Start new model, change units to lb, ft and click Wall template and accept defaults by clicking OK



Go to Define menu>Joint patterns and add a joint pattern named Water. Next, select areas where you want to assign varying pressure load by windowing around them as shown below right



Next, use Assign menu>Joint pattern, change Pattern name to WATER, Z coordinate at zero pressure option and type 16 ft Wt per unit volume at 62.4 in lb. ft units, with Restriction Zero negative. This specifies 16 ft as the water surface and the zero neg restriction assigns a zero to all the areas above. Note that SAP will assign a pressure normal to the area face, so this is particularly useful for curved surfaces.

The "Added Uniform value per unit area" option is useful if you ever want to add additional pressure on the selected areas in addition to the surface pressure. Press F1 to view help screen with this dialogue box open for more info. Press OK and see what SAP has calculated

Pattern Data		В			(E)	Ψ	
Pattern Name WATER 💌							
Pattern Assignment Type							
C X, Y, Z Multipliers (Pattern Value = Ax + By + Cz + D)							
Coordinate at Zero Pressure and Weight Per Unit Volume							
Z Coordinate at Zero Pressure and Weight per Unit Volume	1						
Z Coordinate Wt per Unit Vol Restriction							
16 62.4 Zero Neg 🔽 Add							
16 62.4 Zero Neg Modify							
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Added Uniform Value per Unit Area 0.							
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C Zero Negative values C Replace existing values							
C Zero Positive values C Delete existing values							
OK Cancel	748.8D	748.88	748.80	748.8D	748.88	748.80	748.8D
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Click previous selection button is to reselect and Assign>Area loads>Surface pressure, click the + sign next to the DEAD load pattern load to define a new load pattern named PRESSURE as shown below right, press OK, then change area surface pressure load to the newly defined PRESSURE load pattern. Here you could apply a multiplier, but water is already scaled to G so just press OK



Switch window to 3d view by clicking 3d button^{3d} to view projected pressures.





Run the analysis, then Display>Show tables. Here you can Select load case PRESSURE, then view base reactions to check results

Choose Tables for Display				
Edit				
MODEL DEFINITION (0 of 45 tables selected) MODEL DEFINITION (0 of 45 tables selected) MODEL DEFINITION (0 of 45 tables selected) MODEL DEFINITIONS Other Definitions Other Definitions Dother Definitions	Select Load Cases	Load Patterns (Model Def.) Select Load Patterns 2 of 2 Selected Load Cases (Results) Select Load Cases of 3 Selected		
 Joint Assignments Area Assignments Options/Preferences Data Miscellaneous Data Miscellaneous Data ANALYSIS RESULTS (1 of 13 tables selected) Joint Output Element Output Structure Output Mase Reactions Table: Base Reactions Modal Information 	DEAD MODAL PRESSURE	Modify/Show Options Set Output Selections ions Selection Only Show Unformatted		
		Save Named Set Show Named Set Delete Named Set		
Table Formats File Current Table Formats File: Program D	Default			

Alternatively, we could have switched units before generating this table

B	Base Reactions										
E	ile j	<u>V</u> iew For <u>m</u> at-Fi	ilter-Sort <u>S</u> elec	t Options							
Units: As Noted			Base Reactions					-			
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F	Reco	rd: 🚺 🖣		of 1					Add Tables	Done	
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