



State of Alaska
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Surface Water Treatment Rules
Monthly Operator Report Forms



Special Notice: The following instructions apply to water systems that use slow sand filtration, diatomaceous earth or alternate technology filtration only.

Page 1 DAILY CHLORINE, COMBINED FILTER EFFLUENT TURBIDITY AND FLUORIDE READINGS

Entry Point Chlorine Residual:

- Chlorine residual readings must be collected daily at the entry point to the distribution system.
 - The frequency for measuring entry point chlorine residual is dependent on the number of individuals served each day: (500 or fewer = 1 sample/day); (501 – 1,000 = 2 samples/day); (1,001 – 2,500 = 3 samples/day); (2,501 – 3,300 = 4 samples/day); (3,301 or greater and all others that monitor continuously must report lowest value each day).
 - Entry point chlorine residuals must be at least 0.2 mg/l at all times (treatment technique violation). **
 - If the entry point chlorine residual drops below 0.2 mg/l, contact ADEC as soon as possible, but no later than the end of the next business day. The date and duration must be recorded on page 2.
- **If chlorine level is raised above 0.2mg/l within 4 hours, no violation will be assessed.***

Combined Filter Effluent Turbidity:

- Combined filter effluent (CFE) turbidity measurements must be taken after the point where all the individual filter effluents combine. CFE turbidity must be reported on page 1 using grab sample test results or online turbidimeter recordings *taken at four hour intervals*.
- Systems wanting to use continuous monitoring data in lieu of grab sample test results for reporting CFE turbidity must have approval from ADEC and be able to demonstrate that the CFE online turbidimeter recordings are verified weekly and the turbidimeter calibrated at least quarterly in accordance with the manufacturer's recommended procedures.
- CFE turbidity must not exceed 5 NTU at any time (maximum limit - treatment technique violation).
- If the CFE turbidity exceeds 5 NTU, contact ADEC within 24 hours.
- During the month, 95% of all CFE turbidity measurements taken at four hour intervals must be less than or equal to 1.49 NTUs. Use CFE turbidity measurements recorded on page 1 and the math formula provided on page 2 to determine compliance (treatment technique violation).

Fluoride Residual (only required if system is fluoridating):

- Fluoride readings must be collected daily at the entry point to the distribution system.
- Entry point fluoride residual must not exceed 2.0 mg/l.
- If entry point fluoride residual is equal to or greater than 2.0 mg/l, contact ADEC within 24 hours.
- A confirmation sample needs to be sent to a certified laboratory to verify test results the first day entry point fluoride is equal to or greater than 2.0 mg/l.

Page 2 FILTER AND DISINFECTION PERFORMANCE

Combined Filter Effluent Grab Sample Test Results:

- Calculate the percentage of CFE turbidity samples exceeding 1.49 NTUs. (Use turbidity measurements recorded on page 1 to calculate percentage.)
- System must record each incident in which the CFE turbidity measurement (as recorded at four hour intervals) exceeded 5 NTUs and include the date the violation was reported to ADEC.

Entry Point Disinfection Performance Criteria:

- System must report each incident in which the entry point chlorine residual dropped below 0.2 mg/l for more than 4 hours, the duration of the incident and include the date the violation was reported to ADEC.

Distribution System Disinfectant Residual Criteria:

- System must report the distribution chlorine residual reading taken **at the same time and place** as each coliform bacteria sample collected during the month.

**ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION - DRINKING WATER PROGRAM
DAILY CHLORINE, COMBINED FILTER EFFLUENT AND FLUORIDE READINGS**

Public Water System Name _____

PWSID# _____

Address _____

Phone _____

Type of Filtration: Slow Sand,
Diatom. Earth or Alternate Filtration

For the Month of _____, 20__

Combined Filter Effluent (CFE) Turbidity Limit = 1.49 NTU

Entry Point Chlorine Residual Measurements					Combined Filter Effluent Turbidity (Grab samples ___ or Online Turbidimeter Readings ___) ² Enter 'NR' during time periods when not filtering water.						Did You Filter		Daily Fluoride Level
Date	Sampling times: ¹				12:00 AM	4:00 AM	8:00 AM	12:00 PM	4:00 PM	8:00 PM	Yes	No	
	8:00 AM	12:00 PM	4:00 PM	8:00 PM									
1													
2													
3													
4													
5													
6													
7													
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Total Entry Point Chlorine Residual Measurements					Total Number of CFE Turbidity Samples						Total days fluoride measured		
Total Chlorine Residual Measurements < 0.2 mg/l					Total Number CFE Turbidity Samples > 5 NTU (MCL violation)						Total days fluoride > = 2.0 mg/l		
					Highest single turbidity reading								
					Total Number of CFE Turbidity Samples > 1.49 NTU								

¹Frequency of entry point chlorine residual readings is dependent on population. Systems serving more than 3,300 people per day and all others using continuous monitoring must record lowest chlorine residual value for day. Smaller systems using grab sample test results must spread sampling out over the day (see instructions for number of grab samples required).
²CFE turbidity must be recorded at four hour intervals. Substitution of online turbidimeter recordings (continuous monitoring) for CFE grab samples must be approved by ADEC.

Date Submitted _____ Signature of Operator: _____

COMBINED FILTER AND DISINFECTION PERFORMANCE

COMBINED FILTER PERFORMANCE CRITERIA

- A. Total number of Combined Filter Effluent (CFE) turbidity measurements during the month
- B. Total number of CFE turbidity measurements that are less than or equal to 1.49 NTU
- C. The percentage of CFE turbidity measurements less than or equal to 1.49 NTU (value in B) divided by the total number of measurements taken during the month (value in A), multiplied by 100

A=
B=

(B/A) X 100 = (/) X 100 = % Is This Number Less Than 95%? (Y/N)

If CFE turbidity exceeds 5 NTU, report the event to ADEC within 24 hours and record it below:

TABLE 1 - DAYS CFE TURBIDITY MEASUREMENTS EXCEEDED 5 NTU								
Date	Turbidity	State	Date	Turbidity	State	Date	Turbidity	State
Total Number of Days CFE TURBIDITY Measurements Exceeded 5 NTU								

ENTRY POINT DISINFECTION PERFORMANCE CRITERIA

If the entry point disinfectant residual drops below 0.2 mg/l, report it to ADEC as soon as possible, but no later than the next business day. Record dates and time entry point chlorine residual was less than 0.2 mg/l below:

TABLE 2 - DAYS CHLORINE RESIDUAL ENTERING DISTRIBUTION WAS LESS THAN 0.2 MG/L								
Date	Duration	Reported to	Date	Duration	Reported to	Date	Duration	Reported to
Total Number of Days Entry Point Chlorine Was Less Than 0.2 mg/l								

DISTRIBUTION SYSTEM DISINFECTANT RESIDUAL CRITERIA

At a minimum, the distribution chlorine residuals must be measured at the same time and place that the coliform sample is taken. In the table below, enter all the dates a coliform sample was taken, the location, and the corresponding chlorine residual measurement taken at the same time and place.

TABLE 3 - DISTRIBUTION CHLORINE RESIDUAL READINGS								
Date	Location	Residual	Date	Location	Residual	Date	Location	Residual
Total number of chlorine residual measurements taken that were 'non-detect':								

If system conducts heterotrophic plate counts when chlorine residual is at a non-detectable level, contact ADEC for further reporting requirements.