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Material Test Report

Report No: MAT:16-03913-S1
Issue No: 1

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

Project: 2016 CONSTRUCTION PROJECTS

Job No: , 12-02155

Date of Issue: 6/13/2016
Reviewed By: Paul Michlig, CET
Construction Manager

Sample Details

Sample ID	16-03913-S1
Field Sample ID	1
Date Sampled	6/9/2016
Source	Kafka Granite
Material	Kafka Platinum Granite Type II US 4x12
Specification	Kafka Granite-Platinum Granite
Sampling Method	Sampled by Client
Location	Kafka Granite
Date Submitted	6/9/2016

Other Test Results

Description	Method	Result	Limits
Specific Gravity (OD)	ASTM C 128	2.67	
Specific Gravity (SSD)		2.68	
Apparent Specific Gravity		2.71	
Absorption (%)		0.5	≤1
Additional Notes			
Date Tested		6/13/2016	
No fractured faces (%)	ASTM D 5821	0	
One fractured face (%)		100	100
Two or more fractured faces (%)		100	≥80
Retained sieve (mm)		1.16	
Total mass of coarse aggregate (g)		10	
Date Tested		6/13/2016	

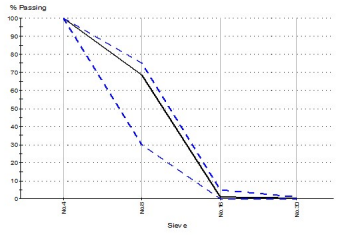
Particle Size Distribution

Method: ASTM C 136, ASTM C 117

Date Tested: 6/10/2016
Tested By: Matt Milanowski

Sieve Size	% Passing	Limits
No.4 (4.75mm)	100.0	100
No.8 (2.36mm)	68.6	30 – 75
No.16 (1.18mm)	0.9	0 – 5
No.30 (600µm)	0.2	0 – 1

Chart



Comments

Sample 1 meets specifications for gradation, fractured faces and absorption.

AMERICAN ENGINEERING TESTING, INC.

CONSULTANTS
· ENVIRONMENTAL
· GEOTECHNICAL
· MATERIALS
· FORENSICS

February 17, 2016

Mr. John Meyer
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. Meyer:

This report presents the results of our Mohs hardness testing of a two samples of stone submitted by you on February 11, 2016. The stone is to be referred to as "Platinum Granite". The stones were arbitrarily labeled "1" and "2" to differentiate them in the laboratory and in the report. The scope of our work in this report was confined to performing Mohs hardness testing on the two stone samples.

Conclusions

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

1. The overall hardness of the two "platinum granite" stones is approximately 7 on the Mohs scale. The number is based upon testing values of the overall hardness of the rock using Mohs hardness picks.

2. Both stones were very fine grained, hard extrusive igneous rock. The grain size makes it difficult to determine mineral percentages in hand sample. For this reason, a hardness value determination of the stones based upon the mineral assemblage was not conducted on the stone samples. Mohs picks with hardness 3 thru 8 were used on both stones. The Mohs hardness picks determined an approximate overall hardness of 7. This hardness is a more consistent result then using the mineral assemblage because the Mohs hardness picks were drawn directly across a freshly sawcut and lapped surface of each stone.

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 stones selected. Because rocks 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 February 15, 2016 and subsequent dates. The hardness testing was completed through the use of standard geologic Mohs hardness points and optical microscopy on sawcut and lapped hand samples. 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
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Reviewed by:
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AET PROJECT NO: 12-02155 **DATE:** February 17, 2016

PROJECT: 2016 Construction Projects
Scholfield, WI

PHOTO: 1

SAMPLE ID: Platinum Granite **DESCRIPTION:** Overall view of the stones as received.

PHOTO: 2

SAMPLE ID: Platinum Granite **DESCRIPTION:** Overall view of the stones after they were labeled with arbitrary numbers for laboratory identification.

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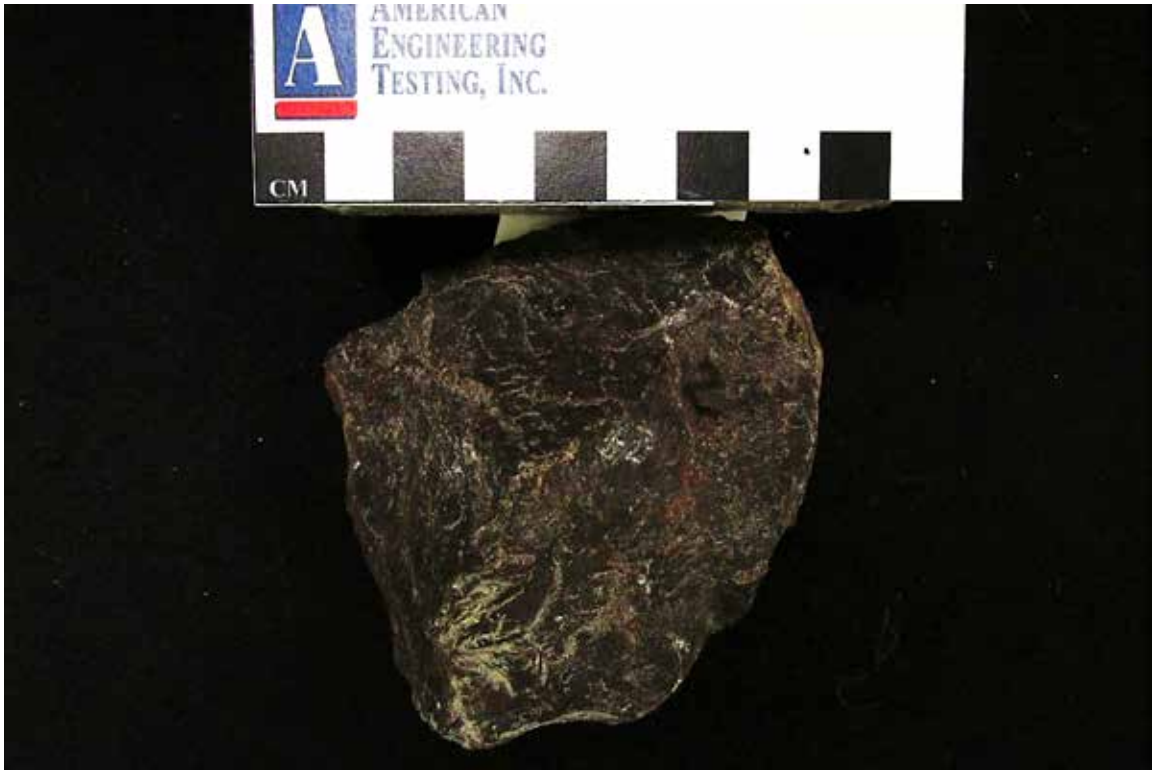
PROJECT: 2016 Construction Projects
Scholfield, WI

PHOTO: 3

SAMPLE ID: Platinum Granite "Stone 1" **DESCRIPTION:** Overall view of the stone before laboratory preparation.

PHOTO: 4



SAMPLE ID: Platinum Granite "Stone 2" **DESCRIPTION:** Overall view of the stone before laboratory preparation.

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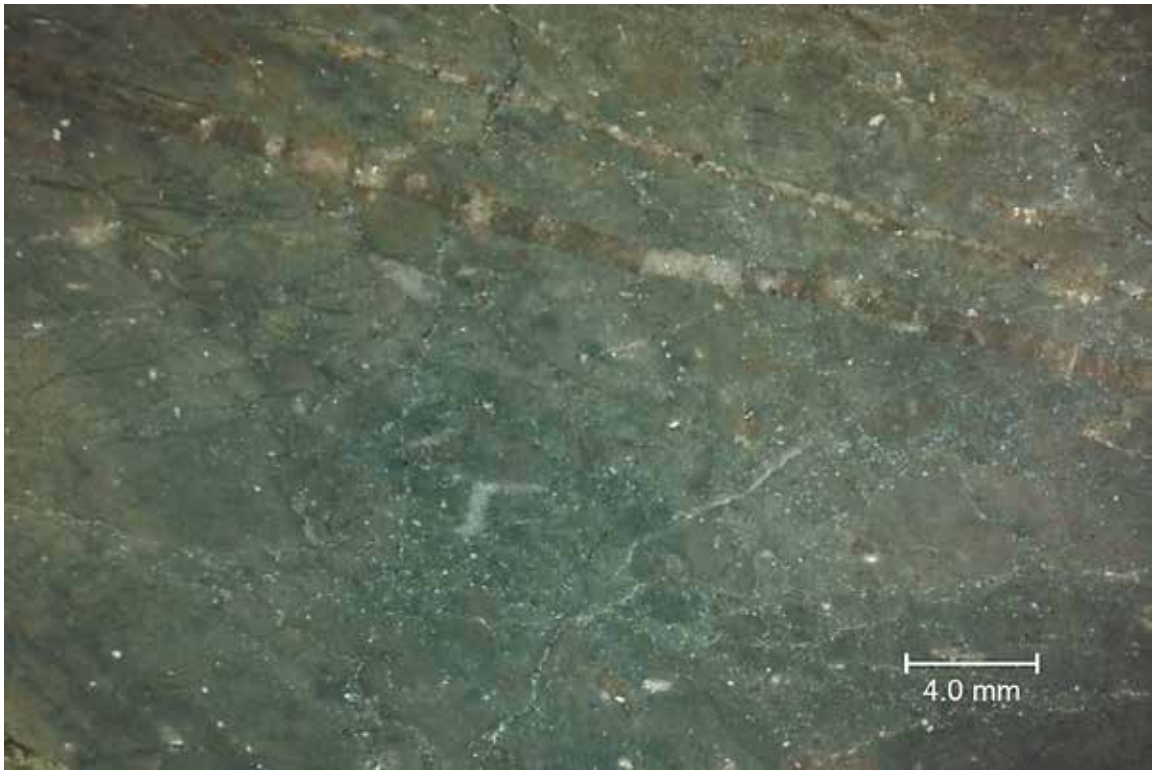
PHOTO: 5

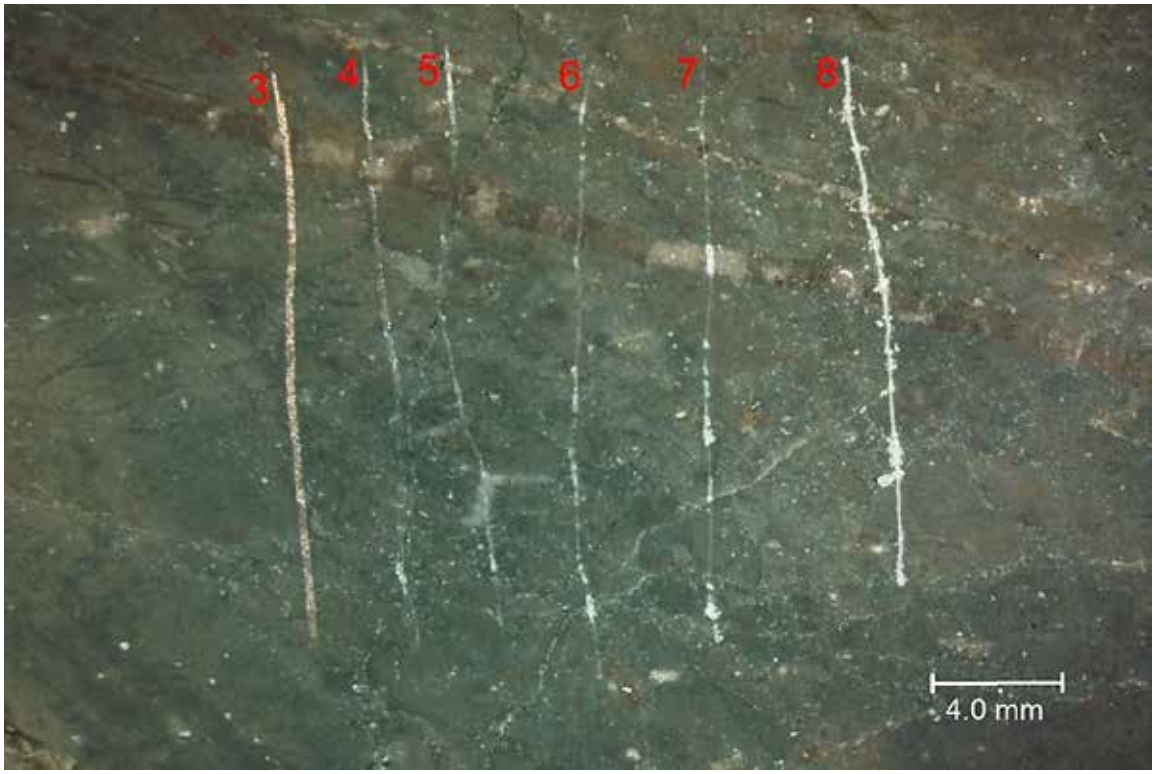


SAMPLE ID: Platinum Granite "Stone 1"

DESCRIPTION: View of a sawcut and lapped cross section of the stone.

MAG: 5x

PHOTO: 6



SAMPLE ID: Platinum Granite "Stone 1"

DESCRIPTION: View of the lapped cross section of the stone after Mohs hardness testing. Note that hardness picks 4 and 5 did not scratch, hardness picks 6 and 7 scratched a few minerals, and hardness pick 8 scratched all minerals. The general Mohs hardness would be approximately 7.

MAG: 5x

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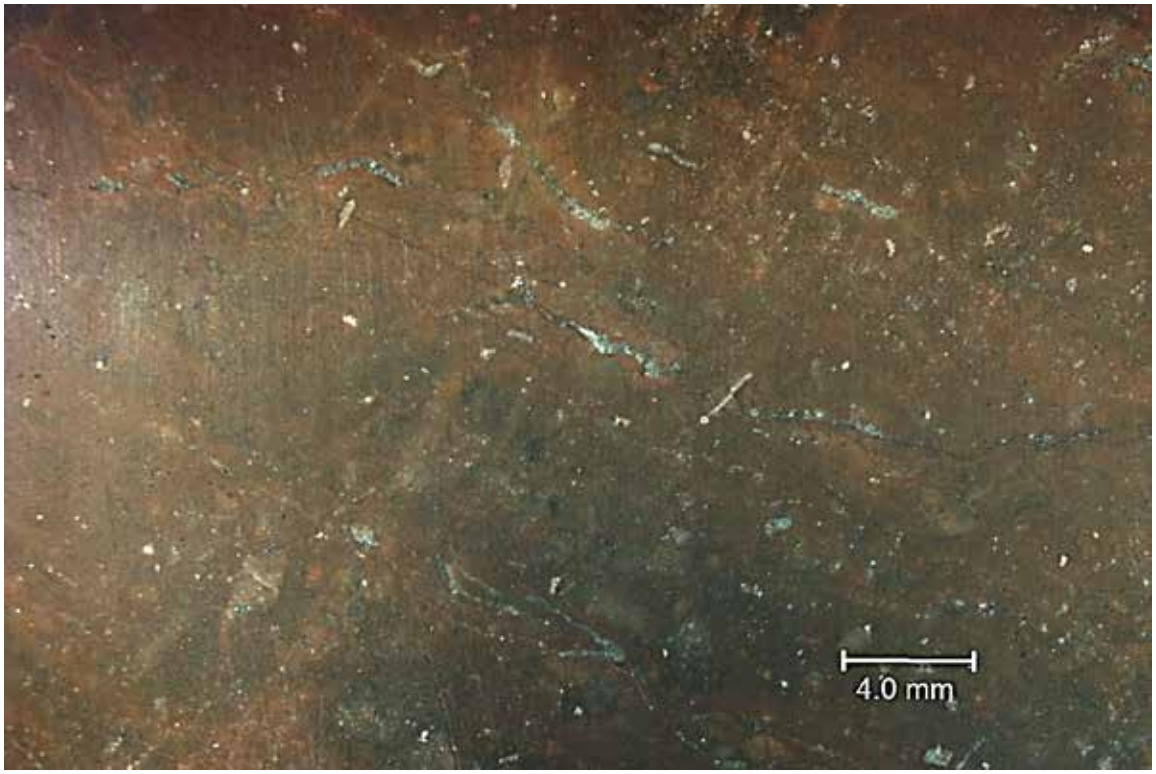
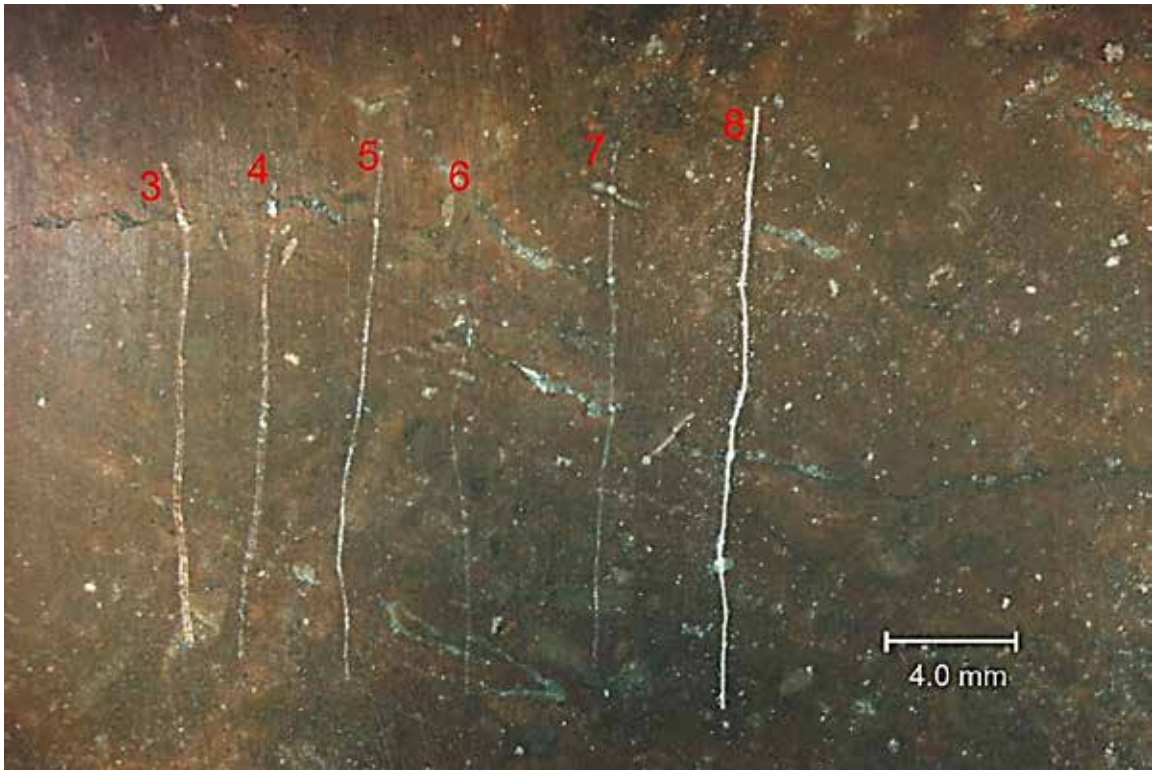
PHOTO: 7



SAMPLE ID: Platinum Granite "Stone 2" **DESCRIPTION:** View of a sawcut and lapped cross section of the stone.

MAG: 5x

PHOTO: 8



SAMPLE ID: Platinum Granite "Stone 2" **DESCRIPTION:** View of the lapped cross section of the stone after Mohs hardness testing. Note that hardness picks 3, 4, 5, and 6 did not scratch, hardness pick 7 scratched a few minerals, and hardness pick 8 scratched all minerals. The general Mohs hardness would be approximately 7.

MAG: 5x