



Turf & Soil Diagnostics

MATERIALS TEST REPORT FOR Newfield Sand



REPORT TO: Newfield Sand
Matthew Pepin
59 Shaw Road
Sanford, ME 04073

DATE RECEIVED: Sep-02-2025
REPORT DATE: Sep-08-2025
CONDITION OF SAMPLE: Normal

Particle Size Evaluation*

Lab ID#	Sample Name	% Retained mm (US sieve)									
		% Sand 2.0 - 0.05 mm	% Silt 0.05 - 0.002 mm	% Clay < 0.002mm	No. 5 Gravel 4.0 mm	No. 10 Gravel 2.0 mm	No. 18 V. Coarse 1.0 mm	No. 35 Coarse 0.50 mm	No. 60 Medium 0.25 mm	No. 100 Fine 0.15 mm	No. 270 V. Fine 0.05 mm
51704-1	1 mm Topdressing Sand	99.7	< 1.0	< 1.0	0.0	0.0	3.7	35.4	58.1	2.4	0.1
USGA Recommendations for Greens		≥ 92%	≤ 5%	≤ 3%	0%	≤ 3% Gravel ≤ 10% Combined		≥ 60% Combined		≤ 20%	≤ 5%***
Greens Topdress Guidelines [‡]		-	≤ 3%		0%	0%	≤ 5%	≥ 60% Combined		≤ 15%	≤ 5%

[‡] Guidelines Developed by Hummel & Co.

Lab ID#	Sample Name	Uniformity Coefficient Cu	D15 mm	D50 mm	D85 mm			USDA Textural Classification		pH [‡] 1:1
51704-1	1 mm Topdressing Sand	1.8	0.29	0.44	0.80			Sand		5.4
USGA Recommendations for Greens		See Below								

*TSD Quality Control Testing SOP

***Maximum of 10% combined on Very Fine Sand, Silt, and Clay fractions.

USGA Rootzone Coefficient of Uniformity Recommendations: 1.8 to 3.5 for Mixes with Peat; 2.0 to 3.5 for Mixes with Inorganic Amendment or Pure Sand.

Samples were tested as received and comments pertain only to the samples shown.

This report may not be reproduced in part, but only in full.

Sample condition upon receipt was normal.

Samples were received with a transmittal letter.

[‡] ASTM D4972 w/ CaCl₂ (pH in H₂O available upon request)

Reviewed by Duane K. Otto



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PHYSICAL EVALUATION*

Lab ID#	Sample Name	Particle Density ¹ g/cc	Bulk Density g/cc	Infiltration Rate* in/hr	Infiltration Rate* cm/hr	Total Porosity %	Aeration Porosity %	Capillary Porosity %	Degree of Saturation %
51704-1	1 mm Topdressing Sand	2.66	1.50	55.1	140.1	43.5	36.2	7.3	17
USGA Recommendations		-	-	≥ 6	≥ 15	35 - 55	15 - 30	15 - 25	-

*ASTM F1815 30 cm Tension

¹ ASTM D5550

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Reviewed by Duane K. Otto



Turf & Soil Diagnostics

September 8, 2025

Newfield Sand
Matthew Pepin

TSD File #51704

This report details the results of the 1 mm Topdressing Sand sample, which was tested as received. This sample is being evaluated for potential use as putting green topdressing. Topdress guidelines and the USGA Recommendations for Putting Green Construction are included for your information and possible comparison.

The 1mm Topdressing Sand sample is a clean, uniformly graded sand. There is a minimal amount of silt and clay present. The majority of the sand particles are in the medium sand size fraction. The gradation meets USGA particle size recommendations for greens construction.

The sample has few particles larger than 1mm, which suggests that this sample should readily work into the turf canopy.

The 30 cm performance testing indicates that the sand has a saturated hydraulic conductivity (infiltration rate) and total porosity that meet USGA recommendations.

Total porosity is comprised of air-filled (aeration) and water-filled (capillary) pore space. Aeration porosity is made up of relatively large pores that conduct water under saturated conditions. When drained, they are filled with air which provides the oxygen that is necessary for root growth. Capillary porosity is made up of small pores that hold water against the force of gravity, retaining much of it for plant use. It is typically desirable for topdress sand to have higher air-filled than capillary porosity as topdress sand is often used to increase surface aeration.

The aeration porosity is higher than USGA recommendations and the capillary porosity is low. Though these results don't meet USGA greens construction recommendations, they are within a range that is typically considered favorable for topdress sand.

It is normally recommended that topdressing should be compatible with (similar to or coarser than) the existing greens mix/rootzone to minimize the risk of layering caused by placing a finer sand over a coarser sand. Although this sand should be compatible with most USGA style greens, compatibility can be verified by comparing these results to the particle size of the existing root zone.

Please let us know if you have any questions or need further assistance. Samples are generally kept on the premises for 45 days after report date. Thank you for using Turf & Soil Diagnostics, Inc.

Duane K. Otto
President