



Angelo State University
David L Hirschfeld Department of Engineering

Consolidation Test

Client: West Texas Developers
 Project title: Red Arroyo
 Test date: 3/15/2020
 Boring no.: 7 Sample/Specimen no.: 2H 3/1
 Soil Classification: SM Silty Sand

Project #: 3341
 Test performed by: W. Kitch
 Checked by: _____
 Sample depth: 10 ft

	Before test				After test			
	Specimen		Trimnings		Specimen			
Tare no.	Specimen Ring #3		313		Specimen Ring			
Mass of tare	216.77	g	21.02	g	216.77	g		
Mass of soil+tare (wet)	370.88	g	73.83	g	357.35	g		
Mass of soil+tare (dry)	337.16	g	63.02	g	337.16	g		
Mass water (W_w)	W_{w0}	g		g	W_{wf}	g		
Mass dry soil (W_s)		g		g		g		
Moisture Content (w)	w_0	%	w_0	%	w_0	%		
Consolidometer #	4		Specimen height (H)		1.0	in		
Ring inside diameter	2.50	in	Sp gr of solids		2.68		Measured	
Specimen Area (A)		in ²					☒ Assumed	

Height of solids	$H_s = \frac{W_s}{A \times G_s \times \gamma_w} = \frac{21.02}{1 \times (2.54)^3} =$		in
Initial height of water	$H_{w0} = \frac{W_{w0}}{A \times \gamma_w} = \frac{52.86}{1 \times (2.54)^3} =$		in
Final height of water	$H_{wf} = \frac{W_{wf}}{A \times \gamma_w} = \frac{42.13}{1 \times (2.54)^3} =$		in
Total change in specimen height at end of test, $\Delta H =$			in
Specimen height at end of test, $H_f = H - \Delta H =$			in
Initial void ratio	$e_0 = \frac{H - H_s}{H_s} =$		
Final void ratio	$e_f = \frac{H_f - H_s}{H_s} =$		
Initial degree of saturation	$S_0 = \frac{H_{w0}}{H - H_s} =$		%
Final degree of saturation	$S_f = \frac{H_{wf}}{H - H_s} =$		%
Initial dry unit weight	$\gamma_d = \frac{W_s}{H \times A} = \frac{21.02}{1 \times (2.54)^3} \times 62.4 =$		lb/ft ³