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roof hatch was closed and pinned shut, no birds actually got inside of this tank. There were no bodies and no bones, but there were a lot of feathers and a large amount of droppings. The hatch frame was too short and the cover fit so poorly onto the frame that the wind blowing across the tank roof would carry dried droppings and feathers right under the hatch and into the tank. This roof hatch had been a sanitary nightmare for 26 years, since the day it was built by a big name tank building company. That company is still building tanks and still using the same basic hatch hinge design that put seven people in the graveyard at Gideon. Who built your tank?

In personal conversations with the water operator on January 11, 12, and 13, 1994, I had questioned the procedure he followed in flushing

hydrants and he repeatedly told me he flushed hydrants ten minutes each. When I finally asked how he knew it was 10 minutes he said "by the watch on my wrist".

The town's wells were in the east part of town and all storage was in the west and south. When I looked at the pattern followed in flushing, estimated hydrant flow capacity, and the fact he flowed all hydrants in a single short day it was easy to see a complete system overload. Production could not keep up, the tanks were basically drained, and bad water was pulled into distribution. Once that water got outside of the main trunk lines between storage and production it could not be pushed back into storage, and it was supplied to the customers.

I have been involved with water storage since 1964 and started Tomcat Consultants in 1989, specializing in sanitary problems in storage. Tanks do need periodic inspections but the real value of those inspections is directly tied to the competence of the inspector. The Gideon tanks had been climbed by many, including a local painter who added chlorine in December 1993, and

painted several times since 1967. None recognized any of the following sanitary shortcomings:

1. Vents must be insect and frost-proof with adequate height of 12-inch minimum to the lowest point of the air intake;
2. Overflows should come to grade with No. 4 screen and a close fitting flap-gate;
3. Roof hatches need a 6-inch frame raise, with covers that fit spider tight;
4. Piping should be in place that will guarantee water movement through storage;
5. Tanks must be washed out about every five years and coatings maintained;
6. Overflow tanks about once a month during hot weather to remove the oldest, warmest, and poorest quality water off the surface.

Pay attention to these six areas and sanitary issues associated with storage tanks should be few.

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