**ADMINISTRATIVE INFORMATION**

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| --- | --- | --- | --- |
|  | | | |
| Entity Name:  PWSID NUMBER: System Type: | Name | System Address & Email | Telephone Number |
| Operator in Responsible Charge (ORC) |  |  |  |
| Person that collected TC samples if different than ORC |  |  |  |
| System Owner |  |  |  |
| Certified Laboratory for Microbiological Analyses |  |  |  |
| Date Investigation Completed: | | | |
| Month(s) of Total Coliform MCL Failure: | | | |

**INVESTIGATION DETAILS**

| **SOURCE** | **WELL**  **(name)** | **WELL (name)** | **WELL**  **(name)** | **WELL**  **(name)** | **COMMENTS** (attach additional pages if needed) |
| --- | --- | --- | --- | --- | --- |
| 1. Inspect each well head for physical defects and report |  |  |  |  |  |
| a. Is raw water sample tap upstream from point of disinfection? |  |  |  |  |  |
| b. Is wellhead vent pipe screened? |  |  |  |  |  |
| c. Is wellhead seal watertight? |  |  |  |  |  |
| d. Is well head located in pit or is any piping from the wellhead submerged? |  |  |  |  |  |
| e. Does the ground surface slope towards well head? |  |  |  |  |  |
| f. Is there evidence of standing water near the wellhead? |  |  |  |  |  |
| g. Are there any connections to the raw water piping that could be cross connections? (describe all connections in comments) |  |  |  |  |  |
| h. Is the wellhead secured to prevent unauthorized access? |  |  |  |  |  |
| i. To what treatment plant (name) does this well pump? |  |  |  |  |  |
| j. How often do you take a raw water total coliform (TC) test? |  |  |  |  |  |
| k. Provide the date and result of the last TC test at this location |  |  |  |  |  |
| 2. Inspect and review records for surface water source (if applicable) |  |  |  |  |  |
| a. Have there been any events in the watershed or near the intake that might have contributed to TC+ or EC+ results? (Describe) |  | | | | |

| **TREATMENT** | **PLANT (NAME)** | **PLANT (NAME)** | **PLANT**  **(NAME)** | **PLANT (NAME)** | **COMMENTS** |
| --- | --- | --- | --- | --- | --- |
| 1. If you provide continuous chlorination treatment was there any equipment failure? |  |  |  |  |  |
| a. Did the distribution system maintain chlorine residual? |  |  |  |  |  |
| b. Was emergency chlorination initiated? If yes, for how long? |  |  |  |  |  |
| c. Did the distribution system lose chlorine residual? |  |  |  |  |  |
| 2. If you **do not** provide routine chlorination, was emergency chlorination initiated?  If Yes, when? |  |  |  |  |  |
| 3. Inspect each point where disinfectant is added and report |  |  |  |  |  |
| a. Is the disinfectant feed pump feeding disinfectant? |  |  |  |  |  |
| b. What is the feed rate of disinfectant in ml/minute? |  |  |  |  |  |
| c. What is the concentration of the disinfectant solution being fed?  (percent or mg/l of chlorine as HOCl) |  |  |  |  |  |
| d. By what method was the concentration of solution determined?   (ex: measured, manufacturer’s literature) |  |  |  |  |  |
| e. What is the age (days) of the disinfectant solution currently being used at  this treatment location? |  |  |  |  |  |
| f. What is the raw water flow rate at the point where disinfectant is added in gallons per minute? |  |  |  |  |  |
| g. What is the **total** chlorine residual measured immediately downstream from the point of application? |  |  |  |  |  |
| h. What is the **free** chlorine residual measured immediately downstream from the point of application? |  |  |  |  |  |
| i. What is the contact time in minutes from the point of disinfectant application to the first customer? |  |  |  |  |  |

| **SAMPLE SITE EVALUATION (Complete for all TC+ or EC+ findings)** | Routine Site  TC+ or EC+ | Upstream Site | Downstream Site | Sample 4  (specify) |
| --- | --- | --- | --- | --- |
| 1. What is the height of the sample tap above grade? (inches) |  |  |  |  |
| 2. Is the sample tap located in an **ext**erior location or is it protected by an **enc**losure? |  |  |  |  |
| 3. Is the sample tap threaded, have a swing arm (kitchen sink) or an aerator (sinks)? |  |  |  |  |
| 4. Is the sample tap in good condition, free of leaks around the stem or packing? |  |  |  |  |
| 5. Can the sample tap be adjusted to the point where a good laminar flow can be achieved without excessive splash? |  |  |  |  |
| 6. Is the sample tap and areas around the sample tap clean and dry (free of animal droppings other contaminants or spray irrigation systems)? |  |  |  |  |
| 7 Is the area around the sample tap free of excessive vegetation or other impediments to sample collection? |  |  |  |  |
| 8. Describe how the tap was treated in preparation for sample collection (ran water, swabbed with disinfectant, flamed, etc.). |  |  |  |  |
| 9. Is this sample tap designated on the sampling plan submitted with this information request? |  |  |  |  |
| 10. What were the weather conditions at the time of the positive sample (rainy, windy, and sunny)? |  |  |  |  |

| **STORAGE** | **TANK (name)** | **TANK (name)** | **TANK (name)** | **TANK**  **(name)** | **COMMENTS** |
| --- | --- | --- | --- | --- | --- |
| 1. Is each tank locked to prevent unauthorized access? |  |  |  |  |  |
| 2. Are all vents of each tank screened down-turned to prevent dust and dirt from entering the tank? |  |  |  |  |  |
| 3. Is the overflow on each tank screened? |  |  |  |  |  |
| 4. Are there any unsealed openings in the tank such as access doors, water level indicators hatches, etc.? |  |  |  |  |  |
| 5. Is the roof/cover of the tank sealed and free of any leaks? |  |  |  |  |  |
| 6. Is the tank above ground or buried? |  |  |  |  |  |
| a. If buried or partially buried, are there provisions to direct surface water away from the site. |  |  |  |  |  |
| b. Has the interior of the tank been inspected to identify any sanitary defects, such as root intrusion? |  |  |  |  |  |
| 8. Does the tank “float” on the distribution system or are there separate inlet and outlet lines? |  |  |  |  |  |
| 9. What is the **measured** chlorine residual (total/free) of the water exiting the storage tank **today**? |  |  |  |  |  |
| 10. What is the volume of the storage tank in gallons? |  |  |  |  |  |
| 11. Is the tank baffled? |  |  |  |  |  |
| 12. Prior to the TC+ or EC+, what was the previous date item #1-7 were checked and documented? |  |  |  |  |  |

| **DISTRIBUTION SYSTEM** | **SYSTEM RESPONSES** |
| --- | --- |
| 1. What is the minimum pressure you are maintaining in the distribution system? |  |
| 2. Did pressure in the distribution system drop to less than 5 psi prior to positive bacti? |  |
| 3. Has the distribution system been worked on within the last week? (taps, hydrant flushing, main breaks, mainline extensions, etc.) If yes, provide details. |  |
| 4. Are there any signs of excavations near your distribution system not under the direct control of your maintenance staff? |  |
| 5. Did you inspect your distribution system to check for mainline leaks? Do you or did you have a mainline leak? |  |
| 6. If there was a mainline leak, when was it repaired? |  |
| 7. On what date was the distribution system last flushed? |  |
| 8. Is there a written flushing procedure you can provide for our review? |  |
| 9. Do you have an active cross-connection control program? |  |
| 10. What is name & phone number of your Cross-Connection Control Program Coordinator? |  |
| 11. Is the review and testing of backflow prevention devices current? |  |
| 12. On what date was the last physical survey of the system done to identify cross-connections? |  |

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| **BOOSTER STATION** | Response |
| 1. Do you have a booster pump? How many? |  |
| 2. Do you have a standby booster pump if the main pump fails? |  |
| 3. Prior to bacteriological quality problems, did your booster pump fail? |  |
| 4. Do you notice standing water, leakage at the booster station? |  |

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| --- | --- |
| **GENERAL OPERATIONS:** | Response |
| 1. Where there any power outages that affected water system facilities during the 30 days prior to the TC+ or EC + findings? |  |
| 2. Where there any main breaks, water outages, or low pressure reported in the service area where TC+ or EC+ samples were located. |  |
| 3. Does the system have backup power or elevated storage? |  |
| 4. During or soon after bacteriological quality problems, did you receive any complaints of any customers’ illness suspected of being waterborne? How many? |  |
| 5. What were the symptoms of illness if you received complaints about customers being sick? |  |

**ADDITIONAL INFORMATION THAT MAY BE SUBMITTED WITH RESPONSES TO THE ABOVE QUESTIONS**

1. **Sketch** of System showing all sources, treatment locations, storage tanks, microbiological sampling sites and general layout of the distribution system including the location of all hazardous connections such as the wastewater treatment facility.

2. A set of photographs of the well, pressure tanks, and storage tanks in the system may be submitted if they would show that the contamination is directly related and changes have been made since the last inspection by our Department

3. Name, certification level and certificate number of the Operator in Responsible Charge.

4. Copy of the last cross connection survey performed that identifies the location of all unprotected cross connections.

5. Updated source water assessment(s) (DWSAP) if there have been changes to well construction or potentially contaminating activities (PCA list) since last inspection.

**SUMMARY: BASED ON THE RESULTS OF YOUR INVESTIGATION AND ANY OTHER INFORMATION AT YOUR DISPOSAL, WHAT DO YOU BELIEVE TO BE THE CAUSE OF THE POSITIVE TOTAL COLIFORM SAMPLES FROM THE PUBLIC WATER SYSTEM?**

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**CERTIFICATION: I CERTIFY UNDER PENALTY OF LAW, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THAT THE STATEMENTS AND INFORMATION CONTAINED IN THIS APPENDIX ARE TRUE, ACCURATE AND COMPLETE.**

**NAME: TITLE: DATE:**