

CASE SPOTLIGHT



Featured Case: Massive Microbial Growth

Knott Laboratory was asked to perform an investigation of a residence that had suffered a water loss which led to massive microbial growth throughout the house. We were also asked to determine the cause of the loss and the expected cost of repairs associated with the water loss had it been discovered before the microbial growth.

This home is located on the western slope of Colorado and was used only as a summer residence. The homeowner left for the winter in early October. Just after leaving, the energy company came to the residence to replace the gas meter. This required turning off the gas supply. A note was left on the door explaining the maintenance and that the homeowner would need to call when they wanted the gas turned back on. However, the homeowner was unaware of the work performed and gas was not restored to the residence. Since the home was heated by a gas furnace, it received no heat through the winter. At some point, a water line burst causing the private well to continuously pump water into the home until the loss was discovered.

Due to the massive water loss and the home being closed up for months, microbial growth covered nearly every surface of the residence.

We conducted a site inspection of the residence, documented multiple pipe separations, interviewed the homeowner, and reviewed the gas and electrical utility records. Review of the gas utility records confirmed there was no gas supply at any time during the winter months. The electrical records showed a sharp increase in usage year-over-year due to the well pump continuously running. The monthly increases ranged from 103% to 459%.

Our forensic engineers pulled historical weather data for the location that winter and confirmed temperatures were well within the range and duration to cause a frozen/burst pipe. They also reviewed the timeline of microbial growth given certain temperatures and humidity. Through all the compiled evidence, it was determined that the water loss occurred between December 21 and January 21.

Using software, called Xactimate, we estimated mitigation and repair costs associated with the water loss assuming the loss was discovered prior to the development of microbial growth. For this home it was found to be approximately \$99,731.93.

Featured Expert



Henry "Hank" Mowry, P.E. - Director of Engineering

Hank has conducted hundreds of failure analyses on various components including plumbing fittings and fixtures, PVC piping, copper and iron water piping, gear teeth, bearings, and other components. He frequently examines mechanical systems and determines the root cause of failure, including failure to maintain, improper use, long term wear and tear, and design or manufacturing defects. Hank has testified in both federal and state court as an expert witness, for both plaintiffs and defendants.

Years in Business

40

Number of Experts

29

**Number of States
Retained In**

50

Investigated Cases

20,000

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