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 (Bottom)

Shape: Cylindrical

Calculation:

Sample (Oven dried) weight in air, $W_1 = 232.260 \text{ g}$ Membrane (InstroTek provided) weight, $W_p = 7.710 \text{ g}$ Sample weight in water (Submerged), $W_2 = 120.410 \text{ g}$

Density of Water (g/cm 3) for 20.9°C (recorded 0.998 Bulk Specific Gravity of the sample, $G_b = 2.109$ Using CoreGravity (Software)

So, bulk density, $D_b = 2.105 \text{ g/cm}^3$ Sample volume, $V = 110.349 \text{ cm}^3$

Figure 1: Salt Sample 175_13 (Bottom)



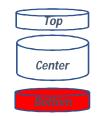


Figure 2: Sample identification

Maximum Specific gravity, $Gm = \left[W_1/\left(W_1\text{-}W_3\right)\right]x \; \rho_s = 2.157$

(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 = $(1 - G_b/G_m) \times 100 = 2.23\%$

Results:

Therefore the sample volume = 110.349 cm^3 Bulk Specific Gravity, $G_b = 2.109$ And calculated Porosity = 2.23%