POROSITY CALCULATION OF COMPACTED SALT SAMPLE USING VACUUM SEALING METHOD

Scope: To determine the bulk specific porosity of specimen of compacted salt sample

Apparatus: Corelok InstroTek, Inc

Test Specimen:

Sample ID: 175_15 (P4) (Oven dried)

Sample Type: Salt, End piece

Shape: Cylindrical

Figure 1: Salt Sample 175_15 (P4)

Calculation:

Sample (Oven dried) weight in air, W_1 = 326.030g

Membrane (InstroTek provided) weight, W_p = 15.380g

Sample weight in water (Submerged), W_2 = 166.730g

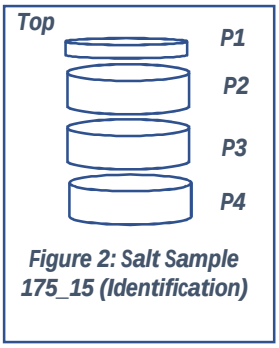

Figure 2: Salt Sample 175_15 (Identification)

Density of Water (g/cm^3) for 22˚C = 0.9977

Using *CoreGravity* (Software), Bulk Specific Gravity, G_b = 2.092

Therefore, bulk density, D_b = 2.087 g/cm^3

And sample volume, V = 156.219 cm^3

Maximum Specific gravity, Gm = $[W_1/ (W_1-W_3)]$ x ρ_s =2.157

(Calculated using Silica oil for Sample 90_05)

Therefore, assumed Gm = 2.157

% Porosity = $(1- G_b/ G_m)$ x 100 = 3.25%

Results:

Sample volume = **156.219 cm^3**

Bulk Specific Gravity, G_b = **2.092**

Porosity = **3.25 %**