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Material Test Report

Report No: MAT:16-07878-S5
Issue No: 1

Client: KAFKA GRANITE, LLC
CC: Jeremy Bores
John Meyer

Project: 2016 CONSTRUCTION PROJECTS

,
Job No: 12-02155

Date of Issue: 7/29/2016
Reviewed By: Paul Michlig, CET
Construction Manager

Sample Details

Sample ID	16-07878-S5
Field Sample ID	5
Date Sampled	7/12/2016
Source	Kafka Granite
Material	Porcelain
Specification	None
Sampling Method	Sampled by Client
Location	Kafka Granite
Date Submitted	7/13/2016

Test Results

Description	Method	Result	Limits
Specific Gravity (OD)	ASTM C 127	2.35	
Specific Gravity (SSD)		2.40	
Apparent Specific Gravity		2.46	
Absorption (%)		1.8	
Density Determined Without First Drying?		No	
Additional Notes			
Date Tested		7/20/2016	

Comments

N/A

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
- ENVIRONMENTAL
- GEOTECHNICAL
- MATERIALS
- FORENSICS

July 29, 2016

Mr. Jeremy Bores
Kafka Granite, LLC
550 East Highway 153
Mosinee, WI 54455

Re: Mohs Hardness Testing
2016 Construction Projects
Schofield, WI
AET Project No. 12-02155

Mr. Bores:

This report presents the results of our Mohs hardness testing of one sample of porcelain submitted by you on July 20, 2016. The stone is to be referred to as "#5 Porcelain". Four fragments were submitted to our laboratory and one was chosen for testing. The scope of our work in this report was confined to performing Mohs hardness testing on one porcelain sample.

Conclusions

Based on our observations and analysis our opinions are as follows:

1. The overall hardness of the "#5 Porcelain" product is approximately 7.5 on the Mohs scale. The number is based upon testing values of the overall hardness of the porcelain using Mohs hardness picks.

2. The product consisted of porcelain fragments. A hardness value determination of the porcelain based upon the material assemblage was not conducted. Mohs picks with hardness 3 thru 8 were used on the porcelain. The Mohs hardness picks determined an approximate overall hardness of 7.5. This hardness is a more consistent result then using the material assemblage because the Mohs hardness picks were drawn directly across a freshly lapped surface of the porcelain.

3. The best effort was made to accomplish the hardness analysis at a representative area within the porcelain fragment selected. Because the Mohs scale represents the hardness of individual minerals, the Mohs scale should only be used as an approximation when determining the overall hardness of porcelain.

Procedures

Our work was performed on July 26, 2016 and subsequent dates. The hardness testing was completed through the use of standard geologic Mohs hardness points and optical microscopy on a lapped hand sample. The review was performed in general accordance with Standard Operating Procedure 24-LAB-004, "Petrographic Examination of Aggregates for Concrete, ASTM C295." Observations were made using an Olympus SZX-12 stereo-zoom binocular microscope with magnification up to 160x.

Photographs are included to illustrate our work and conclusions.

Remarks

The sample will be retained for a period of at least sixty days from the date of this report. Unless further instructions are received by that time, the sample may be discarded. The geologic services for this project have been conducted in a manner consistent with that level of care and skill exercised by members of the profession currently practicing in this area under similar budget and time constraints. The results relate only to the sample analyzed. No warranty, express or implied, is made.

It has been a pleasure to serve you on this project. Should you have any questions on this report, please do not hesitate to call.

Respectfully,

American Engineering Testing, Inc.

Christopher J. Braaten, PG
Petrographer/Geologist
MN License #48312
Phone: 651-659-1352
cbraaten@amengtest.com

Reviewed by:
American Engineering Testing, Inc.

Gerard Moulzolf, PG
Vice President/Principal Petrographer
MN License #30023
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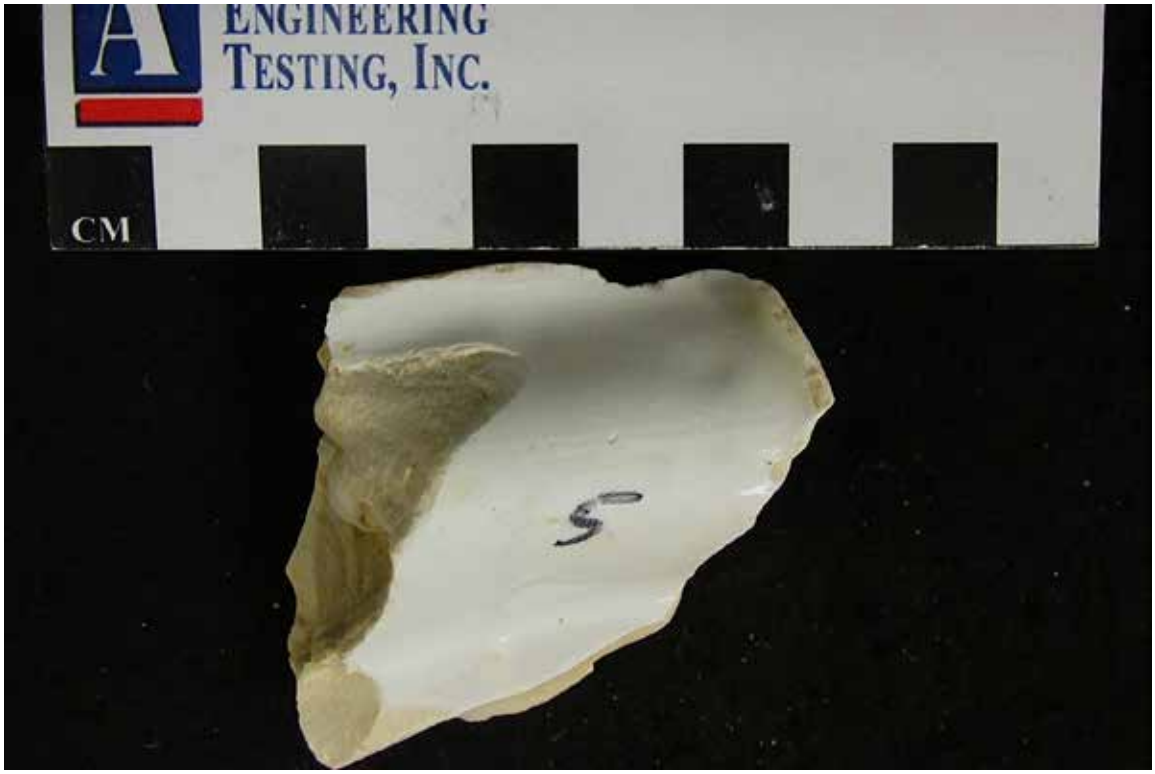
Attachment: “Materials Test Report”

AET PROJECT NO: 12-02155 **DATE:** July 29, 2016
PROJECT: 2016 Construction Projects
Scholfield, WI

PHOTO: 1

SAMPLE ID: #5 Porcelain **DESCRIPTION:** Overall view of the sample as received.

PHOTO: 2



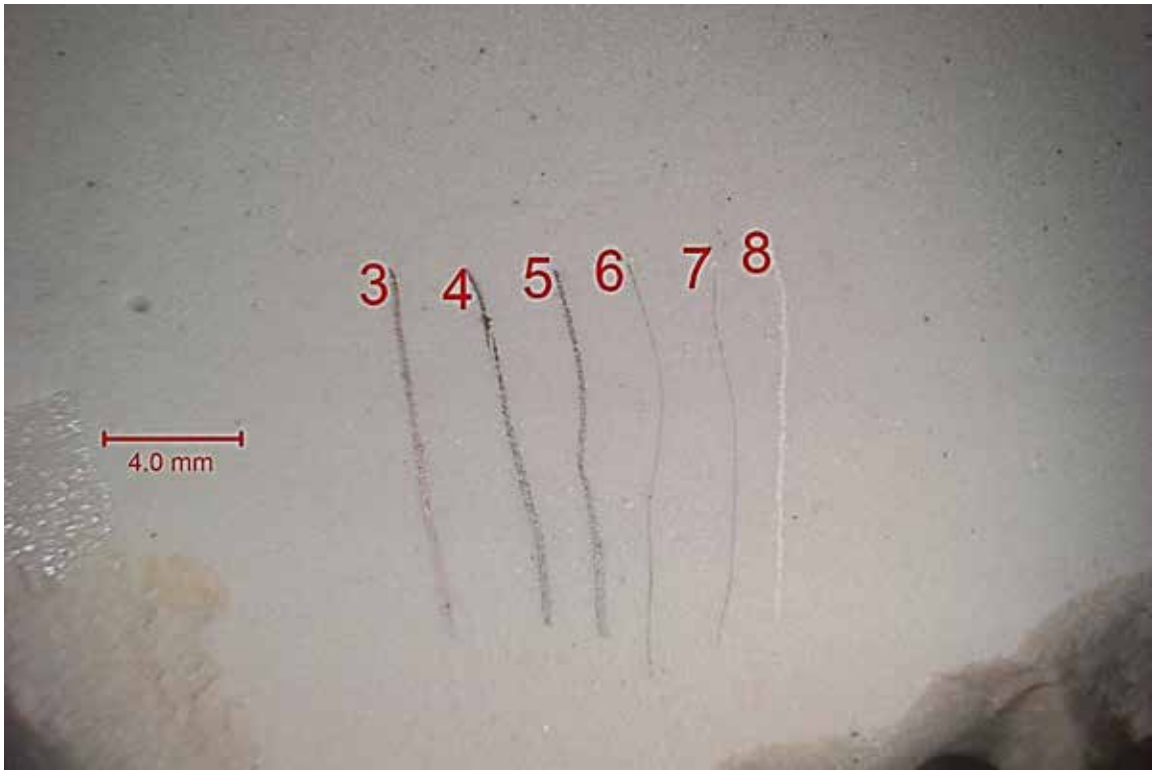
SAMPLE ID: #5 Porcelain **DESCRIPTION:** View of the stone selected for hardness testing.

AET PROJECT NO: 12-02155 **DATE:** July 29, 2016
PROJECT: 2016 Construction Projects
Scholfield, WI

PHOTO: 3

SAMPLE ID: #5 Porcelain **DESCRIPTION:** View of the lapped cross section of the stone.
MAG: 5x

PHOTO: 4



SAMPLE ID: #5 Porcelain **DESCRIPTION:** View of the lapped cross section of the stone after Mohs hardness testing. Note that hardness picks 3 thru 7 did not scratch and hardness pick 8 scratched all minerals. The general Mohs hardness would be approximately 7.5.
MAG: 5x