



RON CHAPMAN, MD, MPH
Director & State Health Officer

State of California—Health and Human Services Agency
California Department of Public Health



EDMUND G. BROWN JR.
Governor

June 6, 2014

System No: 5010006

Dave Savidge, Water Systems Manager
Public Works Department
City of Modesto
P.O. Box 642
Modesto, CA 95353

Waterford - Transmittal of Citation No. 03-10-14C-005 for Failure of Manganese Maximum Contaminant Level

Due to the failure of the City of Modesto (City) operated Waterford water system to comply with the secondary maximum contaminant level (MCL) of manganese of 0.05 mg/L, as specified in Title 22 of the California Code of Regulations, Section 64449(a), the Department has issued Citation No. 03-10-14C-005. The citation is being transmitted to the City of Modesto under cover of this letter.

Please respond to the directives of this citation by the deadlines established with each item. If you have any questions regarding this citation, please contact Tahir Mansoor of this office at (209) 948-3879.

Sincerely,

Bhupinder S. Sahota, P.E.
District Engineer
Stockton District
Southern California Branch
Drinking Water Field Operations

Enclosures

Certified Mail No.: 7004 2890 0002 0057 9454

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**STATE OF CALIFORNIA
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
DIVISION OF DRINKING WATER AND ENVIRONMENTAL MANAGEMENT**

IN RE: City of Modesto
P.O. Box 642
Modesto, CA 95353

TO: David Savidge
Water Systems Manager

C I T A T I O N

No. 03-10-14C-005

CITATION FOR NONCOMPLIANCE: WATER SYSTEM NO. 5010006

Issued June 6, 2014

Section 116650, Article 9, Chapter 4, Part 12, of Division 104 of the California Health and Safety Code, authorizes the California Department of Public Health, Division of Drinking Water and Environmental Management (hereinafter, Department) to issue a Citation for failure to comply with a requirement of Chapter 4 (California Safe Drinking Water Act), or any regulation, standard, permit, or order issued there under.

VIOLATION

The California Department of Public Health, Division of Drinking Water and Environmental Management hereby issues a citation to the City of Modesto's

1 Waterford water system (hereinafter, City), physical address: P.O. Box 642, Modesto,
2 CA 95353 for violation of the following Section of Title 22, California Code of
3 Regulations (hereinafter, CCR).

4
5 **Section 64449(a):** "The secondary MCLs shown in Table 64449-A shall not be
6 exceeded in the water supplied to the public, because these constituents may
7 adversely affect the taste, odor, or appearance of drinking water."
8

9 Note that in addition to other chemicals, the above-mentioned table includes Iron (Fe)
10 and Manganese (Mn).

11
12 Specifically, in violation of the Section 64449(a) of Title 22, the Waterford water
13 system has failed the secondary maximum contaminant level (hereinafter, MCL) for
14 manganese.

15
16 In accordance with Section 116650 of the Health and Safety Code, the above violation
17 is classified as a continuing violation.
18

19 BACKGROUND

20
21 The Waterford water system is located approximately 10 miles east of the City of
22 Modesto on Highway 132 in Stanislaus County. The water system has been owned
23 and operated by the City of Modesto since July 1995, when it was purchased from the
24 Del Este Water Company (DEWCO). The City of Modesto operates numerous other
25 water systems in and around the City of Modesto, including the City of Modesto Water
26 System.
27

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2
3 The Waterford Water System serves a population of approximately 8,456 people in
4 the town of Waterford, via 2,179 service connections. The system serves the
5 Waterford area with water from six active deep groundwater wells located within the
6 service area. Waterford's groundwater supply is disinfected at each well site using
7 sodium hypochlorite solution to produce a free chlorine residual in the water. The
8 Waterford water system does not have any above ground storage capability at this
9 time.

10 Well No. 244 produces water in excess of MCL of manganese (0.05 mg/L). The City
11 utilizes GAC treatment at this well site for taste and odor problems. Oxidation with
12 chlorine followed by adsorption by GAC media worked in the past for the City to
13 remove manganese as well. However, this method of removal is not working anymore
14 and recently manganese has been showing up in the effluent of GAC in excess of its
15 MCL. The Department recently completed a review of the manganese monitoring
16 results for the Waterford's Well No. 244. The City began monthly/quarterly monitoring
17 of the GAC effluent in 2013 because the concentration of manganese in the water
18 produced by Well No. 244 exceeded the secondary drinking water standard for
19 manganese, 0.05 mg/L. The results of the manganese monitoring completed in
20 2013/2014 for the Waterford's Well No. 244 (after GAC treatment) are summarized
21 below:
22

23

Sample Date	Manganese Concentration, mg/L
2 nd Q 2013	0.034
25 3 rd Q 2013	0.059
26 4 th Q 2013	0.081

27

1	1 st Q 2014	0.054
2	Running Annual Average (RAA)	0.057

3
4 As noted above, the Waterford water system is in violation of Section 64449, Title 22,
5 CCR, which requires the manganese concentration to be less than or equal to the
6 secondary drinking water standard for manganese, 0.05 mg/L.

7
8 According to Section 64449.2, Title 22, CCR, the City qualifies for a waiver which will
9 allow the City to continue to use Well No. 244 as an active source of supply. To apply
10 for a waiver, the City must satisfy the requirements of Section 64449.2(b) through (g).
11 One of the requirements for obtaining a waiver is to conduct a study and evaluate
12 various alternatives and allow the consumers to vote on whether or not they prefer a
13 treatment system to be installed for removal of the manganese or continue to receive
14 water that exceeds the manganese MCL. A copy of Section 64449.2, Title 22, CCR,
15 is enclosed for your reference.

16
17 The other alternative for the City is to install a treatment system for removal of the
18 manganese from the water produced by Well No. 244. Greensand treatment is the
19 most common treatment being utilized in the Central Valley for the removal of iron and
20 manganese.

21
22 Since manganese concentration in excess of its secondary MCL is the basis for this
23 citation, the Department expects the manganese treatment plant be operated to attain
24 the level of removal technologically attainable, and not simply removal to the MCL
25 level. Optimization is economically beneficial to the water system since the fraction of
26 manganese that remains in the treated water eventually precipitates and must be
27

1 flushed from the system to avoid dirty water episodes when flow surges and reversals
2 re-suspend large volumes of precipitated solids.
3

4 **DIRECTIVES**

5
6 Due to the violation that has occurred as a result of the Waterford water system's
7 failure to comply with Section 64449(a) of Title 22, the City is hereby directed to take
8 the following actions:
9

10 The City shall notify the consumers of the Waterford water system of the secondary
11 manganese MCL violation in the 2013 Consumer Confidence Report (CCR), which is
12 required to be distributed to all consumers by **July 1, 2014**.
13

14
15 By **July 1, 2014**, provide a plan and schedule for investigating the options that may be
16 exercised to bring the water from Well No. 244 into compliance with the manganese
17 MCL. Given that information, the City can decide to install a treatment system or
18 pursue a waiver. If the waiver appears to be the most favorable option, the results of
19 City's investigation of corrective measures and the costs associated with the options
20 must be presented to the water consumers so that they can make the decision
21 regarding their desire to implement measures to assure compliance or their desire to
22 pursue a waiver. As the process is initiated, the Department can be contacted for
23 further information regarding the waiver process.

24
25 If the City decides to install a treatment system to remove manganese, the City shall
26 complete the installation of the treatment within a year and the plant shall be
27 operational by **July 1, 2015**. If treatment is not installed by this date, the City shall

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change the status of Well No. 244 to standby until the well is equipped with treatment system for the removal of manganese and a permit has been secured from the Department for its use.

Until the treatment is provided on Well No. 244, this well shall be put on a low-use priority list and shall be used only to prevent any water shortages and/or outages in the distribution system.

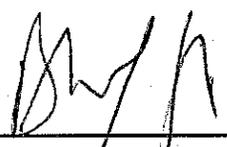
Responses to the above-required directives shall be submitted to:

Bhupinder S. Sahota
District Engineer
Drinking Water Field Operations Branch
31 E. Channel St., Room 270
Stockton, CA 95202

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CIVIL PENALTIES

Section 116650(d) and Section 116650(e) of the California Health and Safety Code (CHSC) allow for the assessment of a civil penalty for failure to comply with the requirements of Chapter 4 of the California Safe Drinking Water Act. Failure to comply with any provision of the Citation may result in the Department imposing an administrative penalty of not less than \$200 (two hundred dollars) per day as of the date of violation of any provision of this Citation.



Bhupinder S. Sahota, P.E.
District Engineer
Stockton District
Southern California Branch
Drinking Water Field Operations

June 6, 2014

Date

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