FPST 2483 Hands-on Lab-Hydrostatics Name:_____

The objective of this laboratory unit is to illustrate the hydrostatic relationship between elevation and pressure and provide practice for the student in applying basic hydrostatic principles, in particular, Principle No. 3 and Principle No. 5.

Part 1:

Watch the lab activity at OSU and then participate in the lab at SWJTU.

In the first part of this laboratory session, the standpipes located in the Fire Protection Laboratory Building is to be filled completely with water. The height of the standpipe is to be measured and pressure readings taken from the pressure gauges located the bottom of the standpipe. Measurements will need to be taken between gauges (centerline of the gauges).

Next, a small diameter pipe will be connected to a pressure gauge and a water supply source. The pipe will be filled with water completely. A pressure reading will be taken at the pressure gauge. Then, valves will be opened at 2 foot increments and the pressures taken at each increment. Measurements between the valves and the centerline of the gauge will need to be taken.

The predicted pressure at each gauge for any water column height can be predicted by applying the following equation:

$$p = 0.433h$$

where: p is the pressure reading in psi
h is the water column height above the gauge in feet.

The observed values of pressure are to be compared to the predicted values and a report developed. The report must comply with the format requirements and all instructions presented in Laboratory #01. The report is due at the designated date and time on Canvas.