



September 27, 2023

Kafka Granite, LLC  
550 East Hwy 153  
Mosinee, WI 54455



Attn: Ms. Tiffany Koss

RE: Kafka Granite 2023 Construction Projects  
AET Report No. P-0021353

Dear Ms. Koss

This report presents the results of our Mohs hardness testing of one sample of crushed aggregate submitted by Mr. Paul Michlig of American Engineering Testing, Inc. on September 22, 2023. The aggregate is to be referred to as "Patina". The scope of our work in this report was confined to performing Mohs hardness testing on the aggregate sample.

## TEST RESULTS

Based on our analysis:

1. The overall hardness of the "Patina" aggregate is approximately 7 on the Mohs scale. This number is based upon testing values of the overall hardness of 3 selected rocks using Mohs hardness picks of 2, 3, 4, 5, 6, 7, and 8. The average hardness of the three particles was then calculated. The hardness values of the individual rocks were as follows:

Mohs Hardness	3 – 4	4 – 5	5 – 6	6 – 7	7 – 8
Number of Rocks	0	0	0	1	2

2. The aggregate was a crushed product, and the particles were generally angular in shape. A Mohs pick with hardness of 8 was used on the three particles. If the Mohs 8 pick scratched a particle, then the next Mohs pick with a lesser hardness was used until the particle would not scratch. The Mohs hardness picks were drawn directly across a freshly lapped surface of the particles.

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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 each particle 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 September 22, 2023, and subsequent dates. The aggregate sample was saw cut and was then lapped on a lapidary wheel. The hardness testing was completed through the use of standard geologic Mohs hardness points and optical microscopy on 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 90x.

Photographs are included to illustrate our work and conclusions.

## REMARKS

The sample will be retained for at least 60 days from the date of our report. If no further instructions are received by that time, the sample may be discarded. The petrographic 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.

Report Prepared By  
**American Engineering Testing, Inc.**



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Photo: 1

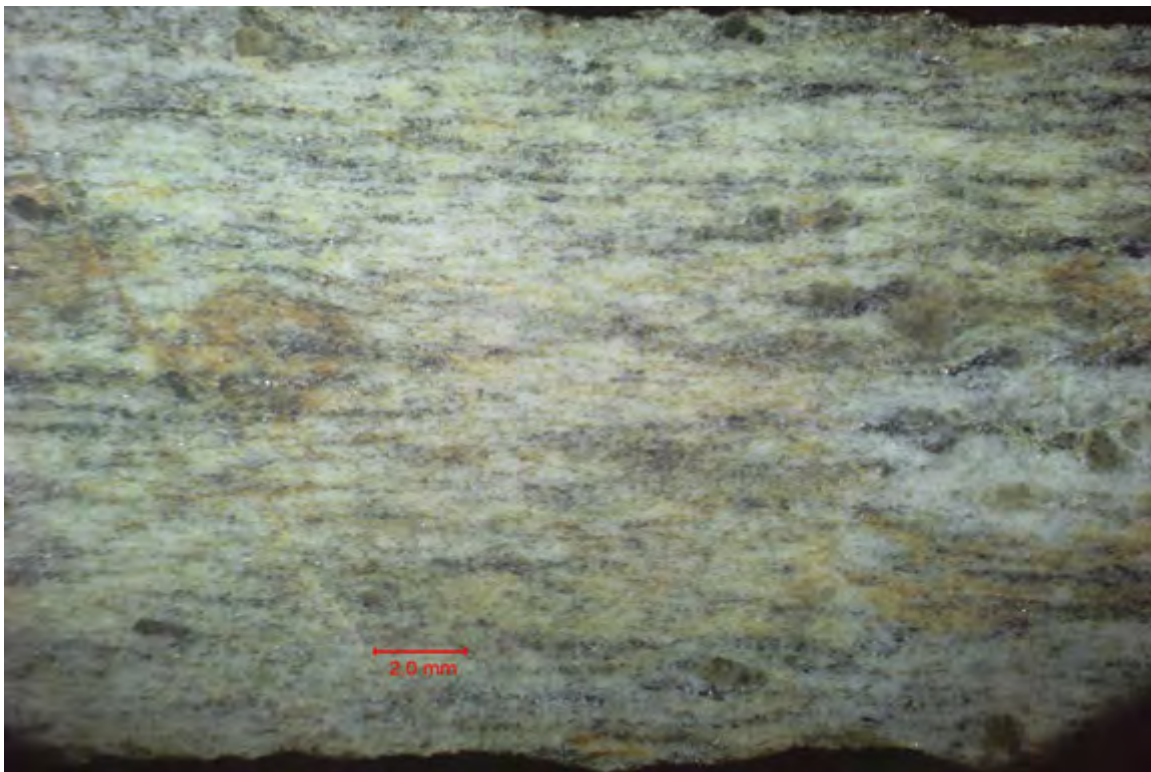


Sample ID:

"Patina"

Description: Overall view of the sample as received.

Photo: 2



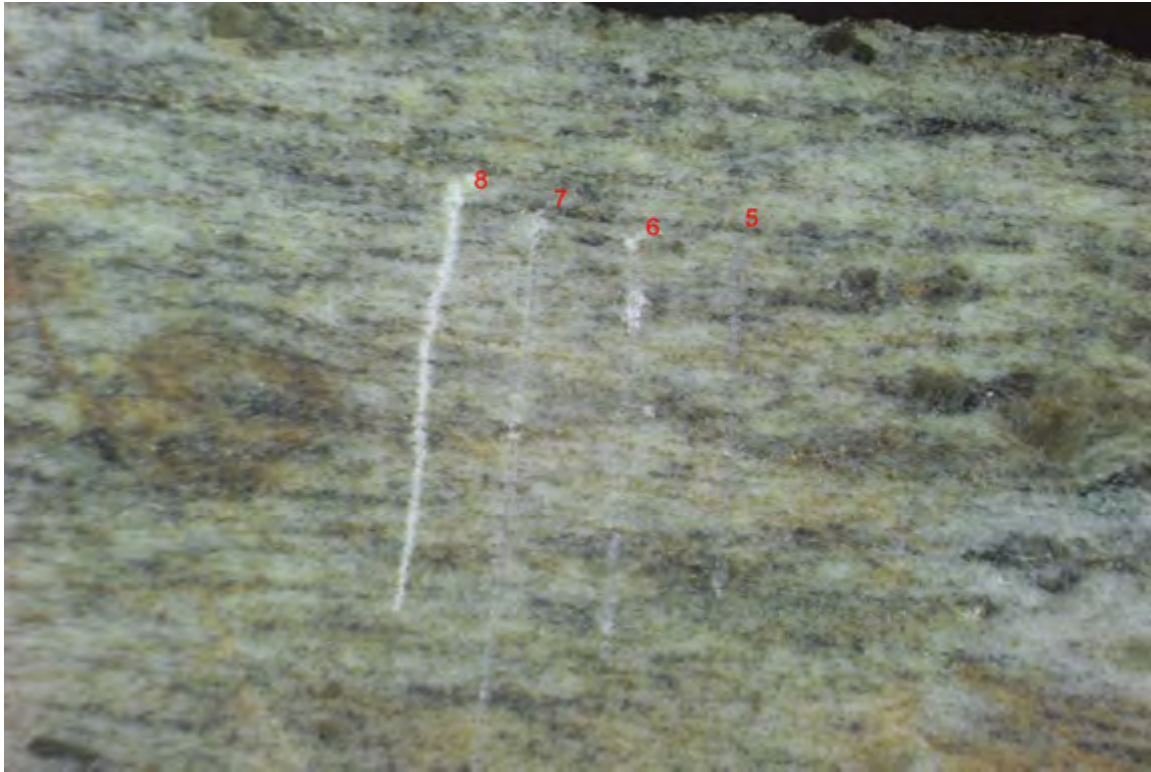
Sample ID:  
Mag:

Patina 1  
5x

Description: View of the rock after being saw cut and polished.



Photo: 3

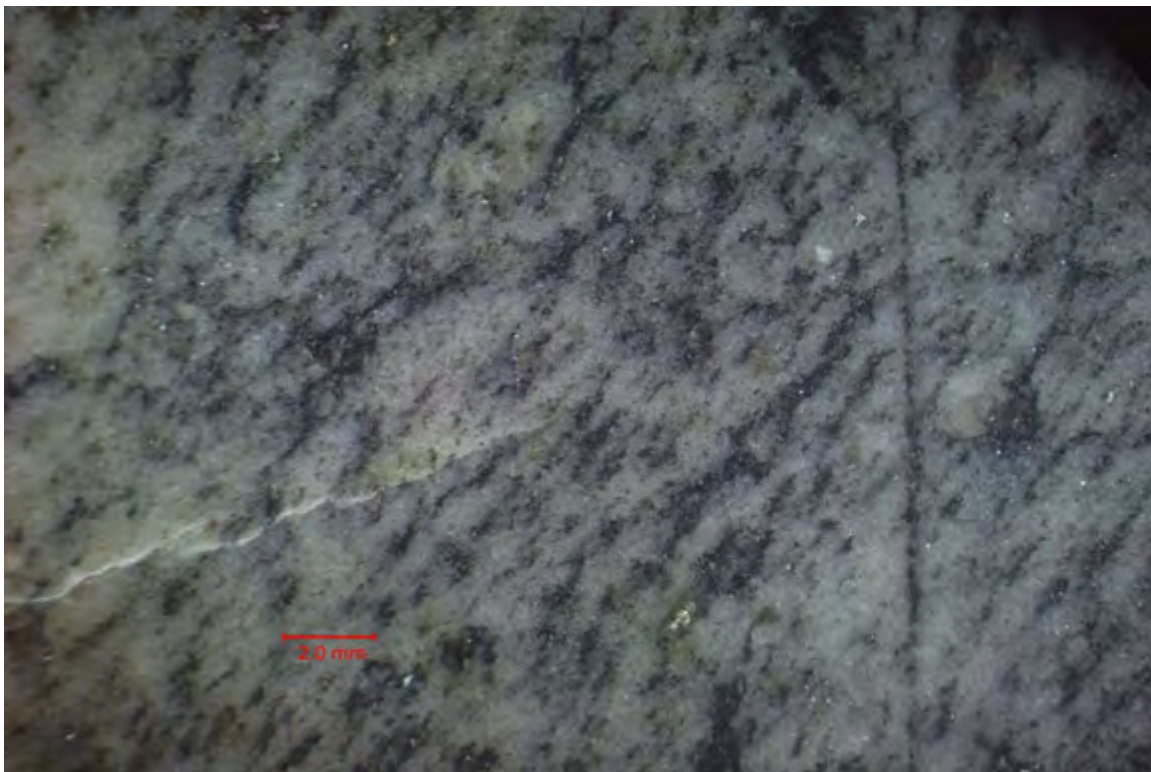


**Sample ID:**  
**Mag:**

Patina 1  
7.5x

**Description:** View of a tested particle. It was not scratched by a pick with a hardness below a 7. The overall hardness was 7 – 8.

Photo: 4



**Sample ID:**  
**Mag:**

Patina 2  
5x

**Description:** View of the rock after being saw cut and polished.

Photo: 5

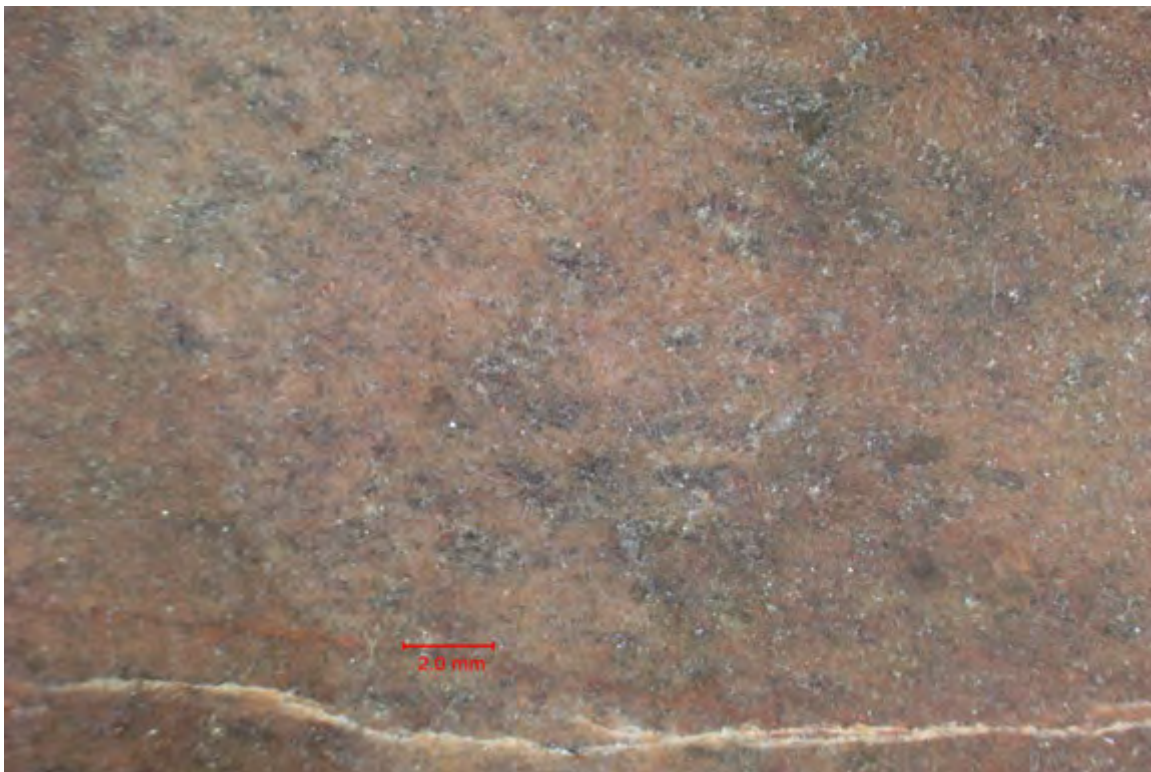


**Sample ID:**  
**Mag:**

Patina 2  
7.5x

**Description:** View of a tested particle. It was not scratched by a pick with a hardness below a 6. The overall hardness was 6 – 7.

Photo: 6



**Sample ID:**  
**Mag:**

Patina 3  
5x

**Description:** View of the rock after being saw cut and polished.



Photo: 7



**Sample ID:**  
**Mag:**

Patina 3  
7.5x

**Description:** View of a tested particle. It was not scratched by a pick with a hardness below a 7. The overall hardness was 7 – 8.

Photo: 8



**Sample ID:**

"Patina"

**Description:** View of the rocks after being tested. Note that each rock was tested three different places and orientations and results were averaged.