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STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
DIVISION OF DRINKING WATER

TO: Fowler Packing Company
8570 S. Cedar
Fresno, CA 93725

Water System No. 1000480

Attn: Ken Esraelian

**CITATION FOR VIOLATION OF CALIFORNIA CODE OF REGULATIONS, TITLE 22,
SECTION 64426.1 (b) (2) - TOTAL COLIFORM MAXIMUM CONTAMINANT LEVEL**

September 2014

CITATION NO. 03-23-14C-079

Issued on December 15, 2014

Section 116650 of the California Health and Safety Code authorizes the issuance of a citation to a public water system for violation the California Safe Drinking Water Act (Health and Safety Code, Division 104, Part 12, Chapter 4, commencing with Section 116270) (hereinafter "California SDWA"), or any regulation, standard, permit or order issued or adopted thereunder.

The State Water Resources Control Board, acting by and through its Division of Drinking Water (hereinafter "Division") and the Deputy Director for the Division (hereinafter "Deputy Director"), hereby issues a citation to the Fowler Packing Company Water System (hereinafter, Water System) (mailing address: 8570 S. Cedar, Fresno, CA 93725) for violation of California Code of Regulations (CCR), Title 22, Section 64426.1 subsections (b)(2).



APPLICABLE AUTHORITIES

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Section 116650 of California Health and Safety Code provides:

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(a) If the Division determines that a public water system is in violation of this chapter or any regulation, permit, standard, citation, or order issued or adopted thereunder, the Division may issue a citation to the public water system. The citation shall be served upon the public water system personally or by certified mail. Service shall be deemed effective as of the date of personal service or the date of receipt of the certified mail. If a person to whom a citation is directed refuses to accept delivery of the certified mail, the date of service shall be deemed to be the date of mailing.

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(b) Each citation shall be in writing and shall describe the nature of the violation or violations, including a reference to the statutory provision, standard, order, citation, permit, or regulation alleged to have been violated.

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(c) A citation may specify a date for elimination or correction of the condition constituting the violation.

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(d) A citation may include the assessment of a penalty as specified in subdivision (e).

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(e) The Division may assess a penalty in an amount not to exceed one thousand dollars (\$1,000) per day for each day that a violation occurred, and for each day that a violation continues to occur. A separate penalty may be assessed for each violation.

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California Code of Regulations, Title 22, Section 64426.1, subsections (a) and (b) provide, in relevant part:

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§64426.1. Total Coliform Maximum Contaminant Level (MCL).

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(a) Results of all samples collected in a calendar month pursuant to Sections 64423, 64424, and 64425 that are not invalidated by the Division or the laboratory shall be included in determining compliance with the total coliform MCL. Special purpose samples such as those listed in §64421(b) and samples collected by the water supplier during special investigations shall not be used to determine compliance with the total coliform MCL.

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(b) A public water system is in violation of the total coliform MCL when any of the following occurs:

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(1) For a public water system which collects at least 40 samples per month, more than 5.0 percent of the samples collected during any month are total coliform-positive; or

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(2) For a public water system which collects fewer than 40 samples per month, more than one sample collected during any month is total coliform-positive

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STATEMENT OF FACTS

66

The Water System is operated under Water Supply Permit No. 03-23-11P-006, issued by

67

the Division on February 24, 2011. Fowler Packing Company Water System is a non-



68 transient non-community water system utilizing two wells to serve a population of four
69 hundred seventy (470) people through (5) service connections.

70

71 The Water System is required to collect a minimum of one (1) bacteriological sample per
72 month from each GAC filter effluent. The bacteriological water analysis results submitted
73 by the Water System reported the presence of total coliform bacteria in six (6) of fifteen
74 (15) samples collected during September 2014. Additionally, during well cycle testing
75 conducted in September, both wells tested positive for total coliform bacteria. Well 1 also
76 tested positive for *E. Coli* during October 2014. Those results as well as all bacteriological
77 monitoring conducted during the months of September, October and November of 2014
78 are included in the following table:

79

Collection Date	Number of Samples	Sample Labeled	Number TC positive	Number E. Coli positive
9/8/2014	3	Routine	1	0
9/10/2014	5	Repeat (including both wells)	5	0
9/15/2014	2	Other	0	0
9/15/2014	5	Well 1 Cycle Test	5	0
9/15/2014	5	Well 027 Cycle Test	3	0
9/24/2014	5	Repeat (with chlorine residuals)	0	0
9/24/2014	5	Well 1 Cycle Test	1	0
9/26/2014	5	Well 027 Cycle Test	0	0
10/15/2014	7	Routine	0	0
10/15/2014	5	Well 1 Cycle Test	5	1
11/18/2014	4	Routine (including Well 1)	0	0

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81 Due to the above-mentioned total coliform and *E. Coli* positive samples, the Water System
82 failed the total coliform MCL for the month of September 2014. The source of
83 contamination has not been reported to the Division, however it is noted that both wells
84 tested positive for total coliform during September's initial repeat sampling event.
85 Following chlorination of both wells in September 2014, total coliform bacteria in the
86 distribution system and in Well 027 appeared to be abated. Further cycle testing of Well
87 01 in October 2014 indicated that it remained contaminated with total coliform bacteria
88 and with *E. Coli* bacteria. Well 01 was removed from service and chlorinated again. It
89 remains out of service until further notice.

90

91 The Groundwater Rule adopted by the Division, effective August 18, 2011, requires the
92 collection of a sample for bacteriological evaluation from wells serving the system in
93 response to a coliform positive distribution sample. This requirement was met with each
94 round of repeat sampling.

95

96

VIOLATION

97 The Drinking Water Field Operations Branch of the State Water Resources Control Board
98 – Division of Drinking Water (hereinafter 'Division') hereby issues a Citation to Fowler
99 Packing Company Water System (hereinafter 'Water System'), for failure to comply with
100 Section 116555(a)(1) of the CHSC and Section 64426.1(b)(2) of Title 22, California Code
101 of Regulations (CCR). Based on the Statement of Facts, the Water System has failed to
102 comply with the total coliform Maximum Contaminant Level (MCL) for the month of
103 September 2014.

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NOTIFICATION REQUIREMENTS

106 Section 64426.1(c) requires a public water system to notify the Division and the
107 consumers of the water system, when a violation of Section 64426.1(b)(1) through (4) the
total coliform MCL occurs. Notification to the Division shall be by the end of the business



109 day on which the violation has been determined. If the Division is closed, notification shall
110 be within 24 hours of the determination. The Division was notified on September 11, 2014
111 in accordance with the above-referenced section.

112

113 A Tier 2 Public Notice for violation of paragraph 64426.1(b) (2) shall be given pursuant to
114 Section 64463.4 and 64465. The Tier 2 Public Notice shall include the mandatory health
115 effects language from Appendix 64465-A for a total coliform MCL failure.

116

117 Section 64463.4 allows non-transient non-community water systems to give public notice
118 by posting the notice in conspicuous locations throughout the area served by the water
119 system and by the use of one or more of the following methods in order to reach persons
120 not likely to be reached by a public posting: publication in a local newspaper or newsletter
121 distributed to customers, e-mailing the public notice to water system customers, post the
122 public notice on the internet, or by delivery to each customer. The appropriate Tier 2
123 notification template is provided here as Attachment B. The Water System shall post the
124 public notice provided as Attachment B in conspicuous locations within the water system
125 and shall deliver the public notice directly to each employee.

126

127 Section 116450(g) requires that upon receipt of notification from a public water system,
128 schools must notify school employees, students, and parents (if the students are minors),
129 residential rental property owners or managers (including nursing homes and care
130 facilities) must notify their tenants and business property owners, managers or operators
131 must notify employees of businesses located on the property.

132 Notification of the public was conducted on September 22, 2014 using Attachment B.

133 Proof of Notification is included here as Attachment C.

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DIRECTIVES

The Water System is hereby directed to take the following actions:

1. By **January 15, 2015**, the Water System shall complete and submit the enclosed "Positive Total Coliform Investigation" form to the Division that describes the incident and all corrective actions taken, and the results of the investigation. The appropriate investigation report is provided as Attachment D.
2. Prior to Well 1 being returned to service, the Water System shall demonstrate that it is free of coliform bacteria through the performance of two well bacteriological cycle tests conducted one week apart. Guidance for well cycle testing is provided as Attachment E.

PARTIES BOUND

This Citation shall apply to and be binding upon Fowler Packing Company Water System, its officers, directors, shareholders, agents, employees, contractors, successors, and assignees.

SEVERABILITY

The Directives of this Citation are severable, and Fowler Packing Company Water System shall comply with each and every provision thereof, notwithstanding the effectiveness of any other provision.

FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the Division to: issue citation with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any permit, regulation, permit or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the Division to take action to suspend or revoke a permit that has been issued to a public water system if the

163 system has violated applicable law or regulations or has failed to comply with an order of
164 the Division; and to petition the superior court to take various enforcement measures
165 against a public water system that has failed to comply with violates an order of the
166 Division. The Division does not waive any further enforcement action by issuance of this
167 citation.

168 12/15/14

169 Date

Betsy Lichti

Betsy S. Lichti, P.E.,
District Engineer
Division of Drinking Water
State Water Resources Control Board

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Attachments:

- A. Bacteriological Distribution and Source Summary Reports
- B. Public Notice Template
- C. Proof of Notification
- D. Positive Total Coliform Investigation Form
- E. Guidance for Conducting a Well Cycle Test

Bacteriological Distribution Monitoring Report

1000480

Fowler Packing Company

Distribution System Freq: 1/M

Sample Date	Time	Location	T Coli	E Coli	F Coli	Type	Cl2	Violation	Comment
1/9/2014	12:55	gac filter plant 1	A	A		Routine			
1/9/2014	13:00	Hand sink	A	A		Routine			
1/9/2014	13:25	GAC filter Plant 3	A	A		Routine			
2/6/2014	9:15	GAC filter Plant 3	A	A		Routine			
2/6/2014	9:20	GAC filter plant 1	A	A		Routine			
2/6/2014	9:30	Plant 1 Handsink	A	A		Routine			
3/5/2014	9:25	Plant 1 hand sink	A	A		Routine			
3/5/2014	9:45	GAC filter Plant 3	A	A		Routine			
3/6/2014	9:30	GAC filter plant 1	A	A		Routine			
4/1/2014	10:30	plant 3	A	A		Routine			
4/1/2014	11:15	gac filter plant	A	A		Routine			
4/1/2014	11:20	hand sink	A	A		Routine			
4/10/2014	10:54	QC lab sink	P	A		Routine			
4/24/2014	10:30	QC lab	A	A		Repeat			
4/24/2014	10:36	Mens rr sink	A	A		Repeat			
4/24/2014	10:40	breakroom sink	A	A		Repeat			
4/24/2014	10:47	well 1	A	A		Source Repeat			
4/24/2014	10:55	well 3	A	A		Repeat			
5/8/2014	10:48	gac filter plant 1	A	A		Routine			
5/8/2014	10:55	1 hand sink	A	A		Routine			
6/3/2014	8:30	FOW plant 1 hand sink	A	A		Routine			
6/3/2014	8:30	System	A	A					
6/3/2014	8:39	GAC filter Plant 1	A	A		Routine			
6/3/2014	8:55	GAC filter Plant 3	A	A		Routine			
7/7/2014	9:00	GAC filter Plant 1	A	A		Routine			
7/7/2014	9:05	Plant 1 hand sink	A	A		Routine			
7/7/2014	9:20	Plant 3	A	A		Routine			
8/8/2014	10:35	gac filter plant 3	A	A		Routine			
8/19/2014	9:00	Hand sink	A	A		Routine			
8/19/2014	9:00	Hand sink	A	A		Routine			
8/19/2014	9:05	filter Plant 1	A	A		Routine			
8/19/2014	9:25	plant 3	A	A		Routine			
9/8/2014	10:30	GAC filter Plant 3	A	A		Routine			
9/8/2014	10:40	Plant 1 hand sink	P	A		Routine			
9/8/2014	10:45	Plant 1	A	A		Routine			
9/10/2014	9:50	FOW , warehouse outside	>23	<1.1		Repeat		MCL	
9/10/2014	10:00	Well 1	12	<1.1		Source Repeat			
9/10/2014	10:05	FOW, Plant 1	9.2	<1.1		Repeat			
9/10/2014	10:10	Well 027	3.6	<1.1		Source Repeat			
9/10/2014	10:20	Plant 2, HB	23	1.1		Repeat			
9/15/2014	9:00	GAC Filter Plant 1	<1.1	<1.1		Other			
9/15/2014	9:12	GAC Filter Plant 3	<1.1	<1.1		Other			
9/24/2014	8:30	Well 1 Fow, #1	<1.1	<1.1		Source Repeat			
9/24/2014	9:15	Plant 2 HS	<1.1	<1.1		Repeat	0.71		
9/24/2014	9:20	Plant 3 HS	<1.1	<1.1		Repeat	0.86		
9/24/2014	9:30	Plant 1, HS	<1.1	<1.1		Repeat	0.30		
9/24/2014	9:35	Warehouse Outside, HB	<1.1	<1.1		Repeat	0.92		
10/15/2014	9:40	GAC filter Plant 1	A	A		Routine			
10/15/2014	9:45	Fow Plant 1 HB	A	A		Routine			

<i>Sample Date</i>	<i>Time</i>	<i>Location</i>	<i>T Coli</i>	<i>E Coli</i>	<i>F Coli</i>	<i>Type</i>	<i>CI2</i>	<i>Violation</i>	<i>Comment</i>
10/15/2014	9:50	Shop , HS	A	A		Routine			
10/15/2014	9:57	Warehouse Outside	A	A		Routine			
10/15/2014	10:10	Plant 3, HB	A	A		Routine			
10/15/2014	10:15	GAC Filter Plant 3	A	A		Routine			
10/15/2014	10:20	Plant 2, HS	A	A		Routine			
11/18/2014	10:30	GAC Filter Plant 3	A	A		Routine			
11/18/2014	11:00	GAC Filter Plant 1	A	A		Routine			
11/18/2014	11:05	Plant 1 Hand Sink	A	A		Routine	0.52		
11/18/2014	11:30	Well 1	<1.1	<1.1		Source Routine			

Violation Key

MCL	Exceeds the maximum contaminant level	MR5	Incorrect number of repeat samples as follow-up to a positive sample
MR1	No monthly sample for the report month	MR6	No source sample
MR2	No quarterly sample for the report month	MR7	No summary report submitted
MR3	Incorrect number of routine samples for the report month	MR8	Other comments and/or info
MR4	Did not collect 5 routine samples for previous month's positive sample	MR9	CI2 not reported

Source Bacteriological Monitoring Report

1000480 *Fowler Packing Company*

Sample Date	Time	Source	Sample Type	Test Method	T Coli	E Coli	F Coli	HPC	Violation	Comments
9/10/2014	10:00	Well 1	Well	MPN	12	<1.1				
9/10/2014	10:10	Well 027	Well	MPN	3.6	<1.1				
9/15/2014	8:00	Well 027, #1	Well Cycle	MPN	>23	<1.1				
9/15/2014	8:01	Well 027 #2	Well Cycle	MPN	3.6	<1.1				
9/15/2014	8:05	Well 027 #3	Well Cycle	MPN	9.2	<1.1				
9/15/2014	8:15	Well 027 #4	Well Cycle	MPN	<1.1	<1.1				
9/15/2014	8:20	Well 01 #1	Well Cycle	MPN	12	<1.1				
9/15/2014	8:21	Well 01 #2	Well Cycle	MPN	1.1	<1.1				
9/15/2014	8:25	Well 01 #3	Well Cycle	MPN	3.6	<1.1				
9/15/2014	8:30	Well 027 #5	Well Cycle	MPN	<1.1	<1.1				
9/15/2014	8:35	Well 1, #4	Well Cycle	MPN	2.2	<1.1				
9/15/2014	8:50	Well 1, #5	Well Cycle	MPN	2.2	<1.1				
9/24/2014	8:30	Well 1 startup	Well Cycle	MPN	<1.1	<1.1				
9/24/2014	8:31	Well 1 1 min	Well Cycle	MPN	<1.1	<1.1				
9/24/2014	8:35	Well 1 5 min	Well Cycle	MPN	<1.1	<1.1				
9/24/2014	8:45	Well 1 15 min	Well Cycle	MPN	<1.1	<1.1				
9/24/2014	9:00	Well 1 30 min	Well Cycle	MPN	1.1	<1.1				
9/26/2014	9:00	Well 027 startup	Well Cycle	MPN	<1.1	<1.1				
9/26/2014	9:01	Well 027 1 min	Well Cycle	MPN	<1.1	<1.1				
9/26/2014	9:05	Well 027 5 min	Well Cycle	MPN	<1.1	<1.1				
9/26/2014	9:15	Well 027 15 min	Well Cycle	MPN	<1.1	<1.1				
9/26/2014	9:30	Well 027 30 min	Well Cycle	MPN	<1.1	<1.1				
10/15/2014	9:00	Well 1 #1	Well Cycle	MPN	>23	<1.1				
10/15/2014	9:01	Well 1 #2	Well Cycle	MPN	>23	9.2				
10/15/2014	9:05	Well 1 #3	Well Cycle	MPN	3.6	<1.1				
10/15/2014	9:15	Well 1 #4	Well Cycle	MPN	2.2	<1.1				
10/15/2014	9:30	Well 1 #5	Well Cycle	MPN	2.2	<1.1				

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

DRINKING WATER WARNING

Fowler Packing's water
was contaminated with *E. coli* bacteria

E. coli bacteria were found in the water supply in September 2014. These bacteria can make you sick, and are a particular concern for people with weakened immune systems.

- *Fecal coliforms and E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems. The symptoms above are not caused only by organisms in drinking water. If you experience any of these symptoms and they persist, you may want to seek medical advice.
- People with severely compromised immune systems, infants, and some elderly may be at increased risk. These people should seek advice about drinking water from their health care providers. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1(800) 426-4791.

What happened? What is being done?

It is believed that the contamination arose during plumbing work in the distribution system. Repairs were made and disinfection is being conducted. Repeat sampling will be conducted following the disinfection and you will be notified as soon as that testing shows that no coliform bacteria are present in the water system.

For more information, please contact Ken Esraelian at (559) 217-1817

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

Secondary Notification Requirements

Upon receipt of notification from a person operating a public water system, the following notification must be given within 10 days [Health and Safety Code Section 116450(g)]:

- **SCHOOLS:** Must notify school employees, students, and parents (if the students are minors).
- **RESIDENTIAL RENTAL PROPERTY OWNERS OR MANAGERS** (including nursing homes and care facilities): Must notify tenants.
- **BUSINESS PROPERTY OWNERS, MANAGERS, OR OPERATORS:** Must notify employees of businesses located on the property.

This notice is being sent to you by Fowler Packing

State Water System ID#: 1000480

Date distributed: Sept 22, 2014



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board
Division of Drinking Water

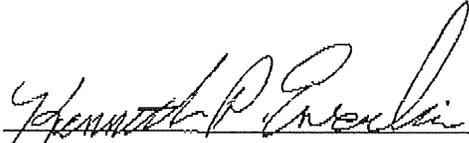
ATTACHMENT C

PROOF OF NOTIFICATION
(Return with copy of notice)

As required by Section 116450 of the California Health and Safety Code, I notified all users of water supplied by the Fowler Packing of the detection of *E. Coli* bacteria in a sample collected in September 2014.

Notification was made on Sept. 22, 2014 by _____
(date)

hand delivered and/or mailed and/or posted written notice,
(circle all that apply)


Signature of Water System Representative

Kenneth P. Escamelian.

Printed Name

Sept 23, 2014

Date

DISCLOSURE: Be advised that Section 116725 and 116730 of the California Health and Safety Code state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the attached order may be liable for a civil penalty not to exceed five thousand dollars (\$5,000) for separate violation for each day that violation continues. In addition, the violators may be prosecuted in criminal court and upon conviction, be punished by a fine of not more than \$25,000 for each day of violation, or be imprisoned in the county jail not to exceed one year, or by both the fine and imprisonment.

Due: October 15, 2014
E. Coli Detection : September 2014
System Number: 1000480
Enforcement Letter No.:

POSITIVE TOTAL COLIFORM INVESTIGATION

Attachment D

Simple Well with Pressure Tank Systems

This form is intended to assist public water systems in completing the investigation required by the SWRCB Drinking Water Division (Section 64426(b) of Title 22, California Code of Regulations) and may be modified to take into account conditions unique to the system.

ADMINISTRATIVE INFORMATION

PWS Name:	PWS ID NUMBER:	
	Name	Address
Operator in Responsible Charge (ORC)		
Person that collected TC samples if different than ORC		
Owner		Telephone #
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
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. Is there a check valve on the well discharge line? Is the check valve seating properly?					
h. Are there any connections to the raw water piping that could be cross connections? (describe all connections in comments)					
i. Is the wellhead secured to prevent unauthorized access?					
j. To what treatment plant (name) does this well pump?					
k. How often do you take a raw water total coliform (TC) test?					
l. Provide the date and result of the last TC test at this location					

POSITIVE TOTAL COLIFORM INVESTIGATION

Attachment D

Page 2 of 3

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 experiencing the TCR positive finding.	
3. Has the distribution system been worked on within the last week? (service taps, hydrant flushing, main breaks, main 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 and 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?	

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 exterior location or is it protected by an enclosure?				
3. Is the sample tap threaded, have a swing arm (kitchen sink) or 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 area 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 weather conditions at the time of positive sample (rainy, windy, sunny)?				

POSITIVE TOTAL COLIFORM INVESTIGATION

Attachment D

Page 3 of 3

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 TO 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 Division.
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.

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 YOUR PUBLIC WATER SYSTEM?

CERTIFICATION: I CERTIFY THAT THE INFORMATION SUBMITTED IN RESPONSE TO THE QUESTIONS ABOVE IS ACCURATE TO THE BEST OF MY PROFESSIONAL KNOWLEDGE

NAME: _____ TITLE: _____ DATE: _____

WATER SUPPLY WELL CYCLE TEST FOR BACTERIOLOGICAL CONTAMINATION

When a water supply well is suspected to be a possible source of bacteriological contamination in a domestic water system the well must be investigated. The cycle test is an effective method of evaluating the potential for the well to produce bacteriologically contaminated water.

The following procedure is considered to be an effective test for evaluation of the well. The well should be inactive for a minimum of ½ hour or longer before the start of the test, to allow the well to return to a static condition. For best results the well should discharge to waste, or if this is not possible, the discharge should be such that the well will run continuously for the 30 minute duration of the test. Have on hand an adequate supply of sample containers and identification tags.

- Open the discharge line and turn the pump on.
- Collect bacteriological samples at approximately:

No. 1 first water out of discharge	No. 4 at 15 minutes
No. 2 at 1 minute	No. 5 at 30 minutes
No. 3 at 5 minutes	

If the cycle test procedure is being done in follow-up to a previous coliform-positive sample from the well, the above samples should be analyzed by one of the methods listed below or a comparable method that would allow a determination of the density or enumeration of coliform present. If any of the cycle test samples are positive, the well should be disinfected and a follow-up cycle test performed by a method that would allow a determination of the density or enumeration of coliform present.

BACTERIOLOGICAL LABORATORY TEST PROCEDURES

Benefits and Disadvantages

Colilert Quanti-Tray or ColiPlate enzyme substrate test method: (Uses 100 ml sample)

- | | |
|----------------|---|
| Benefits: | Determines degree of contamination with a MPN result (Most Probable Number)
Gives total coliform and E. coli results |
| Disadvantages: | More Expensive |

Multiple Tube test method: (Uses 100 ml sample divided to ten 10 ml tubes)

- | | |
|----------------|---|
| Benefits: | Determines degree of contamination with a MPN result (Most Probable Number) |
| Disadvantages: | More expensive |

NOTE: For either of the above methods, time for test completion depends upon media used.
 Defined substrate medias yield faster results, 18 to 48 hours (varies with brand of media)
 Fermentation media takes 48 to 96 hours for results.

Membrane Filter (Uses 100 ml sample)

- | | |
|----------------|---|
| Benefits: | Results in 24 hours
Relatively inexpensive |
| Disadvantages: | Can be difficult to filter adequate size of sample
Colonies of non-coliform bacteria can obscure coliform bacteria thus nullifying results and requiring re-testing. |