Date: 5/19/2017

POROSITY CALCULATION OF COMPACTED SALT SAMPLE USING VACUUM SEALING METHOD

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

Apparatus used: Corelok InstroTek, Inc

Figure 1: Salt Sample 175_13 (Center)

Test Specimen:
Sample ID: 175_13 (Oven dried)
Sample Type: Salt, Core (Center)
Shape: Cylindrical

Calculation:

Sample (Oven dried) weight in air, W_1 = 1014.200 g
Membrane (InstroTek provided) weight, W_p = 13.230 g
Sample weight in water (Submerged), W_2 = 535.910 g

Density of Water (g/cm^3) for 20.9˚C (recorded 0.998
Bulk Specific Gravity of the sample, G_b = 2.134
Using CoreGravity (Software)

So, bulk density, D_b = 2.130 g/cm^3
Sample volume, V = 476.210 cm^3

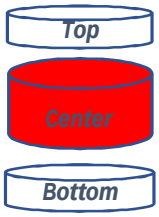

Figure 2: Sample identification

Maximum Specific gravity, $Gm = [W_1/ (W_1-W_3)] \times \rho_s = 2.157$
(Based on calculation for Sample 90_05, where W3 = sample weight in Silica oil- pores filled with same fluid)

Hence we will assume, Gm = 2.157

% Porosity = $(1- G_b/ G_m) \times 100$ = 1.07%

Results:

Therefore the sample volume =	476.210 cm^3
Bulk Specific Gravity, G_b =	2.134
And calculated Porosity =	1.07%