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Private Wells from which Water is extracted for Use for Food Processing

(Guides to the Industry Regulated as a Food Processor by the California Department of Public Health, Food and Drug Branch)

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This guidance is applicable only to ground water (water from a well that is not under the direct influence of surface water). The guidance does not bind the California Department of Public Health, Food and Drug Branch (FDB) and does not confer any rights, privileges, benefits or immunities for or on any person(s).

If a private well is used both for food processing and for providing drinking water to at least 25 individuals (e.g., employees) daily for at least 60 days out of the year, it is a public water system pursuant to the Health and Safety Code (H&SC) 116275 (h). Public water systems are regulated by the California Department of Public Health, Division of Drinking Water and Environmental Management (DDWEM) or a County Health Department (CHD) to which DDWEM has delegated its authority. However, if the well is used only for food processing and/or serves less than 25 individuals, it may not be under the jurisdiction of DDWEM or CHD, but rather be regulated by FDB.

This document was prepared to give guidance to the industry that uses water from a private well for processing or manufacturing food, to assist them in complying with applicable requirements, and to help produce or manufacture safe food products.

Step 1. Establishment of FDB Jurisdiction:

- If your well is used both for food processing and providing drinking water to at least 25 individuals (e.g., employees) daily for at least 60 days out of the year, it is under the jurisdiction of DDWEM or CHD. If not currently permitted, you are required to contact DDWEM or CHD to obtain a pertinent permit(s), and provide FDB with a copy of the permit.
- If your well is used only for food processing and/or serves less than 25 individuals and not under the control of DDWEM or CHD, it is under the jurisdiction of FDB. Proceed to Step 2.

Step 2. Substances to monitor and frequency of sampling/testing:

Wells under the regulatory control of FDB may be divided into two groups, based on their intended use:



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- Group 1: Water extracted for washing, rinsing, or conveying food; and
- Group 2: Water extracted for use as an ingredient.

The Group 2 “water for use as an ingredient” is defined as meaning not only for the direct addition of the water to a food as an ingredient (e.g., water for re-constituting orange juice concentrates, addition of water to make baked goods), but also to include the case in which the residual water from the washing/rinsing/conveying operation contributes to more than 2% by weight of the finished product. You may analyze the moisture content of the food before and after the washing/rinsing/conveying operation and calculate the difference. The difference is divided by the weight of the finished product to arrive with the % contribution from the water for washing/rinsing/conveying. You are encouraged to seek assistance from FDB if you experience any difficulties in the assessment of the % contribution because your processes are complex in nature.

A. Microbiological Quality Requirements for both **Group 1** and **Group 2**:

1. Quality standards: The upper limit for total coliforms in water is less than 2.2 Most Probable Numbers (MPN)/100ml if the enumeration method (e.g., multiple tube fermentation method) is used, or “absence” if Colilert or other presence or absence (P/A) method is used.
2. Monitoring Frequency I: If the manufacturing of the product (after washing, rinsing or conveying by the water at issue) incorporates a heat process at least equivalent to a pasteurization process, the total coliform bacteria analysis is required once every three months, or once during any shorter period of production.
3. Monitoring Frequency II: If the manufacturing of the product (after washing, rinsing or conveying by the water at issue) does NOT incorporate a heat process described in part 2, the total coliform bacteria analysis is required once each week during weeks of product production.
4. If any sample is tested positive (“presence” if Colilert is used or >2.2 MPN if an enumeration method is used), the water must be re-sampled by collecting four random samples within 24 hours and each sample tested for total coliforms. If any of the four samples tests positive, the presence of coliforms is confirmed. You must immediately stop using the well, inform FDB of the fact, investigate the cause for the presence of coliforms, and take or establish corrective measures. Once corrective measures have been taken, four random samples must be collected. You can resume operation of the well only if all four samples are negative for total coliforms.

B. Chemical and Radiological Quality Requirements:



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Group 1. Well from which water is extracted for washing, rinsing or conveying foods:

1. The water from the well should be analyzed for substances for the primary drinking water standards¹ to establish the baseline data. The baseline data will assist FDB in determining which substance(s) should be evaluated to assure the safety of foods processed with the water. You may not have to do the analysis if any reasonable and reliable baseline data already exist.
2. Quality Standards: If any substance(s) is above its maximum contaminant level¹, its contents in the raw food (before washing, rinsing, or conveying) and the finished product must be analyzed. If the level of the substance in the finished product is found to have been increased compared to that in the raw food, the water from the well is in violation of GMPs. You must immediately stop using the well, inform FDB, take corrective measures (e.g., blending with non-contaminated water or treatment of water to remove or reduce the level of the substance), and take 4 random samples from each of the raw and finished foods. Make a composite of the 4 samples each and perform single analysis for the substance. You can resume operation of the well only if the data indicate that the level of the substance has not been increased in the finished product compared to that in the raw food.
3. Frequency of sampling/testing: [Note: only the substance(s) at issue will be tested.]
 - i) Once every 6 months if the substance(s) is a volatile organic chemical, a non-volatile synthetic organic chemical from industrial sources or pesticides;
 - ii) Once every three years if it belongs to other chemicals except for radiological substances; and
 - iii) Once every four years if it is a radiological substance.

Upon your request, a waiver (mainly on the monitoring frequency) may be granted on a case-by-case basis.

Group 2. Well from which water is extracted for use as an ingredient:

1. The water from the well must be analyzed for substances for the primary drinking water standards¹ to establish the baseline data. The baseline data will assist FDB in determining which substance(s) should be evaluated to assure the safety of foods processed with the water. You may not have to do the analysis if any reasonable and reliable baseline data already exist.
 2. Quality Standards: If any substance(s) is above its maximum contaminant level¹, the water from the well may be in violation of the good manufacturing practices (GMPs). You should stop using the well, inform FDB, take corrective measures (e.g., blending with non-contaminated water or treatment to remove or reduce the level of the substance), and take 4 random samples.
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Make a composite of the 4 samples and perform single analysis for the substance. You can resume operation of the well only if the data indicate that the water meets the primary drinking water standards.

3. Frequency of sampling/testing: [Note: only the substance(s) at issue will be tested.]

- i) Once every 6 months if the substance(s) is a volatile organic chemical, a non-volatile synthetic organic chemicals from industrial sources or pesticides,
- ii) Once every three years if the substance belongs to other chemicals except for radiological substances, and
- iii) Once every four years if it is a radiological substance.

Upon request, exemptions (mainly on the monitoring frequency) may be granted on a case-by-case basis.

¹ Primary drinking water standards or maximum contaminant level (MCLs): They are listed in Title 22, California Code of Regulations, Sections 64431(a), 64432(c), 64433.2, 64443(d), 64444, 64445.1(a), 64672.3. You can download the regulation from the DDWEM's website:

<http://www.cdph.ca.gov/ps/ddwem/publications/lawbook.htm>. For obtaining a hard copy of the regulation, please contact DDWEM at (916) 449-5600 or FDB Water Licensing Desk at (916)324-2170.