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

Test Specimen:
Sample ID: 175_13 (Oven dried)
Sample Type: Salt, End Piece (Top)
Shape: Cylindrical

Figure 1: Salt Sample 175_13 (Top)

Calculation:

Sample (Oven dried) weight in air, W_1 = 242.750 g
Membrane (InstroTek provided) weight, W_p = 7.920 g
Sample weight in water (Submerged), W_2 = 126.580 g

Density of Water (g/cm^3) for 20.9˚C (recorded 0.998
Bulk Specific Gravity of the sample, G_b = 2.122
Using CoreGravity (Software)

So, bulk density, D_b = 2.118 g/cm^3
Sample volume, V = 114.626 cm^3

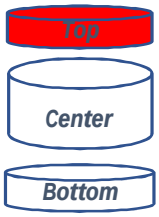

Figure 2: Sample identification

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 = $(1- G_b/ G_m) \times 100$ = 1.62%

Results:

Therefore the sample volume =	114.626 cm^3
Bulk Specific Gravity, G_b =	2.122
And calculated Porosity =	1.62%