American Engineering Testing, Inc.
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Material Test Report

Report No: MAT:20-29076-S1
Issue No: 1

Client: KAFKA GRANITE, LLC
CC: Jason Hestekin
Tiffany Koss

Project: 2020 CONSTRUCTION PROJECTS

Job No: 12-20956

Date of Issue: 12/2/2020
Reviewed By: Paul Michlig, CET
Construction Manager

Sample Details

Sample ID	20-29076-S1
Field Sample ID	1
Date Sampled	11/30/2020
Source	Kafka Granite
Material	3/8" x 1/8" Super White Marble
Specification	No Specifications
Sampling Method	Sampled by Client
General Location	Mosinee, WI
Location	Kafka Granite Quarry Stockpile
Date Submitted	11/30/2020

Test Results

Description	Method	Result	Limits
Specific Gravity (OD)	ASTM C 127	2.708	
Specific Gravity (SSD)		2.722	
Apparent Specific Gravity		2.748	
Absorption (%)		0.531	
Density Determined Without First Drying?		No	
Additional Notes			
Date Tested		12/1/2020	

Comments

N/A

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
· ENVIRONMENTAL
· GEOTECHNICAL
· MATERIALS
· FORENSICS

December 3, 2020

Ms. Tiffany Koss
Kafka Granite, LLC
550 East Highway 153
Mosinee, WI 54455

Re: Mohs Hardness Testing
2020 Construction Projects
Mosinee, WI
AET Project No. 12-20956

Mrs. Koss:

This report presents the results of our Mohs hardness testing of one sample of rock submitted by Paul Michlig of American Engineering Testing, Inc. (AET) on December 1, 2020. The rock is to be referred to as "3/8″ x 1/8″ Super White". A sample bag of rocks weighing 1,025.99 grams was submitted to our laboratory and one rock was chosen for testing. The scope of our work in this report was confined to performing Mohs hardness testing on one rock sample.

Conclusions

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

1. The overall hardness of the "3/8″ x 1/8″ Super White" rock was approximately 4.5 to 5 on the Mohs scale. The number was based upon testing values of the overall hardness of the rock using Mohs hardness picks.

2. The rock consisted of marble. A hardness value determination of the rock based upon the mineral assemblage was not conducted. Mohs picks with hardness 3 through 6 were used on the rock. The Mohs hardness picks determined an approximate overall hardness of 4.5 to 5. This hardness is a more consistent result then using the mineral assemblage because the Mohs hardness picks were drawn directly across a freshly lapped surface of the rock.

3. In general, rocks are not homogeneous with regards to Mohs mineral hardness. The best effort was made to accomplish the hardness analysis at a representative area within the stone selected. Because rocks can consist of several different minerals with different quantities and different hardness, and 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 a rock.

Procedures

Our work was performed on December 2, 2020 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 90x.

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, CPG
Petrographer/Geologist
MN License #48312
Phone: 651-659-1352
cbraaten@amengtest.com

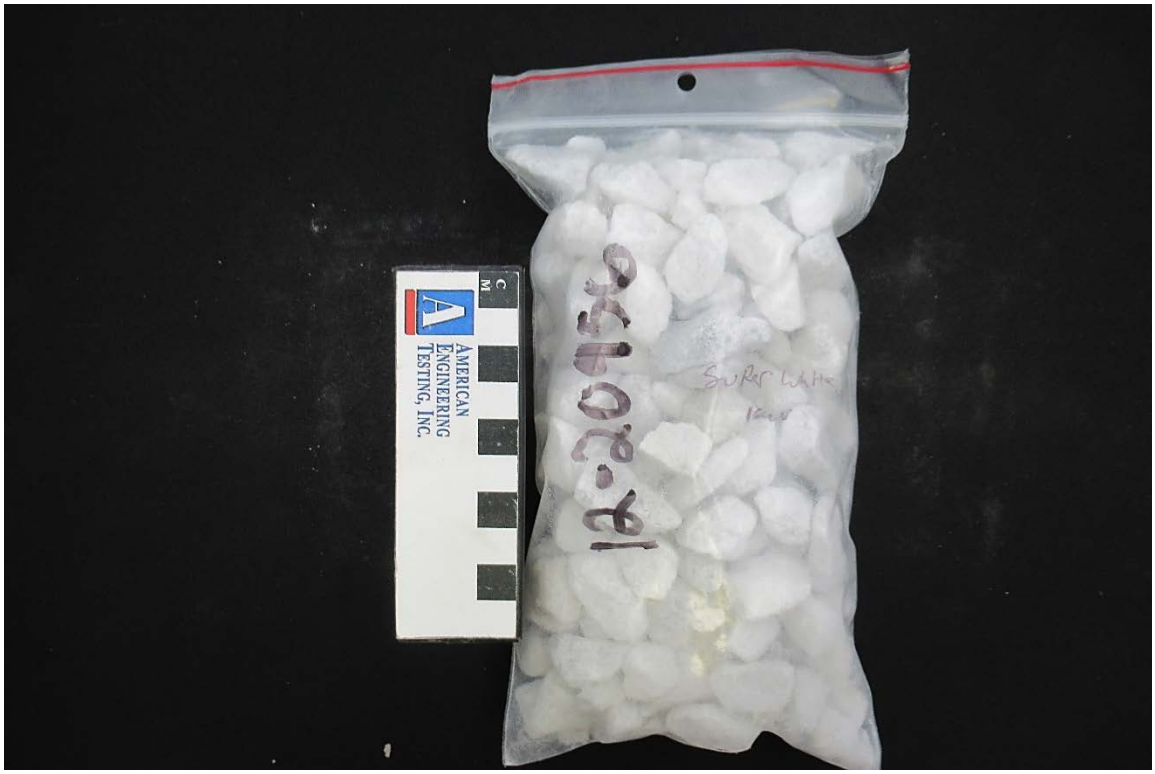
Reviewed by:
American Engineering Testing, Inc.

Gerard Moulzolf, PG
Vice President/Principal Petrographer
MN License #30023
Phone: 651-659-1346
gmoulzolf@amengtest.com

Attachment: “Materials Test Report"

AET PROJECT NO: 12-20956 **DATE:** December 3, 2020
PROJECT: 2020 Construction Projects
Mosinee, WI

PHOTO: 1



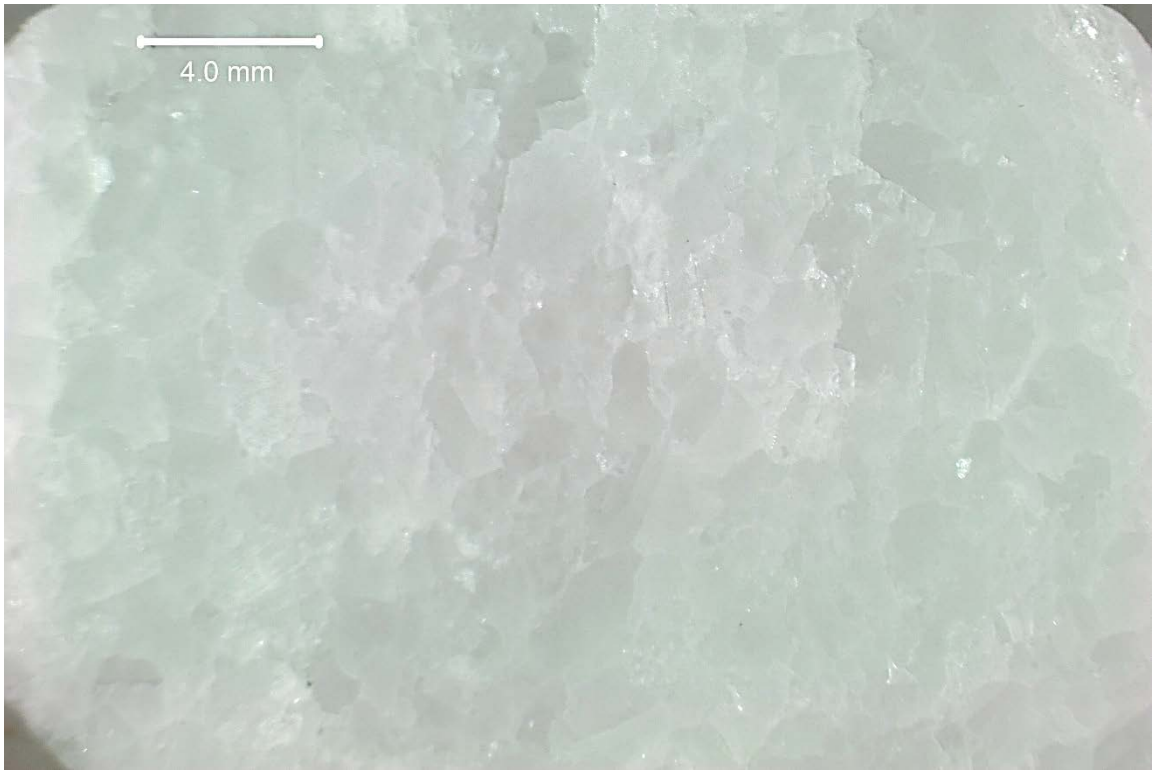
SAMPLE ID: 3/8″ x 1/8″ Super White **DESCRIPTION:** Overall view of the sample as received.

PHOTO: 2

SAMPLE ID: 3/8″ x 1/8″ Super White **DESCRIPTION:** View of the stone selected for hardness testing.

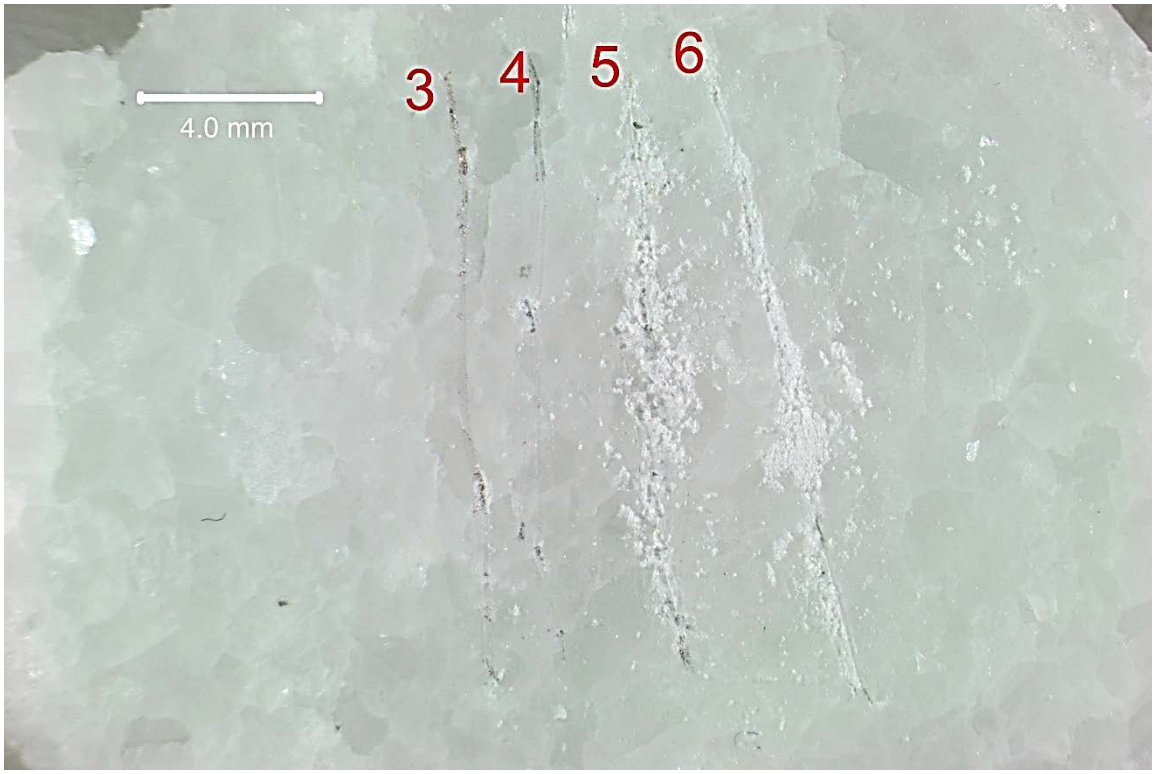
AET PROJECT NO: 12-20956 **DATE:** December 3, 2020
PROJECT: 2020 Construction Projects
Mosinee, WI

PHOTO: 3



SAMPLE ID: 3/8″ x 1/8″ Super White **DESCRIPTION:** View of the lapped cross section of the rock.
MAG: 5x

PHOTO: 4



SAMPLE ID: 3/8″ x 1/8″ Super White **DESCRIPTION:** View of the lapped cross section of the stone after Mohs hardness testing. Note that hardness picks 3 and 4 did not scratch, hardness pick 5 scratched the majority of the minerals, and hardness pick 6 scratched all minerals. The general Mohs hardness would be approximately 4.5 to 5.
MAG: 5x