Shaver Lake Volunteer Fire Department

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www.Shaverlakefire.org

April 18, 2025

Robert Markland
Shaver Heights Water Association

Dear Mr. Markland:

The Shaver Lake Fire Department tested all of the hydrants of the Shaver Heights Water Association during June and July 2024.

Fire hydrants typically operate within a pressure range of 20 to 100psi. The exact pressure can vary depending on factors like the location, the water system supplying the hydrant, and the time of day. For optimal firefighting, hydrants are generally expected to provide water at pressures of 50 to 100psi.

Three pressure readings were taken from every hydrant: A static pressure, a residual pressure and a pitot pressure. A pressure gauge reading was taken at each of the hydrants before water in the hydrant was flowed (this is the static pressure) and again while the hydrant is being flowed (this is the residual pressure). The nozzle pressure (measured with a pitot) is the pressure reading taken from the hydrant as the water is being flowed.

Static pressure in fire hydrants refers to the pressure within the water system when no water is being drawn from the hydrant. It is a measure of the water pressure available before any hydrant flow tests or firefighting operations begin. This pressure is important for evaluating the overall water supply capacity and is used in fire flow calculations. The static pressure of a fire hydrant should typically be at least 20psi. The average static pressure of the hydrants of the Shaver Heights Water Association was 53psi.

Residual Pressure is the pressure measured when the hydrant is fully opened and water is flowing from the hydrant. A residual pressure of 20psi is a common target for water systems to maintain. The average residual pressure of the hydrants of the Shaver Heights Water Association was 34.2psi.

Fire hydrants typically operate within a pressure range of 20 to 100psi. The exact pressure can vary depending on factors like the location, the water system supplying the hydrant, and the time of day. For optimal firefighting, hydrants are generally expected to provide water at pressures of 50 to 100psi. These standards dictate that fire hydrant systems should be capable of providing a minimum pressure of 200k Pa at all hydrants under flow conditions. The average pitot pressure of the hydrants of the Shaver Heights Water Association was 38psi or 262 kPa.

Steve McQuillan

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