



Testing Laboratory
Certificate #1552-01



ISTRC NEW MIX LAB, L.L.C.

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Report of Test Results

Report To: Mr. Paul Hagy
NEESE MATERIALS, INC.
Address: 1919 S. Shiloh, Suite 312-LB2
Garland, TX 75042

Report Date: June 17, 2009
Date Received: June 8, 2009
Test Dates: June 8 to 15
Condition of Sample(s): intact

Re: None Specified

Lab ID & Job Sequence: 09040004 C

Physical Properties¹

Sample # & Type	Sample Description							Porosity [%]		Organic Matter ³ [% by wt.]
		Infiltration Rate [in./hr. Ksat]	Particle Density ⁴ [g/cm ³]	Bulk Density [g/cm ³]	Water Holding ² [%]	Total	Water ³ [Capillary]	Aeration [Non-Capillary]		
	USGA Recommended Specifications:	At least 6				35 to 55	15 to 25	15 to 30		
2 S	Neese Golf Sand	58.36	2.545	1.64	1.06	35.26	20.60	14/66	0.09	

¹ASTM F1815 - Reported values are the average of two test samples; ²Water [Capillary] porosity & Water Holding determined at -30 cm tension; ³Method 1 of ASTM F1647; ⁴SSSA PD w/Vacuum Desiccator



Particle Size Analysis*

Sample # & Type	Sample Description	Soil Textural Components [Reported Values are % of the whole]				Sand Distribution by Size Size reported as Mesh # & mm [Value Reported is % Retained]						
		Sand .05 -2.0	Silt .002 -05	Clay < .002	#10 Gravel 2.0 mm	#18 v. Coarse 1.0 mm	#35 Coarse 0.5 mm	#60 Medium 0.25 mm	#80 Fine 0.18 mm	#100 Fine 0.15 mm	#140 v. Fine 0.10 mm	#270 v. Fine 0.05 mm
		USGA Recommended Specifications for Root Zone Mixes		≥ 89% of Total	≤ 5% ≤ 10% w/ #140 + #270	≤ 3% ≤ 10% #10 + #18	≤ 3% ≤ 10%	≥ 60% #35 + #60		≤ 20% #80 + #100		≤ 5% #140 + #270 & ≤ 10% w/ Silt + Clay
2 S	Neese Golf Sand	98.26	0.91	0.50	0.33	3.55	22.22	52.05	15.50	3.07	1.48	0.39

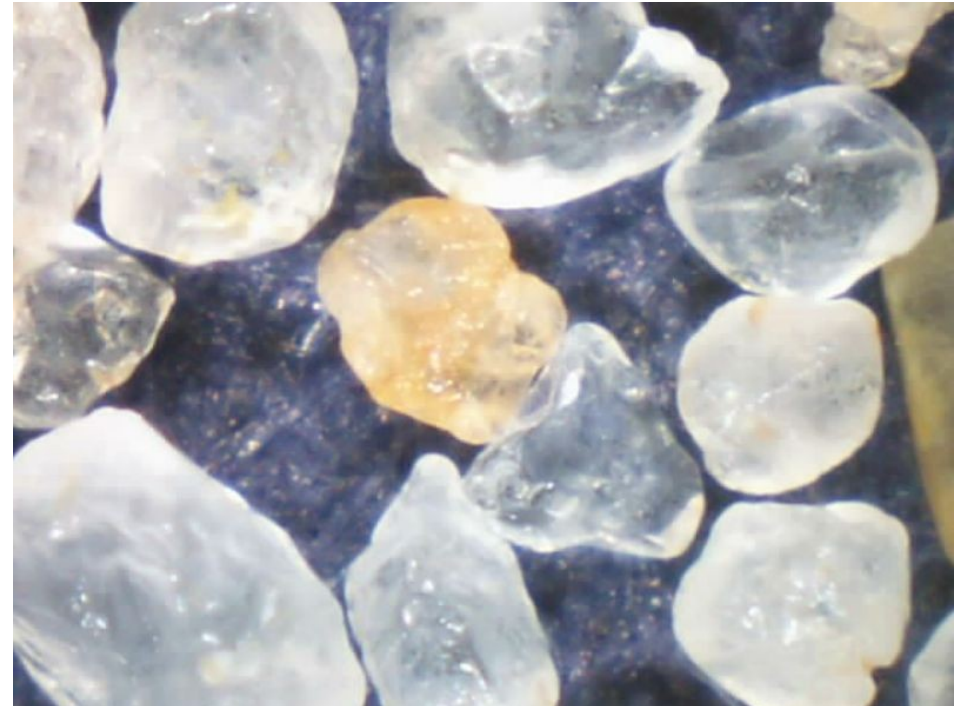
*ASTM F1632 & C136 - Reported values are the average of two test samples

Particle Shape / Size Parameters / pH / EC

Sample # & Type	Sample Description	Sphericity / Angularity	D85 [mm]	pH*		EC ⁺
				H ₂ O	CaCl	
2 S	Neese Golf Sand	Low to Medium to High Sphericity, Sub-Angular to Sub-Rounded	0.75	7.07	6.93	0.16

*ASTM D4972 Method A [pH meter] with water & Calcium Chloride solutions, ⁺Agron. 9, Pt 2, 167-173

Sphericity & Angularity





Comments:

The Neese Golf Sand sample was oven dried prior to testing. The test results found that the sand complied with the USGA's particle size specifications. The material is suitable for topdressing and aerification purposes. It is also suitable for use in golf green construction.

A 1 kg sample was split from the submission, its moisture content was increased to 8.4%, and lab cores were prepared for the physical properties series of tests. The infiltration rate samples were collected after the compacted lab cores were subjected to a constant head of water for a period of 4 hours. The material was within USGA's recommended physical specifications. The air porosity property was slightly below the recommended 15% minimum, but only by 0.34% which is within acceptable variance.

[Note: The opinions expressed in this report are outside the scope of the A2LA certification in accordance with ISO/IEC 17025, as amended from time to time.]

Sincerely;

New Mix Lab

by:

Robert S. Oppold, COO
Quality Manager