtration. Conventional surface water filtration is defined as a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

Routine and Reduced Monitoring Requirement

Total organic carbon (TOC) and alkalinity (required)
Raw water alkalinity, raw water TOC and finished water TOC must be monitored at each conventional treatment plant

System does not use coagulation and uses ultrafiltration membrane filters. By these elements, the system is not considered conventional and is exempt from TOC/Alkalinity monitoring and associated compliance determination.

☐ Monthly (routine frequency) or ☐ Quarterly (reduced frequency)
List treatment plants to be sampled N/A
All three samples must be collected at the same time except that systems may allow a lag time between raw and finished water samples to account for the detention time in the treatment train between sampling points. Finished water TOC must be collected no later than the point of combined filter effluent turbidity monitoring.

Alkalinity quality assurance/quality control (QA/QC) – Alkalinity may be analyzed at the treatment plant (instead of at a certified lab). If this is the case, explain the exact procedures to be followed to ensure that the test result will be accurate. N/A

Specific ultraviolet absorption (SUVA) (optional)
SUVA calculation: SUVA is equal to the UV absorption at 254 nm (measured in m^{-1}) divided by the dissolved organic carbon (DOC) concentration (measured in mg/L).

Will the system conduct this monitoring? ☐ Yes ☒ No
UV-254 and DOC will be monitored monthly from ☐ Raw Water and/or ☐ Finished Water
If the system chooses to monitor SUVA, it should be monitored **monthly** from the raw water and/or the finished water. These samples must be collected before the addition of any disinfectants/oxidants.

Finished water alkalinity (optional)
Systems using precipitative softening may choose to monitor finished water alkalinity.
Will the system conduct this monitoring? ☐ Yes ☒ No
If the system chooses to monitor finished water alkalinity, it should be monitored **monthly.**

Magnesium hardness removal (optional)
Systems using precipitative softening may choose to monitor magnesium hardness removal. Magnesium hardness is measured as $CaCO_3$.
Will the system conduct this monitoring? ☐ Yes ☒ No
If the system chooses to monitor magnesium hardness, it should be monitored **monthly** in raw water AND finished water.

Increased Monitoring Requirement

For systems on a reduced TOC/alkalinity monitoring frequency - if the running annual average finished water TOC, calculated quarterly, is greater than or equal to 2.0 mg/L, the system must return to monthly TOC and alkalinity monitoring.

Treatment Technique (TT) Compliance Determination

The system will use the following criteria to demonstrate compliance with the treatment technique (please check all criteria that you plan to use). Compliance is determined quarterly.

System does not use coagulation and uses ultrafiltration membrane filters. By these elements, the system is not considered conventional and is exempt from TOC/Alkalinity monitoring and associated compliance determination.

Demonstration of enhanced coagulation/enhanced precipitative softening

☐ Running annual average (RAA) of TOC removal ratios
Has the system received Department approval for an alternative percent removal? ☐ Yes (_____%) ☐ No

Alternative Compliance Criteria (ACC)

(i) ☐ Raw water TOC RAA < 2.0 mg/L
(ii) ☐ Finished water TOC RAA < 2.0 mg/L
(iii) ☐ Raw water TOC RAA < 4.0 mg/L, raw water alkalinity RAA < 60 mg/LTTHM RAA < 0.040 mg/L and HAA5 RAA < 0.030 mg/L
(iv) ☐ TTHM RAA < 0.040 mg/L, HAA5 RAA < 0.030 mg/L and system uses only chlorine for disinfection and maintenance of residual in distribution system.
(v) ☐ Raw water SUVA RAA ≤ 2.0 mg/L
(vi) ☐ Finished water SUVA RAA ≤ 2.0 mg/L
(i) ☐ Finished water alkalinity RAA lowered to less than 60 mg/L (only for systems using precipitative softening)
(ii) ☐ Magnesium hardness removed RAA ≥ 10 mg/L (only for systems using precipitative softening)

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Lead and Copper Rule

The Lead and Copper Rule may be found in 5 CCR 1003-1, Article 8.

I, __Rachel C. Barkworth____ have reviewed this Lead and Copper Rule sampling plan, and that the provided information is true and correct to the best of my knowledge.

Signature _____ RCBarkworth _____ Date __04/30/19_____ Revision? ☒

Laboratory Information

Preferred lab: _Colorado Analytical_____

Address: _P.O. Box 507, Brighton, CO, 80601_____

Phone: __(303) 659-2313_____

Routine and Reduced Monitoring Requirement

Lead and Copper Tap Monitoring
Lead and copper tap samples must be collected in the distribution system from cold water that has stood motionless for at least six hours.

Number of sampling sites required: ___5__

Monitoring Frequency Required:

☒ Every Six Months, ☐ Yearly (June – Sept) or ☐ Every Three Years (June – Sept)

This frequency is: ☐ Reduced or ☒ Routine

Lead and copper tap sampling quality assurance/quality control (QA/QC) – lead copper tap samples are typically collected by non-water system personnel (instead of at a certified operator). If this is the case, explain the exact procedures to be followed to ensure that the sample was properly collected before submitting it to the lab. __Lead and copper sampling is conducted by household residents from their own household taps. The bottles are given immediately to the certified operator, who delivers the samples for laboratory analysis._____

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Lead and Copper Tap Monitoring Sampling Sites

Site ID (if used on map)	Sample Site Name/Address	Plumbing Install Date	Plumbing Material (Use Codes Below)	Building Type (Use Codes Below)	Lead Service Line?	Tier Level	New Site?
LCR005	Hill Residence 500 South Skinner Road (Lot #31) Allenspark, Colorado 80510	Built 1984	CPLS	SFR	N	1	N
LCR003	Hames Residence 785 South Skinner Road (Lot #49) Allenspark, Colorado 80510	Built 1984	CPLS	SFR	N	1	N
LCR002	Brock Residence 207 North Skinner Road (Lot #24) Allenspark, Colorado 80510	Built 1986	CPLS	SFR	N	1	N
LCR004	Newton Residence 472 Dale Drive (Lot #9) Allenspark, Colorado 80510	Built 1986	CPLS	SFR	N	1	N
LCR001	Hans Residence 708 County Road 90 (Lot #20) Allenspark, Colorado 80510	Built 1978	CP	SFR	N	3	N

System Name Meadow Mountain Water Supply Company PWSID# CO0207504

Building Codes:
SFR = Single Family Residence,
SFS2 = Single Family Structure Bldg used for business
MFR = Multi-Family Residence (>20% exist in system)
MFR2 = Multi-Family Residence
B = Building

Plumbing Codes:
CPLS = Copper Pipes with Lead Solder
CP = Copper Pipes without Lead Solder
NonCP = Non-Copper Pipes
LP = Lead Pipes

Expand table or add pages as needed for additional sampling sites

Water quality parameters monitoring
Routine water quality parameters monitoring only applies to systems serving greater than 50,000 people. Water quality parameters are pH, alkalinity and calcium. Systems that use phosphate or silica treatment are also required to monitor orthophosphate and silica. Routine monitoring for water quality parameters must be conducted system **every six months** at entry points and at sites in the distribution.

Number of distribution system sites required __N/A_____ (describe in table below)
List entry point IDs (assigned by Department) to be sampled _____

Water Quality Parameters Sampling Sites In Distribution System	
Site ID (if used on map)	**Sample Site Description/Address**

Expand table or add pages as needed for additional sampling sites

Increased Monitoring Requirement

Lead and copper tap monitoring
For new water systems, the Department requires two initial consecutive six-month periods of lead and copper monitoring at standard number of tap sites.

For systems on a reduced lead and copper sampling frequency… if the system exceeds the action level for either lead or copper, the system must return to routine monitoring at standard number of tap sites beginning Jan or next calendar year.

Water quality parameters monitoring
There is no increased monitoring requirement for water quality parameters.

Action Level Exceedance Determination

If more than 10% of the tap monitoring samples is greater than the action level (i.e. if the 90th percentile level is greater than the action level), the system has exceeded the action level. This is not a violation, but requires further action.

The system must consult with the Department if the action level is exceeded. The Department will require the system to conduct investigatory sampling (water quality parameter monitoring and source water monitoring and routine lead and copper tap monitoring) and take corrective actions. The system will also be required to conduct public education for a lead exceedance.

Groundwater Rule

The Groundwater Rule may be found in 5 CCR 1003-1 Article 13.

I, _Rachel C. Barkworth___ have reviewed this Groundwater Rule sampling plan, and the provided information is true and correct to the best of my knowledge.

Signature _____ Date __09/30/2020_____ Revision? ☐

Laboratory Information

Preferred lab: _____N/A_____

Address: _____

Phone: _____

Alternate lab: _____

Address: _____

Phone: _____

Entry Point Residual Disinfectant

This section *does not apply* if system provides Department approved 4-log treatment of viruses *and* conducts compliance monitoring as approved by the Department.

Groundwater systems must maintain a minimum residual disinfectant of 0.2 mg/L at each entry point when serving water to the public. The residual disinfectant must be monitored after contact time but before or at the first consumption tap. The residual disinfectant must be measured at least once per week.

If any entry point sample measurement falls below 0.2 mg/L, the residual disinfectant must be measured at least every 24 hours from the time of discovery until the residual disinfectant is equal to or greater than 0.2 mg/L.

List entry points to be monitored: _____
_____
_____

Residual disinfectant quality assurance/quality control (QA/QC) – explain the exact procedures to be followed to ensure that the field test measurement will be accurate:
_____
_____
_____

Triggered source water monitoring

This section *does not apply* if system provides Department approved 4-log treatment of viruses *and* conducts compliance monitoring as approved by the Department.

Within 24-hours of notification that a distribution system sample is positive for total coliform bacteria, the system must collect a raw *E. coli* sample from each groundwater source that was in use at that time.

Has the system received Department approval to use a sampling site that represents more than one groundwater source? ☐ Yes ☐ No
If yes, name of sampling site _____
Sources represented by this sampling site _____

Systems serving 1,000 people or fewer may use a triggered source water monitoring sample to satisfy the fourth repeat sample required for the Total Coliform Rule repeat sampling requirements.

Compliance monitoring for 4-log treatment

This section *only* applies if the system is required to conduct compliance monitoring for Department approved 4-log treatment of viruses.

The system must maintain the Department assigned minimum operations/levels (describe below) every day the system serves groundwater to consumers. Residual disinfectant must be monitored before or at the first consumption tap. If monitored before the first consumption tap, it must be after contact time.

Treatment Plant Name and ID (IDs assigned by Department)	**Minimum Residual Disinfectant** (assigned by Department)	**Membrane Filtration Operation Requirements** (if assigned by Department)	**Alternative Filtration Operation Requirements** (if assigned by Department)
	_____ mg/L at entry point monitored ☐ continuously or ☐ daily at peak flow		
	_____ mg/L at entry point monitored ☐ continuously or ☐ daily at peak flow		
	_____ mg/L at entry point monitored ☐ continuously or ☐ daily at peak flow		

Expand table or add pages as needed for additional treatment plants

Quality assurance/quality control (QA/QC) (applies to all parameters above) – explain the exact procedures to be followed to ensure that the test result will be accurate. _____
_____
_____

Increased Monitoring Requirement

Additional source water monitoring (for systems required to collect source water samples)
If any raw sample collected from a groundwater source is fecal indicator-positive (*E. coli*), the system must collect a set of five additional raw *E. coli* samples from the same groundwater source. This sampling must be conducted within 24-hours of notification of the sample result.

Alternatively, the Department may waive the requirement to collect five additional samples if the Department requires immediate corrective action instead.

Compliance monitoring for 4-log treatment
If a system monitors residual disinfectant daily (rather than continuously) and the residual drops below the Department assigned minimum level (shown in table above), the system must take follow-up measurements every 4-hours until the residual is restored to the assigned level.

Assessment source water monitoring
If directed by the Department, the system must conduct periodic *E. coli* monitoring at each groundwater source. This monitoring must meet the Department assigned requirements.

Is the system required to conduct assessment monitoring? ☐ Yes ☐ No
Beginning date _____ and ending date _____
List groundwater sources to be sampled: _____
Number of samples required at each source _____
Monitoring frequency required: ☐ Weekly ☐ Monthly ☐ Other:_____

Public Notice Requirements

A system must perform public notice within 24 hours of any of the following:

- A triggered source water monitoring sample is positive for *E. coli*; or
- At least one of the five additional source water monitoring samples is positive for or *E. coli*.
- An assessment source water monitoring sample is positive for *E. coli.*

Treatment Technique (TT) Compliance Determination

A system is in violation of the treatment technique if any of the following occurs:

- A system is not conducting 4-log compliance monitoring, and the residual disinfectant level is below 0.2 mg/l for more than 72 hours after discovery; or
- A system fails to complete required corrective actions related to source water sample(s) positive for *E. coli*; or
- A system is conducting 4-log compliance monitoring, and the residual disinfectant level falls below the required minimum for 4 or more hours.

A system must notify the Department immediately if in violation of the treatment technique requirements.