



ANDERSON ENGINEERING CONSULTANTS, INC.

10205 ROCKWOOD ROAD – LITTLE ROCK, ARKANSAS 72204

PHONE (501) 455-4545 FAX (501) 455-4552

August 6, 2013

Job No. 13767

tim@antiquebrickinc.com

Mr. Tim Gartman, P.E.
Antique Brick, Inc.
1609 East 9th Street
Little Rock, Arkansas 72202

Re: Block Testing
Little Rock, Arkansas

Dear Mr. Gartman:

This letter is furnished in response to your request for our services to perform testing on concrete masonry units.

SCOPE

On July 25, 2013, samples of 8” smooth face light weight blocks were delivered to our laboratory for testing.

ASSIGNMENT OF TESTS

<u>Sample #</u>	<u>Quantity</u>	<u>TEST</u>
LR-3	3 each	Compressive Strength and Physical Properties.
LR-3	3 each	Percent Moisture and Water Absorption

TEST PROCEDURES

ASTM C 90 Standard Specification for Loadbearing Concrete Masonry Units.

ASTM D 140 Sampling and Testing Concrete Masonry Units.



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TEST RESULTS

8" Blocks

The average compressive strength (net area) for the units tested is 3,220 psi, ASTM C 90 allows a minimum compressive strength of 1900 psi for the three unit average.

The average oven dry unit weight of the units tested is 103.8 pcf which places them in the light weight unit classification (Less than 105 pcf).

The average absorption rate for the units tested is 11.93 pcf, ASTM C 90 specifies a maximum allowable absorption value of 18.0 pcf for light weight units.

The individual test results are given on the attached Plate 1.

CONCLUSIONS

The masonry units tested meet or exceed the minimum specifications of ASTM C 90.

It has been our pleasure to have provided this assistance to you and we are always available should you need further services.

Very truly yours,
ANDERSON ENGINEERING CONSULTANTS, INC.

A handwritten signature in blue ink that reads "Myles D. Graham". The signature is written in a cursive, flowing style.

Myles D. Graham, S.E.T.
Laboratory Manager

MDG/ mdg
13676-ltr.3

Attachments: Plate 1

ANDERSON ENGINEERING CONSULTANTS, INC.

10205 ROCKWOOD ROAD, LITTLE ROCK, ARKANSAS 72204

PROJECT : ANTIQUE BRICK AND BLOCK**JOB NO. :** 13767**LOCATION :** LITTLE ROCK, ARKANSAS**REPORT DATE :** 08/06/13**SAMPLE DESCRIPTION :** 8" LIGHTWEIGHT SMOOTH FACE BLOCKS**PHYSICAL PROPERTIES OF BLOCKS - ASTM C 140**

L = LENGTH OF FACE (INCHES)

FST= FACE SHELL THICKNESS (INCHES)

W = AVERAGE WIDTH (INCHES)

WT= WEB THICKNESS (INCHES)

H = AVERAGE HEIGHT (INCHES)

EWT= EQUIVALENT WEB THICKNESS

BLOCK NO.	L (INCHES)	W (INCHES)	H (INCHES)	FST (INCHES)	WT (INCHES)	EWT (INCH/LF)	DENSITY (PCF)
LR - 3A	15.563	7.438	7.625	1.250	1.000	3.553	103.76
LR - 3B	15.563	7.750	7.625	1.313	1.063	3.600	103.72
<u>LR - 3C</u>	<u>15.563</u>	<u>7.625</u>	<u>7.688</u>	<u>1.313</u>	<u>1.000</u>	<u>3.555</u>	<u>103.81</u>
AVG.	15.563	7.604	7.646	1.292	1.021	3.569	103.76

ABSORPTION - ASTM C 140

W1 = INITIAL WEIGHT OF BLOCK (GRAMS)

A = ABSORPTION (PCF)

W2 = WEIGHT OF BLOCK SUSPENDED IN WATER (GRAMS)

A1 = ABSORPTION (PERCENT)

W3 = SATURATED SURFACE DRY WEIGHT (GRAMS)

MC = MOISTURE CONTENT

W4 = DRY WEIGHT OF BLOCK (GRAMS)

(PERCENT OF TOTAL ABSORPTION)

BLOCK NO.	W1 (GRAMS)	W2 (GRAMS)	W3 (GRAMS)	W4 (GRAMS)	A (PCF)	A1 (%)	MC (%)
LR - 3A	11,860	5,911	12,815	11,480	12.07	11.63	28.46
LR - 3B	11,995	5,958	12,955	11,630	11.82	11.39	27.55
<u>LR - 3C</u>	<u>11,975</u>	<u>5,953</u>	<u>12,920</u>	<u>11,590</u>	<u>11.91</u>	<u>11.48</u>	<u>28.95</u>
AVG.	11,940	5,940	12,900	11,570	11.93	11.50	28.32

COMPRESSIVE STRENGTH - ASTM C 140

ML = MAXIMUM LOAD (LBS.)

GA = GROSS AREA (SQ. IN.)

D = DENSITY (PCF)

NA = NET AREA (SQ.IN.)

NV = NET VOLUME (CU.FT.)

GCS = GROSS COMPRESSIVE STRENGTH (PSI)

GV = GROSS VOLUME (CU.FT.)

NCS = NET COMPRESSIVE STRENGTH (PSI)

BLOCK NO.	ML (LBS.)	GA (SQ. IN.)	NA (SQ. IN.)	GROSS COMPRESSIVE STRENGTH (PSI)	NET COMPRESSIVE STRENGTH (PSI)
LR - 3D	160,140	115.76	55.30	1,380	2,900
LR - 3E	194,785	120.61	56.02	1,610	3,480
<u>LR - 3F</u>	<u>181,270</u>	<u>118.67</u>	<u>55.32</u>	<u>1,530</u>	<u>3,280</u>
AVG.	179,000	118.35	55.55	1,510	3,220

BLOCK NO.	D (PCF)	NV (CU. FT.)	GV (CU. FT.)
LR - 3A	103.8	0.2440	0.5108
LR - 3B	103.7	0.2472	0.5322
<u>LR - 3C</u>	<u>103.8</u>	<u>0.2461</u>	<u>0.5280</u>
AVG.	103.8	0.2458	0.5237