

Bucket full of water has 4 holes punctured in it vertically down outside of bucket, top to bottom. Does escaping water through holes vary in pressure?

The pressure exerted by a static fluid depends only upon the depth of the fluid, the density of the fluid, and the acceleration of gravity. The pressure in a static fluid arises from the weight of the fluid and is given by the expression:

$$p = \rho gh$$

where

$\rho = m/V =$ fluid density

$g =$ acceleration of gravity

$h =$ depth of fluid

So, pressure increases from top to bottom.