

20—Industrial Sanitation and Personnel Facilities

food areas, personal service rooms, or clothes washing

Plumbing

Fixtures and faucets should be installed to prevent back-siphonage of contaminated water if the pressure drops in the supply line. Faucets and similar outlets should be at least 1 in. above the floodrim of the receptacle below. To prevent backflow into the drinking water supply, surge tanks and air gaps may also be required in the drainage lines from process equipment.

Open joints in underground supply lines into which ground water or water from leaky sewers can seep are another common source of contamination. This condition may arise where pipes are subject to vibration or corrosion and the joints between pipes open mechanically or the pipe sections crack. Codes usually prohibit sewer and drinking water lines to be installed in the same trench, unless the sewer line is placed at a much greater depth and a certain horizontal offset is provided.

Frequently, contamination of the water supply, results when a system is opened for repair or the addition of new pipe and is not disinfected and properly flushed with clean water, before being put back into service.

If the supply for sprinklers and fire hydrants is the same as that for drinking water, hydrant drains or "weeps" connected directly to sewer lines may be a source of contamination. An open standpipe or reservoir may also permit contamination.

Plastic pipe can be considered, but be sure to check local code requirements. Unplasticized PVC (polyvinyl chloride) is good for cold water lines. Hot water up to 165 F and 100 psi can usually be handled in pipe made of chlorinated polyester or unplasticized PVC.

Private water supplies

Industrial establishments in outlying districts commonly supply and treat their own water from private sources. Such installations should be made and operated under the supervision of a thoroughly trained and experienced sanitary engineer. The information in the next few paragraphs is not meant to substitute for such supervision. The USPHS *Manual of Individual Water Supply Systems*



FIG 20-1 —Periodic laboratory tests are needed to determine the quality of both source water and treated water

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should also be consulted for methods of selecting, developing, and treating private supplies.

All underground and surface waters to be used for drinking purposes should be considered contaminated until proved otherwise. The water supplied from private sources for the personal use of plant personnel should meet the requirements of the USPHS *Drinking Water Standards*, and before it can meet these requirements will have to be treated according to the degree of its contamination. As a rule, ground water collected from deep-drilled wells will be free of biological contamination but may be contaminated by various mineral or chemical substances. In contrast, surface water usually will be reasonably free of mineral and chemical contamination but very likely to have biological contamination.

Where there are several sources of water,