



BROOKSIDE LABORATORIES, INC.
GEOTECHNICAL DIVISION
200 WHITE MOUNTAIN DRIVE
NEW BREMEN, OH 45869

**** PHYSICAL ANALYSIS REPORT ****

The Summit
Las Vegas, NV

File Number: 73668

Date Received/Started : 7/3/2017
Date Completed/Reported: 7/10/2017

Submitted By: Soil and Water Consulting

Lab Number	1146
Sample Description	BUNKER SAND FILE
Sample Condition	<u>XX</u> Normal ___ Other (see comments)

Method References

ASTM D5550
ASTM F1632
ASTM F1647 - Method A
ASTM F1815

D Values

** D10: 0.29
** D60: 0.66
** Coefficient of Uniformity: 2.29

*Reported values are an average of duplicated analysis

** NON A2LA ACCREDITED
* *This report may only be reproduced in its entirety.*
* *These results represent the sample submitted only.*



Geotechnical
(Putting Green Materials)
Certificate Number: 736.01

CAPPING CHARACTERISTICS

The Summit
Las Vegas, NV

File Number : 73668
** Date of Analysis **
Start Date : 7/3/2017
Completed : 7/10/2017

Submitted By: Soil and Water Consulting Reviewed by:

Tiffany Albers

Lab Number 1146
Sample Description BUNKER SAND
FILE

Particle Size Analysis**USGA Specs**

Clay	<.002mm	%	0.0	<= 3.0%
Silt	.002mm - .05mm	%	1.0	<= 5.0%
Sand	.05mm - 2.00mm	%	99.0	
Gravel	> 2.0mm	%	0.0	

Org Mat 360 deg C (LOI) 0.33

Sand Fractions

Sieve Size		% Retained	
#	mm		
10 -	2.0	Fine Gravel	0.0
18 -	1.0	Very Coarse Sand	1.0
35 -	.500	Coarse Sand	57.6
60 -	.250	Medium Sand	37.2
100 -	.150	Fine Sand	2.6
140 -	.106	Very Fine Sand	0.4
270 -	.053	Very Fine Sand	0.2

2.0mm <= 3.0%
2.0mm + 1.0mm <= 10%
0.5mm + 0.25mm >= 60%
0.15mm <= 20%
0.106mm + 0.053mm <= 5.0%

Soil Moisture Measurements

Saturated Conductivity in/hr 146.9

Soil Density

Bulk Density	g/cc	1.51
Particle Density	g/cc	2.71

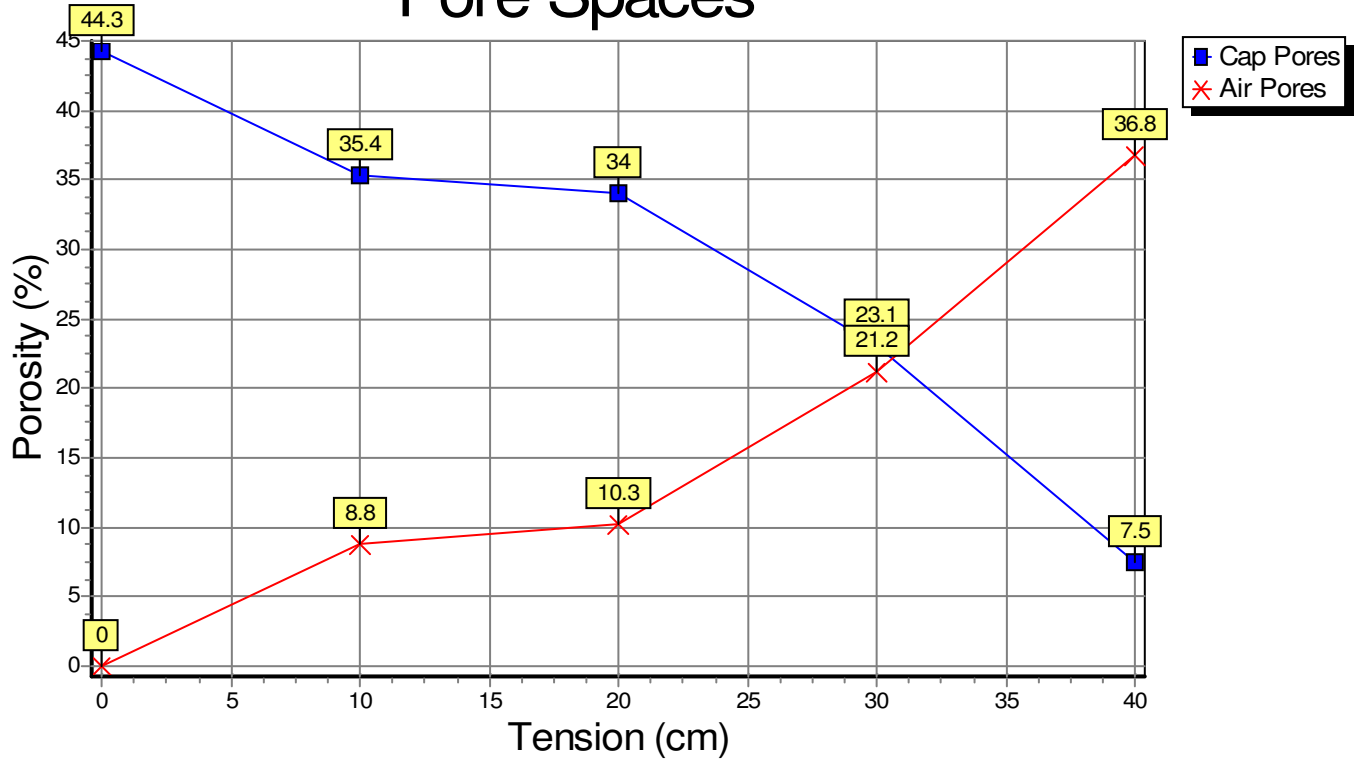
MOISTURE RETENTION %**PORE SPACE %**

		TOTAL	CAPILLARY	AIR FILLED
SATURATION	24.3	44.3	44.3	0.0
10 CM	23.5	44.3	35.4	8.8
20 CM	22.5	44.3	34.0	10.3
30 CM	15.3	44.3	23.1	21.2
40 CM	5.0	44.3	7.5	36.8

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 PILE

Pore Spaces



Moisture Retention

