



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM – PUBLIC DRINKING WATER BRANCH  
**DISINFECTION AND TURBIDITY REPORT FOR SURFACE WATER  
 SYSTEMS > 10,000 POPULATION**

PWS NAME		PWS ID MO	MONTH
ADDRESS		TELEPHONE NUMBER WITH AREA CODE	YEAR
CITY	ZIP CODE	COUNTY	PLANT

**SEE INSTRUCTIONS**

<b>DISTRIBUTION DISINFECTION</b> 1. Number of samples analyzed, A: _____ 2. Number of samples below 0.2 mg/L, B: _____ [(A-B)/A] x 100 = C: _____ % meeting minimum disinfection required. 3. Avg. disinfectant residual for the month _____ mg/l	<b>TURBIDITY</b> 1. Total number measurements taken monthly, A: _____ 2. Number of measurements below 0.3 NTU, B: _____ [B/A] x 100 = C: _____ % meeting turbidity requirements.
---	---

Date	Hours of operation	Finished water temperature (C)	Lowest disinfectant at entrance to distribution system (mg/L) <input type="checkbox"/> Free Chlorine <input type="checkbox"/> Chloramines	Highest turbidity measurement of the day	Duration disinfectant fell below 0.5 mg/L free Cl <sub>2</sub> or 1 mg/L chloramines	Value of turbidity measurements that exceed 1NTU
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

NAME OF PERSON PREPARING REPORT	SIGNATURE OF RESPONSIBLE OFFICIAL	DATE
---------------------------------	-----------------------------------	------

## INSTRUCTIONS: DISINFECTION AND TURBIDITY REPORT FOR SURFACE WATER SYSTEMS >10,000 POPULATION

### 1. Please fill out information completely and legibly.

#### Distribution Disinfection

1. On line 1, enter the total number of samples from the distribution system analyzed for residual disinfectant concentration (total chlorine or combined chlorine) during the month. The residual disinfectant concentration measurements must be taken at the same time and location as your routine monthly coliform samples. This is the value for A.
2. On line 2, enter the number of samples for the distribution systems that had less than 0.2 mg/L residual disinfectant concentration. This is the value for B.
3. Subtract B, from A. (A-B). Divide that number by A. Then multiply by 100. This will give you the value for C. For example: if A= 20 and B= 3, then C=  $[(20-3)/20] \times 100 = 85\%$
4. On line 3, enter the arithmetic average for all residual disinfectant samples taken during the month.

#### Turbidity:

- 1 On line 1, enter the total number of combined filter turbidity measurements taken during the month. This is the value for A.
- 2 On line 2, enter the number of combined filter turbidity measurements taken during the month, which are less than or equal to 0.3 NTU. This is the value for B.
- 3 Divide B. by A. (B/A). Then multiply that number by 100. This will give you the value for C. For example: if A = 120 and B = 117, then C=  $(117/120) \times 100 = 97.5\%$

#### Hours of operation:

For each day, record the number of hours each water treatment plant was in operation.

#### Finished Water Temperature

For each day, record the temperature of water entering the distribution.

#### Lowest Residual Disinfectant at Entrance to Distribution System:

For each day, record the lowest measurement of residual disinfectant concentration (mg/L) in water entering the distribution system (free available chlorine or chloramines).

#### Duration Residual Disinfectant Fell Below Requirement:

For each day, record the duration (hours, tenths) of each period (if any) when the residual disinfectant concentration in water entering the distribution system fell below 0.5 mg/L free chlorine or 1 mg/L chloramines. Note: should this occur the public water system must notify the department as soon as possible, but no later than by the end of the next business day.

#### The Highest Turbidity Reading for the Day:

For each day, record the highest turbidity reading on the combined plant effluent during the plants operational period.

#### Value of Turbidity Measurements that exceed 1 NTU:

For each day, record the value of any turbidity measurements taken during the month, which exceeds 1 NTU. Note: should this occur the public water system must notify the department as soon as possible, but no later than the end of the next business day.

### INDIVIDUAL FILTER MONITORING AND REPORTING

- 1 Was each filter continuously monitored for turbidity and results recorded every 15 minutes? \_\_\_\_\_
- 2 Was there a failure of the continuous turbidity monitoring equipment? \_\_\_\_\_  
If yes on 2, was the equipment repaired within 5 working days? \_\_\_\_\_  
If yes on 2, was grab sampling done every four hours until failure corrected? \_\_\_\_\_
- 3 Was any individual filter turbidity level >0.5NTU in two consecutive measurements taken 15 minutes apart at the end of the first 4 hours of operation after the filter has been back washed or otherwise taken off line? \_\_\_\_\_  
If yes, perform follow-up actions steps 1, 2 and 3
- 4 Was any individual filter turbidity level > 1.0 NTU in two consecutive measurements taken 15 minutes apart? \_\_\_\_\_  
If YES, perform follow-up actions steps 1, 2 and 3
- 5 Was any individual filter turbidity level > 1.0 NTU in two consecutive measurements taken 15 minutes apart in each of three consecutive months? \_\_\_\_\_  
If YES, perform follow-up actions steps 1, 2, 3 and 4
- 6 Was any individual filter turbidity level > 2.0 NTU in two consecutive measurements taken 15 minutes apart in 2 consecutive months?  
If YES, perform follow-up action steps 1, 5}

### FOLLOW-UP ACTIONS to PERFORM

1. Report filter numbers, turbidity measurements and dates the exceedances occurred.
2. Produce a filter profile within seven days of the exceedance (if there is no obvious reason for the exceedance.)
3. Report that filter profile has been produced and is available for inspection, or identify and report in writing reason for the exceedance.
4. Conduct a self-assessment of the filters within 14 days of the exceedance and report that the findings are available for inspection.
5. Contact the department no later than 30 days following the exceedance, and arrange for a comprehensive performance evaluation of your system. The evaluation must be submitted to the department within 90 days of the exceedance.

**The Missouri Department of Natural Resources-Public Drinking Water Branch recommends contacting your local regional office if any individual filter exceeds .5 NTU, the lowest trigger in the individual filter standards.**