



Turf & Soil Diagnostics

June 14, 2016

Paul Hagy  
Texas Sports Sands  
1919 S Shiloh Ste 312-LB2  
Garland, TX 75042

RE: Sure Play - File #16060009

Dear Mr. Hagy:

Enclosed are the laboratory results of the Sure Play sample. This sample was tested for particle size and infiltration rate.

The Sure Play sand sample is clean in that there is little silt and clay present. The sample has a particle size distribution that meets the bunker sand guidelines and the current USGA particle size recommendations for greens construction.

The infiltration rate of this sample is 67.8 in/hr at a bulk density of 1.58 g/cc. This suggests that this sand should be well drained.

If you have any questions or are in need of further assistance, please do not hesitate to contact us. Samples are generally kept on the premises for 45 days after report date. Thank you for using Turf & Soil Diagnostics, Inc.

Sincerely,

Duane K. Otto  
Vice President

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**Turf & Soil Diagnostics**



Texas Sports Sands  
 Paul Hagy  
 1919 S Shiloh Ste 312-LB2  
 Garland, TX 75042-8234

Date received Jun-02-2016  
 Date Reported Jun-14-2016  
 Facility Product Development

**Particle Size Evaluation\***

Lab ID#	Sample Name	% Sand 2.0 - 0.05 mm	% Silt 0.05-0.002mm	% Clay < 0.002mm	Gravel 4.0 (5)	Gravel 2.0 (10)	% Retained mm (US sieve)					
							V. Coarse 1.0 (18)	Coarse 0.5 (35)	Medium 0.25 (60)	Fine 0.15 (100)	Fine 0.10 (140)	V. Fine 0.05 (270)
16060009-6	Sure Play	99.2	< 1.0	< 1.0	0.0	0.0	3.8	37.6	44.2	10.3	2.7	0.5
USGA Recommendations for Greens		≥ 92%	≤ 5% Silt	≤ 3% Clay	≤ 3% Gravel ≤ 10% Combined		≥ 60% Combined		≤ 20%	≤ 5%***		
Bunker Sand Guidelines <sup>1</sup>			≤ 3%		≤ 2%	≤ 15%	78 - 100%				≤ 5%	

<sup>1</sup> From Golf Course Management 54:64-70, 1986

Lab ID#	Sample Name	Uniformity Coefficient Cu	D15 mm	D50 mm	D85 mm	Shape Angularity	Shape Sphericity	USDA Textural Classification	Acid Reaction	pH <sup>‡</sup> 1:1	Combined Fractions < 0.10 mm	% Organic Matter Dry Wt.**
16060009-6	Sure Play	2.6	0.25	0.44	0.81	Sub-Angular to Rounded	Medium	Sand	Slight		1.5	

\*ASTM F1632 Method A & Determination of Size Factors SOP

<sup>‡</sup>ASTM D4972 w/ CaCl<sub>2</sub>

\*\*ASTM F1647 Method A

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

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 without a transmittal letter.

Reviewed by Duane K. Otto



## Turf & Soil Diagnostics

Texas Sports Sands  
Paul Hagy  
1919 S Shiloh Ste 312-LB2  
Garland, TX 75042-8234



Date received Jun-2-2016  
Date Reported Jun-14-2016  
Facility Product Development

### Infiltration Rate

Lab ID#	Sample Name	Infiltration Rate* in/hr	Infiltration Rate* cm/hr	Bulk Density g/cc
16060009-6	Sure Play	67.8	172.3	1.58

\*TSD Infiltration Rate SOP

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Sample condition upon receipt was normal.  
Samples were received without a transmittal letter.

Reviewed by Duane K. Otto