



624 Grassmere Park, Ste. 14
Nashville, TN 37211
615.331.7770

www.TTLUSA.com

January 05, 2024

Mr. Mike Bohleber
Pine Bluff Materials Company
1030 Visco Drive
Nashville, Tennessee 37210

RE: ASTM Test Results for Coarse and Fine Aggregates
TTL Project No.: 200812005

TTL has completed the requested testing, in accordance with ASTM standards, of the concrete (coarse) and masonry (fine) sands.

The following ASTM standard tests were performed on each sample.

ASTM C 136 – 19	Method of Sieve Analysis of Fine and Coarse Aggregates
ASTM C 117 – 23	Test Method for Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing
ASTM C 142 – 17 (23)	Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C 40 – 20	Test Method for Organic Impurities in Fine Aggregates for Concrete
ASTM C 88 – 18	Test Method for Soundness of Aggregates by use of Sodium Sulfate or Magnesium Sulfate
ASTM C 123 – 14	Test Method for Lightweight Pieces in Aggregates
ASTM C 128 – 22	Test Method for Specific Gravity and Absorption of Fine Aggregates
ASTM D 2419 – 22	Test Method for Sand Equivalent Value of Soils and Fine Aggregate

The acceptance criteria for the concrete sand is outlined in ASTM C 33 – 18 “Standard Specification for Concrete Aggregates” and the fine sand in ASTM C 144 – 18 “Standard Specification for Aggregate for Masonry Mortar”. The results of each test are attached with the acceptance of each to the appropriate specification.

If you have any questions, please contact me.

Martin L. Medley, II, P.E.
Vice President



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MATERIAL: Coarse Sand (Natural)

SUPPLIER: Client

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ASTM C 136 - 19 "Sieve Analysis of Fine and Coarse Aggregates"

Sieve Size	Wt Retained	% Retained	Acc % Ret	% Passing	Spec: ASTM C 33
1/2"					
3/8"	0.00	0.00		100.00	100
#4	13.00	2.61		97.39	95 - 100
#8	50.40	10.12		89.88	80 - 100
#16	102.20	20.53		79.47	50 - 85
#30	211.80	42.55		57.45	25 - 60
#50	442.00	88.79		11.21	5 - 30
#100	492.40	98.92		1.08	0 - 10
#200	495.40	99.52		0.48	
Pan	495.40	99.52		0.48	
TOTAL	497.80				
Fineness Modulus				2.64	

ASTM C 33:
(Sec. 6.4)

Fine aggregates failing to meet these grading requirements shall meet the requirements of this section provided that it demonstrates that concrete of the class specified, made with fine aggregate under consideration, will have relevant properties at least equal to those of concrete made with the same ingredients, with the exception that the referenced fine aggregate shall be selected from a source having an acceptable performance record in similar concrete construction.



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ASTM C 117 - 17 "Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing"	
Percent Finer Than No. 200 Sieve	ASTM C 33 Specification (Table 1)
0.49 %	3.0 % max (concrete subject to abrasion) 5.0 % max (all other concrete)

* Test was performed using Procedure A (washing with plain water)



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ASTM C 142 - 17 "Clay Lumps and Friable Particles in Aggregates"	
Percent Clay Lumps and Friable Particles	ASTM C 33 - 16 Specification (Table 1)
0.09 %	3.0 % Maximum



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ASTM C 40 - 20 "Organic Impurities in Fine Aggregates for Concrete"	
Organic Plate No.	ASTM C 33 Specification *
# 3	# 3 (Standard)

* Aggregates subjected to the test for organic impurities and producing a color darker than the standard shall be rejected" (7.2.1) – **HIGHER NUMBER INDICATES DARK**



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ASTM C 88 - 18 "Soundness of Aggregates by use of Sodium Sulfate or Magnesium"					
Sieve Size		Original Sample Grading (%)	Weight of Test Fractions Before Testing (g)	% Passing Finer Sieve After Test	Weighted % Loss
Passing	Retained				
# 3/8	#4	3.1	105.0	5.5	0.17
#4	#8	8.5	105.5	6.1	0.52
#8	#16	11.7	105.0	3.2	0.37
#16	#30	24.8	106.1	3.3	0.83
#30	#50	52.1	106.5	2.6	1.38
Total Loss (%)			ASTM C 33 Specification		
3.27			10 % Maximum		

- The test was performed using sodium sulfate.



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ASTM C 123 - 14 "Lightweight Pieces in Aggregates"	
Percent Lightweight Pieces	ASTM C 33 Specification (Table 2)
0.06 %	0.5 % Maximum (where surface appearance of concrete is important) 1.0 % Maximum (all other concrete)



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ASTM C 128 - 22 "Specific Gravity and Absorption of Fine Aggregates"	
Bulk Specific Gravity	2.60
Bulk Specific Gravity (SSD)	2.63
Apparent Specific Gravity	2.67
Absorption (%)	1.01



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ASTM D 2419 - 22 "Sand Equivalent Value of Soils and Fine Aggregate"	
Sand Equivalent (SE)	100