



April 18, 2006

Randy Bevers
Austin Reclaimed Materials LP
P.O. Box 27935
Austin, TX 78755

RE: Product Development - File #06040041

Dear Mr. Bevers:

Enclosed are the laboratory results of the Golf Sand sample. This sample was tested for potential use as a bunker sand. These results are being compared to published guidelines for bunker sands.

The penetrometer value of the Golf Sand sample is 2.7 kg/cm², which is a desirable rating indicating a very low tendency to bury the ball. The crusting value of moderate is an acceptable rating.

The infiltration rate of the Golf Sand sample is 23.0 in/hr at a bulk density of 1.60 g/cc. This is an acceptable infiltration rate for a well-drained bunker sand. The recommended minimum is 20 in/hr.

It is desirable for a bunker sand used in green side bunkers to be compatible with the rootzone mix to reduce the risk of layering on the greens. The particle size results indicate the Golf Sand sample should be compatible for use in green side bunkers with most USGA greens.

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 Diagnostics and Design, Inc.

Sincerely,

Duane K. Otto
Vice President

DKO:dko
File: Austin Reclaimed Materials
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Austin Reclaimed Materials LP
Randy Bevers
PO Box 27935
Austin TX 78755
PHONE: 512-385-4755
FAX: 512-233-0905

Date received Apr-14-2006
Account No. 04065120
Date reported Apr-18-2006
Facility Product Development



Bunker Sand Evaluation

Lab ID#	Sample Name	Dry Color	Wet Color	Penetrometer Value kg/cm2
06040041-1	Golf Sand	10YR 6/3 Pale Brown	10YR 5/4 Yellowish Brown	2.7

Lab ID#	Sample Name	Shape Angularity	Shape Sphericity	Crusting	Set-Up
06040041-1	Golf Sand	Sub-Rounded to Sub-Angular	Medium	Moderate	Slight

A2LA Certificate Number 797-01

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.

Reviewed by _____



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Infiltration Rate

Lab ID#	Sample Name	Infiltration Rate* in/hr	Moisture Content at Packing % Dry Weight	Bulk Density g/cc
06040041-1	Golf Sand	23.0	8.0	1.60

A2LA Certificate Number 797-01

* Saturated Hydraulic Conductivity (K-SAT) determined with constant head and adjusted to 20°C.

This method is designed to evaluate submitted disturbed soil samples. The cores were hand packed to the stated bulk density which may or may not be related to field bulk density.

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Particle Size Evaluation*

Lab ID#	Sample Name	% Sand 2.0 - 0.05 mm	% Silt 0.05-0.002mm	% Clay < 0.002mm	Gravel 2.0 (10)	% Retained on USGA mm (US sieve)				
						V. Coarse 1.0 (18)	Coarse 0.5 (35)	Medium 0.25 (60)	Fine 0.15 (100)	V. Fine 0.05 (270)
06040041-1	Golf Sand	96.7	2.2	1.1	0.1	11.2	36.9	34.4	9.8	4.3
USGA Recommendations for Greens		> 92%	< 5%	< 3%	< 3%	< 7%**	> 60% Combined		< 20%	< 5%

Lab ID#	Sample Name	Uniformity Coefficient Cu	D15 mm	D50 mm	D85 mm	Shape Angularity	Shape Sphericity	Acid Reaction	pH [‡] 1:1	% Organic Matter Dry Wt.***
06040041-1	Golf Sand	3.4	0.22	0.48	0.93	Sub-Rounded to Sub-Angular	Medium	Severe		

A2LA Certificate Number 797-01

*ASTM Method F1632

‡ASTM Method D4972 w/ H2O.

***ASTM F1647 Method B

**Maximum of 10% combined on Gravel (2.0 mm) and Very Coarse (1.0 mm) fractions.

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