



## ARCHAEOPETROGRAPHY

**PROJECT:**  
HUNTER MOUNTAIN

**REPORTED TO:**  
ZENA HALPERN  
108 PARK AVE.  
WOODBURY, NY 11797

**DATE:** MARCH 22, 2011

---

### INTRODUCTION

This report presents the results of laboratory work performed by our firm on four rock samples. The cobble was submitted to us by Ms. Zena Halpern on November 1, 2010. The "chip" samples for the Delta, Bird and "B" stones were collected by Scott F. Wolter on August 30, 2010. The scope of our work was limited to performing petrographic analysis testing on the rock samples to provide a geological description and provide comments relative to the possible origin and age of the artifact.

### SAMPLE IDENTIFICATION

<u>Sample Identification</u>	<u>Sample Type</u>	<u>Original Dimensions</u>
Delta	Rock Chip	75 mm (2-15/16") x 45 mm (1-3/4") x 25 mm (1")
Bird	Rock Chip	65 mm (2-9/16") x 60 mm (2-3/8") x 20 mm (13/16")
"B"	Rock Chip	82 mm (3-1/4") x 40 mm (1-9/16") x 20 mm (13/16")
Latitude Stone	Flat, sub-rounded cobble	172 mm (6-3/4") x 105 mm (4-1/8") x 40 mm (1-9/16")

### TEST RESULTS

Our complete petrographic analysis test results appear on the attached data sheets. A summary of our analysis and opinions are as follows:

1. All four rock samples were comprised of lithic graywacke, with relatively low porosity and varying amounts of quartz grains. By definition a graywacke is a dark gray, firmly indurated coarse-grained sandstone that consists of poorly sorted angular to sub-angular grains of quartz and feldspar, with a variety of dark rock and mineral fragments, embedded in a clayey matrix containing an abundance of very fine-grained illite, sericite, and chloritic minerals.

- Both sides of the “Latitude” Stone have man-made carvings comprised of characters and petroglyphs. The inscription on the “top” side was comprised of three lines of script, two lines of apparent Roman numbers and the third line comprised of Latin letters. The inscription on the top side is as follows:

X L V X X X  
L X X V L I I L  
I N C A M E R A

The “bottom” side has two apparent figures carved into the stone. One symbol resembles a hand and was made using a pecking technique with a sharp, pointed instrument. The other symbol has continuous lines (not pecked) with a clear punch mark centered within the rounded triangular part of the petroglyph (see attached photos).

- Determination of the relative-age of the carved symbols and text of all four artifacts was unable to be documented due primarily to the high quartz content of the host rock. However, the carvings of the symbols and of the “Latitude” Stone were not of recent origin.
- The Roman numbers appear to represent a latitude and longitude of the following: 45 degrees 30 minutes latitude, and 75 degrees 53 minutes longitude.

### **TEST PROCEDURES**

Laboratory testing was performed on November 1, 2010 and subsequent dates. The petrographic analysis was performed on the hand sample and in thin section. A total of five thin sections were produced. Observations were made using an Olympus polarizing-light microscope with magnification up to 1000x and an Olympus stereozoom microscope with magnification up to 130x. Testing was performed in accordance with APS Standard Operating Procedure 00 LAB 004, "Petrographic Examination of Aggregates for Concrete, ASTM: C295."

The characters of the artifact were examined using the VHX-1000 Digital Microscope manufactured by Keyence Corporation. The digital microscope has High Dynamic Range Function that exponentially increases the levels of observable color gradation. The microscope creates calibrated 2D & 3D imaging with real-time vertical stitching and horizontal tiling at magnification up to 5000X.

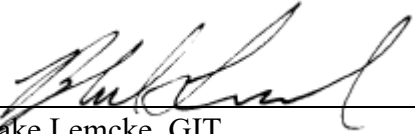
Photographs are included to illustrate our work and conclusions.

**REMARKS**

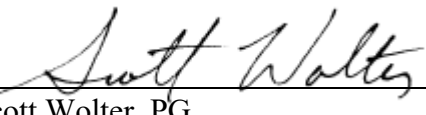
The test sample will be returned to you personally by Scott F. Wolter. The geologic services for this project have been conducted in a manner consistent with that level of care and skill exercised by members of the profession currently practicing this area under similar budget and time constraints. The test results relate only to the sample tested. No warranty, express or implied, is made.

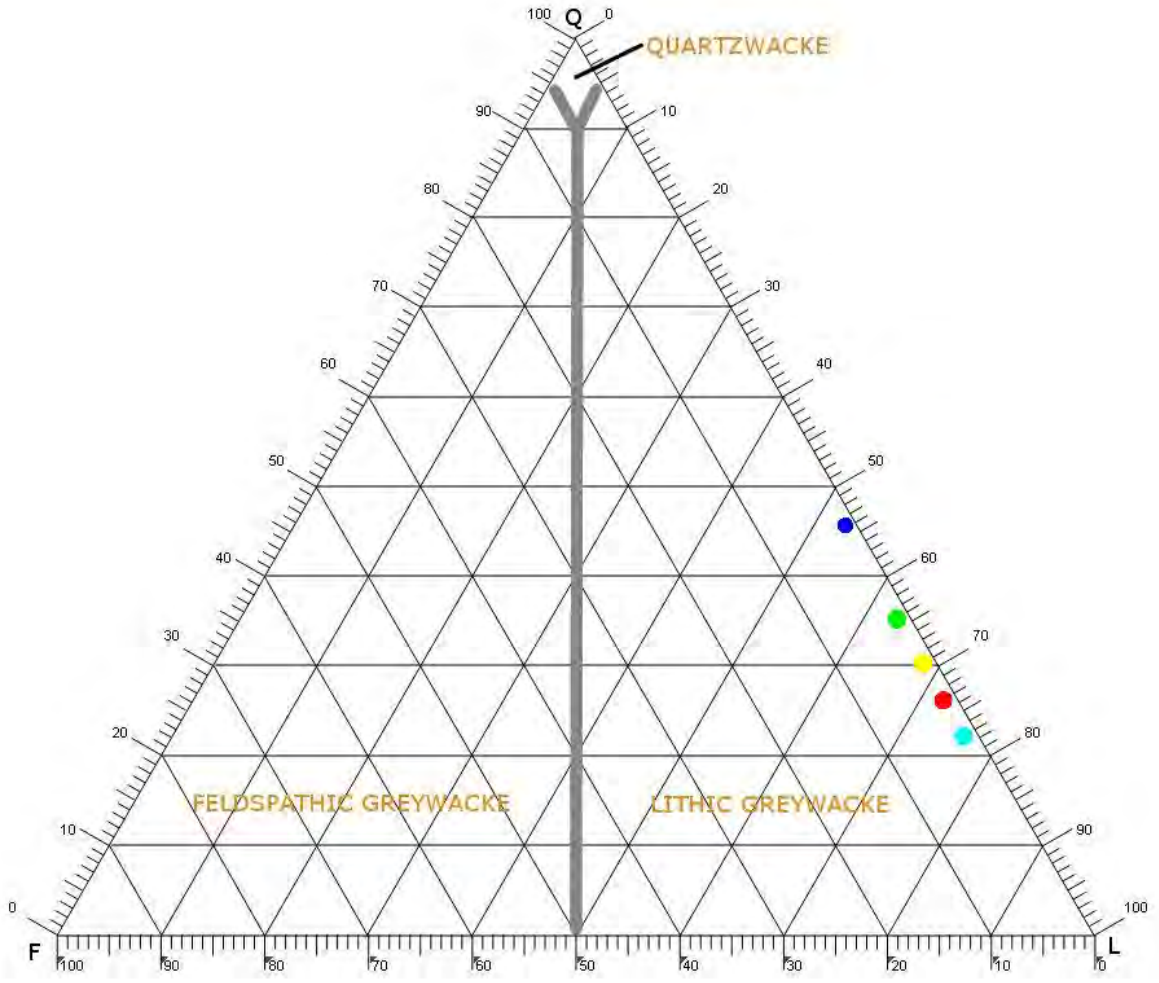
If we can be of further assistance to you, please contact us.

Report Prepared By:  
American Petrographic Services, Inc.

  
\_\_\_\_\_  
Blake Lemcke, GIT  
Petrographer

Report Reviewed By:  
American Petrographic Services, Inc.

  
\_\_\_\_\_  
Scott Wolter, PG  
President  
MN License #30024



Q = Quartz

F = Feldspar

L = Lithic

**"Latitude" Stone**

**"B"**

**Delta**

**Bird**

**Bird (Profile)**

APS #: 10-06703  
PROJECT: HUNTER MOUNTAIN

DATE: MARCH 22, 2011



**SAMPLE ID:** Latitude Stone    **DESCRIPTION:** “Front” side of sample in the field.



**SAMPLE ID:** Latitude Stone    **DESCRIPTION:** “Back” side of sample in the field.





APS #: 10-06703  
PROJECT: HUNTER MOUNTAIN

DATE: MARCH 22, 2011



SAMPLE ID: Latitude Stone DESCRIPTION: Scott Wolter cutting a "chip" sample from the latitude stone.

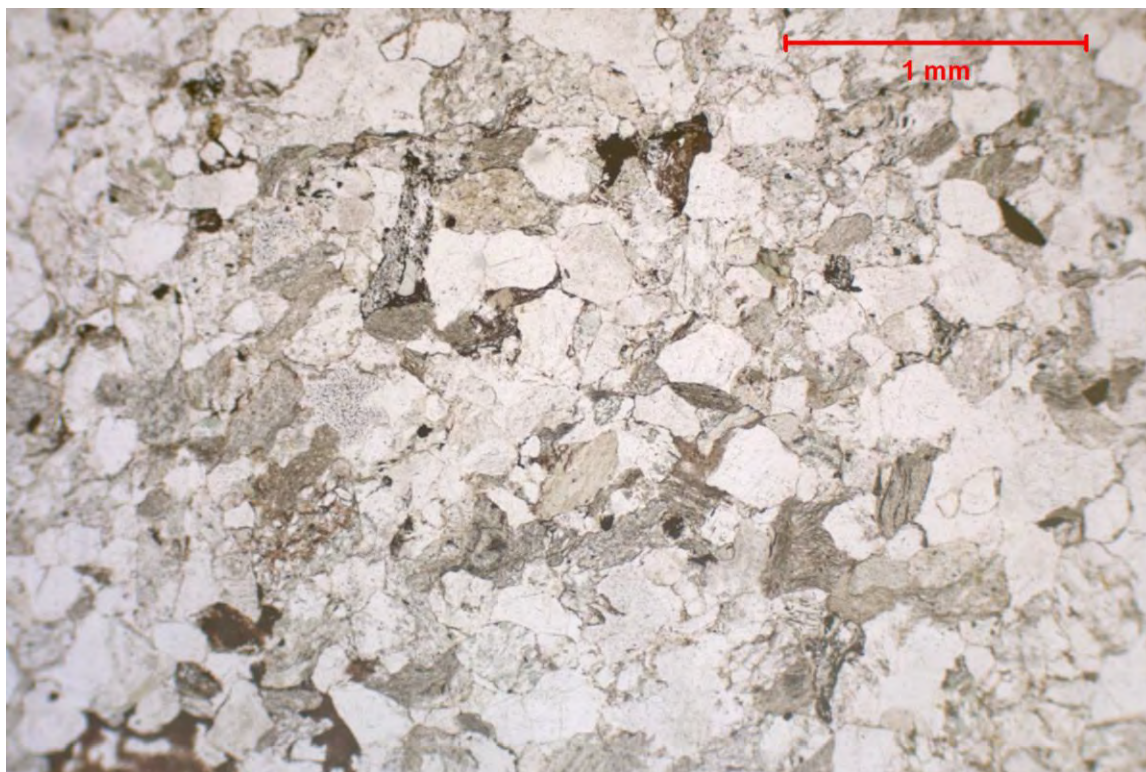


SAMPLE ID: Latitude Stone DESCRIPTION: "Chip" sample from the latitude stone.  
"Chip"

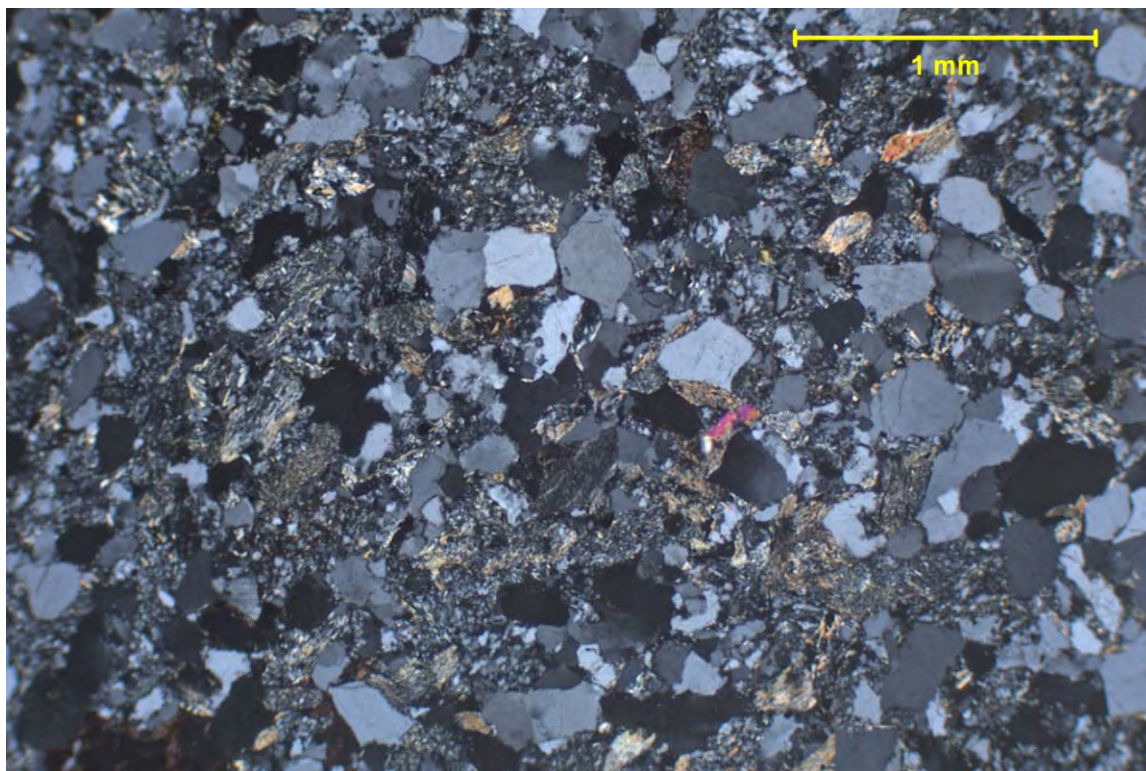


APS #: 10-06703  
PROJECT: HUNTER MOUNTAIN

DATE: MARCH 22, 2011



SAMPLE ID: "B"      DESCRIPTION: View of graywacke in thin section under plane polarized light.  
MAG: 40x



SAMPLE ID: "B"      DESCRIPTION: Same view as above under cross polarized light.  
MAG: 40x

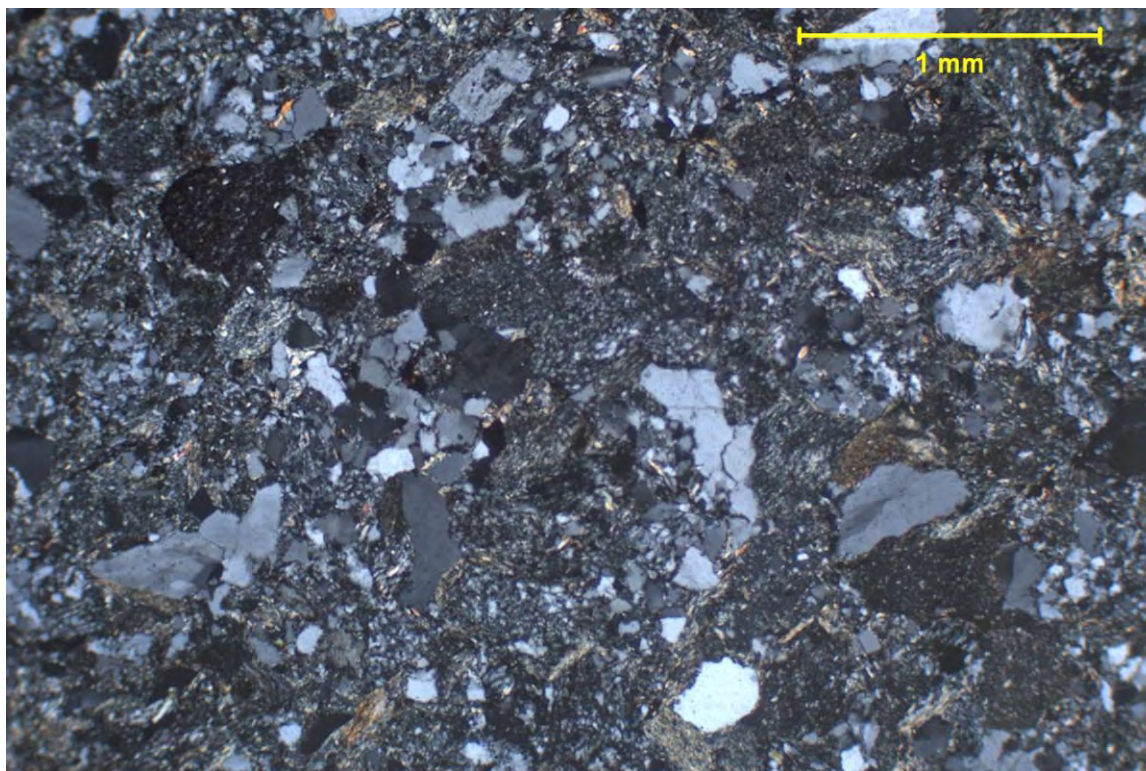


APS #: 10-06703  
PROJECT: HUNTER MOUNTAIN

DATE: MARCH 22, 2011



SAMPLE ID: Bird      DESCRIPTION: View of graywacke in thin section under plane polarized light.  
MAG: 40x

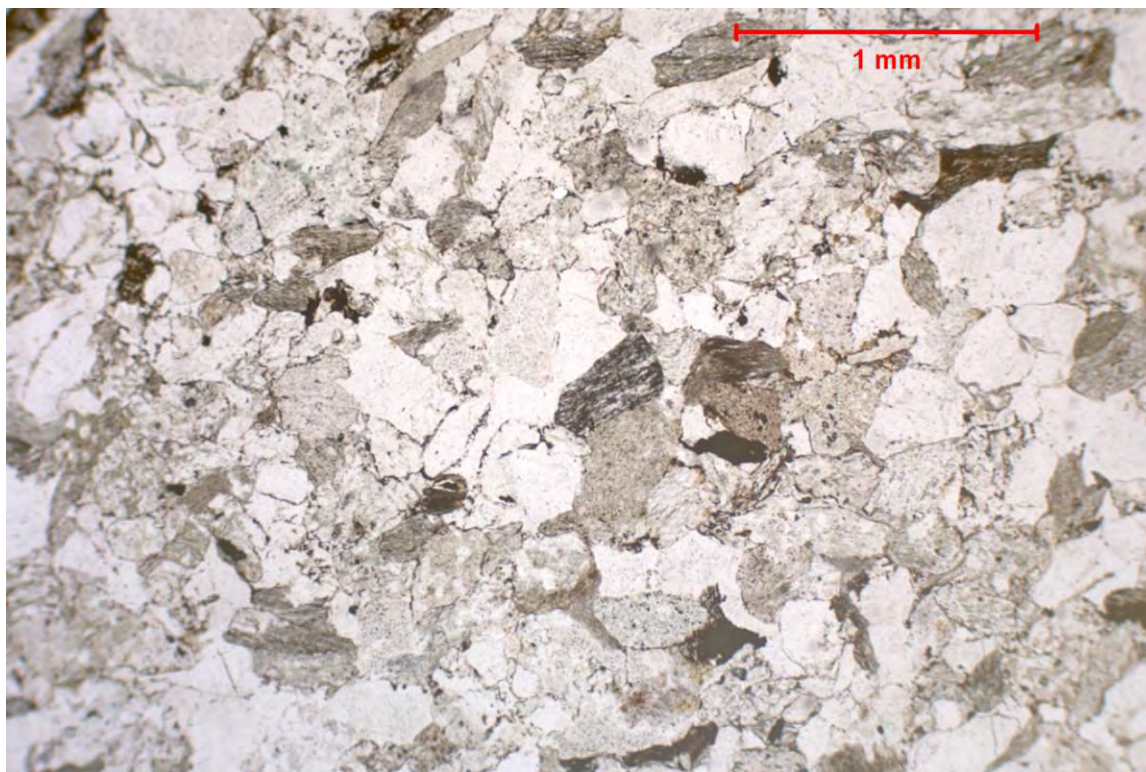


SAMPLE ID: Bird      DESCRIPTION: Same view as above under cross polarized light.  
MAG: 40x

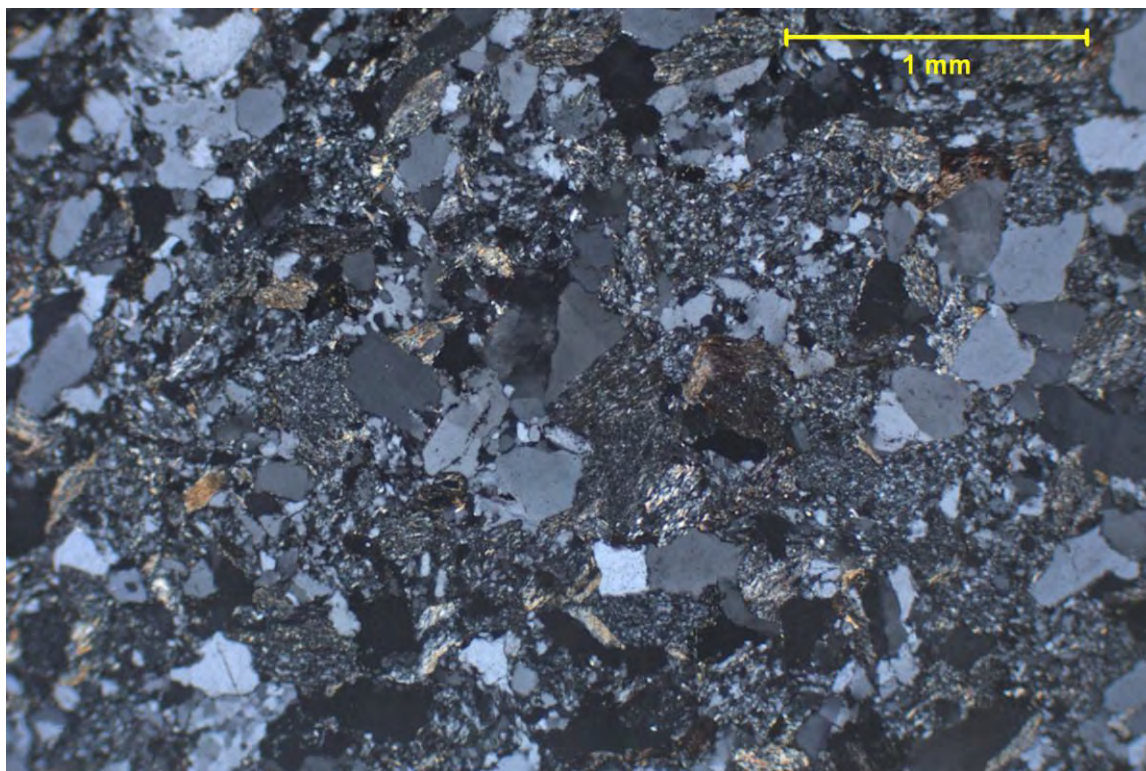


APS #: 10-06703  
PROJECT: HUNTER MOUNTAIN

DATE: MARCH 22, 2011



SAMPLE ID: Delta      DESCRIPTION: View of graywacke in thin section under plane polarized light.  
MAG: 40x

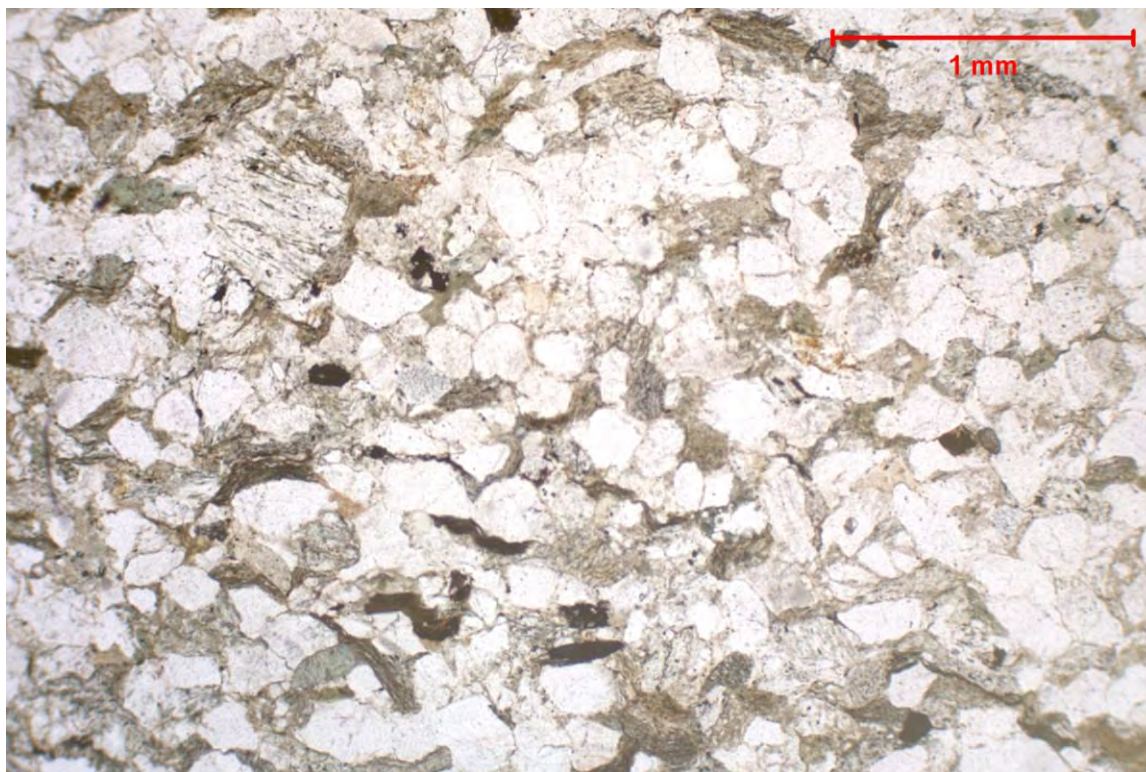


SAMPLE ID: Delta      DESCRIPTION: Same view as above under cross polarized light.  
MAG: 40x

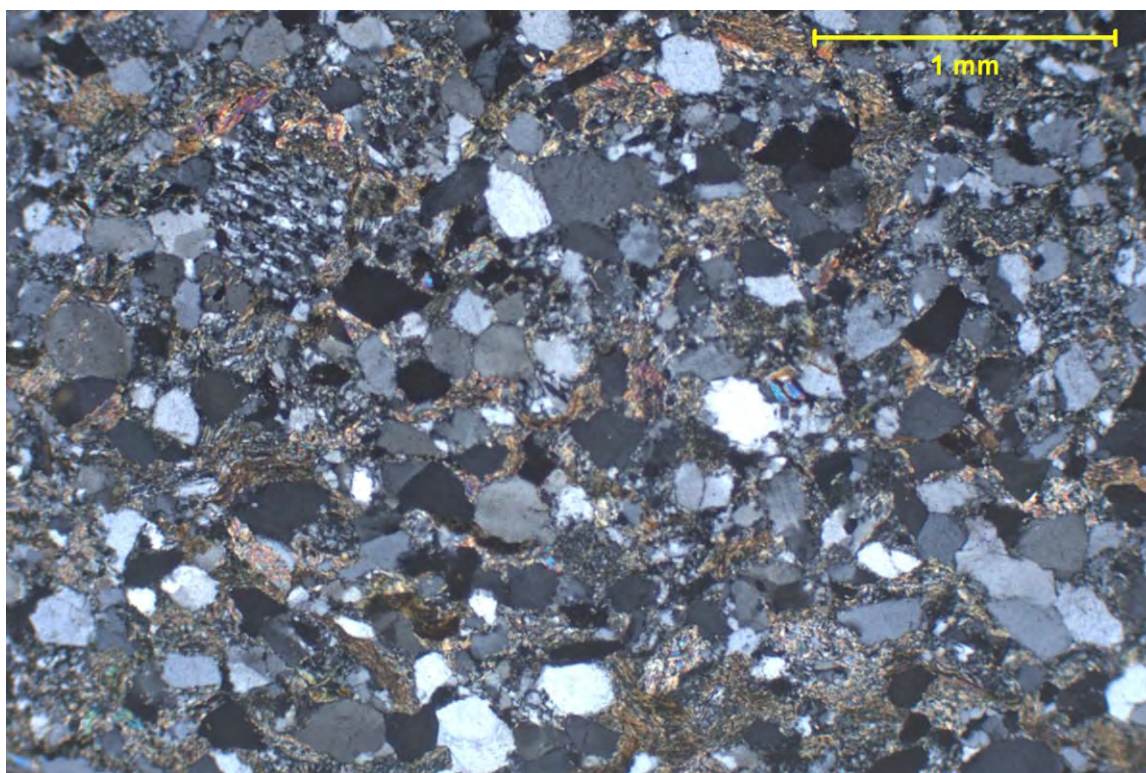


APS #: 10-06703  
PROJECT: HUNTER MOUNTAIN

DATE: MARCH 22, 2011

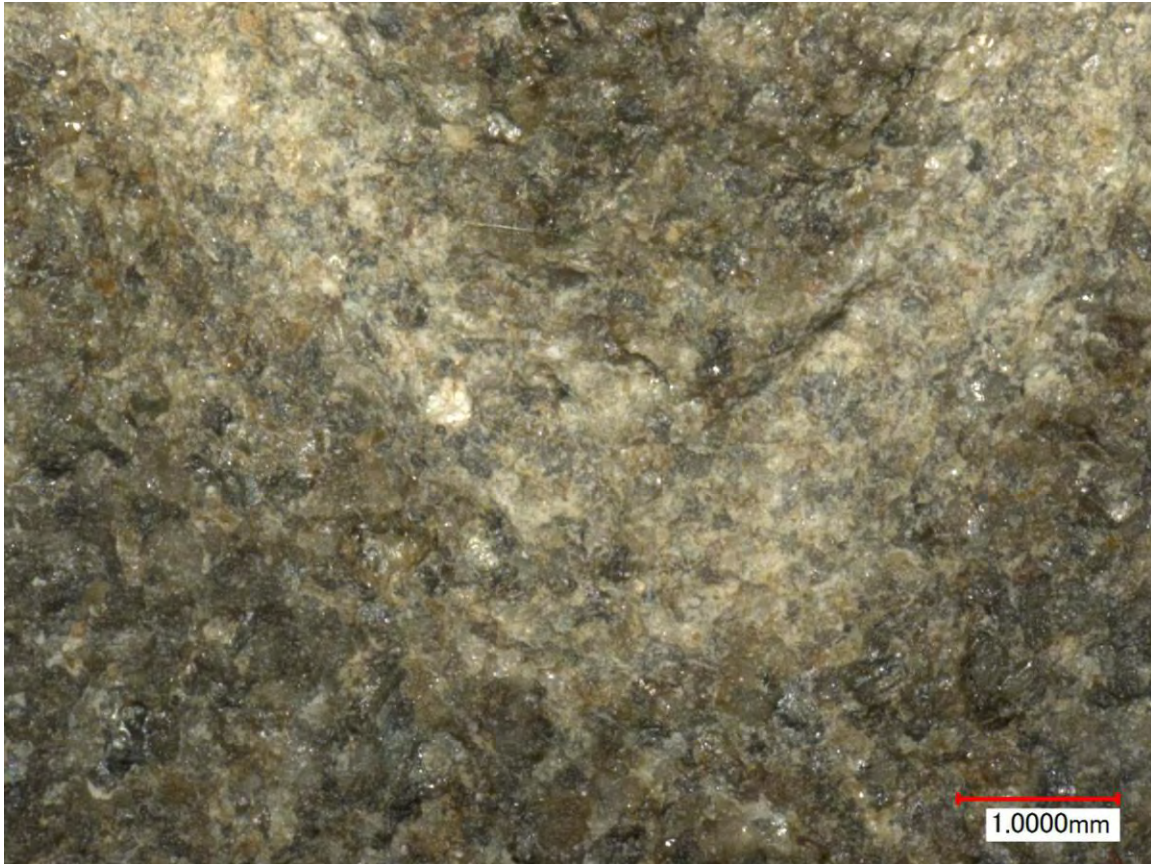


SAMPLE ID: Latitude Stone    DESCRIPTION: View of graywacke in thin section under plane polarized light.  
MAG: 40x

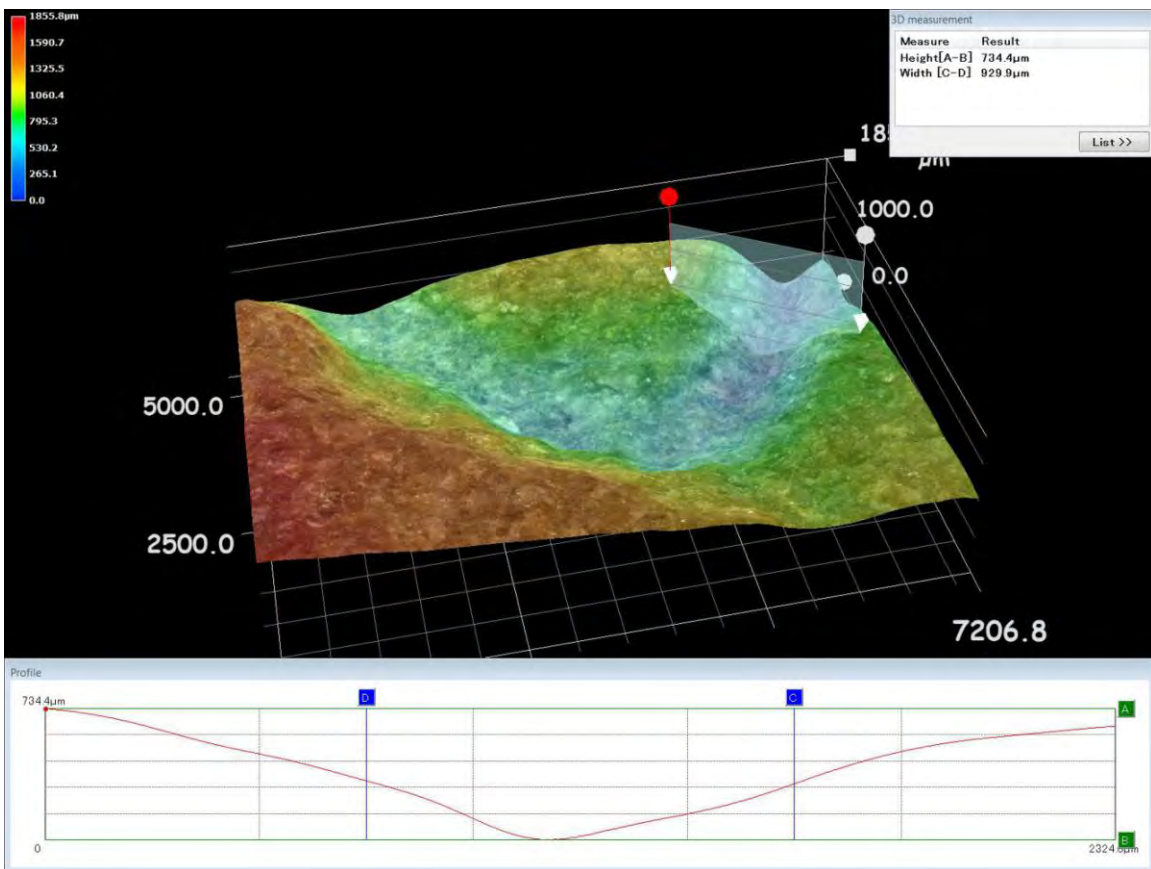


SAMPLE ID: Latitude Stone    DESCRIPTION: Same view as above under cross polarized light.  
MAG: 40x





SAMPLE ID: Latitude Stone DESCRIPTION: View of "V" in LXXV in second row of text..



SAMPLE ID: Latitude Stone DESCRIPTION: Three dimensional image of "V" and cross section showing elevation.