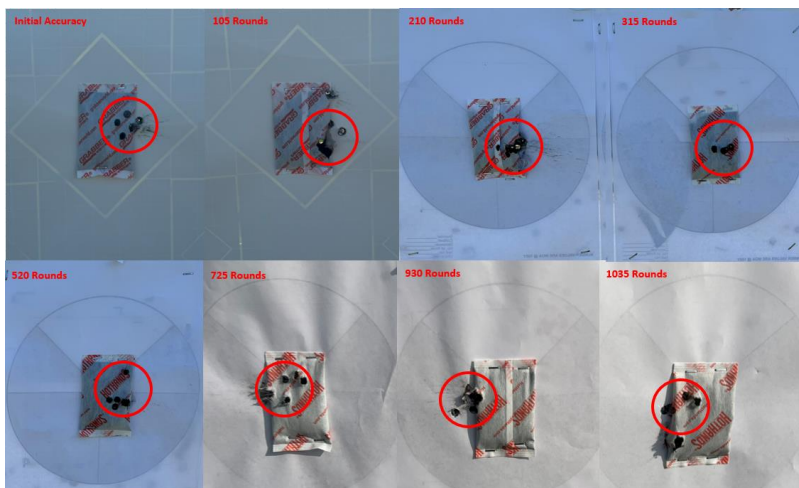


### Test Procedure and Results

1. **Date:** 3/13/2023
2. **Team Members:**
  - 2.1. John Johnston
3. **Purpose:** Evaluate Stone Thermal Scope Sample Using: Live Fire Testing
4. **Status:** Evaluation complete.
5. **Number of Rounds expended and type:**
  - 5.1. Type: 7.62x51 NATO 149gr ball  
QTY: 1,035 rounds
6. **Basic Procedure for live fire endurance testing using recoil test rifle (Aero Precision M5E1) chambered in 7.62x51 NATO.**
  - 6.1. Zero Optic on zeroing target.
  - 6.2. Shoot an accuracy group on accuracy target (5-6 rounds).
  - 6.3. Fire string of rapid-fire to endurance test optic (100 rounds, 5 magazines/200 rounds 10 magazines).
  - 6.4. Shoot an accuracy group to confirm no shift and examine optic for areas of failure (5-6 rounds).
  - 6.5. Repeat 6.2 through 6.4 until optic fails beyond use or number of desired rounds is reached.
7. **Live Fire Results**
  - 7.1. Optic zeroed fine, presented good grouping and initial accuracy group.
  - 7.2. At about 210 rounds, the rifle experienced a broken firing pin.
  - 7.3. At about 520 rounds, debris from within the optic began to appear on the display screen within the scopes housing. (Please Note the front and rear lenses were cleaned to ensure the debris was not external.)
  - 7.4. After about 1035 rounds, the optic retained a sufficient zero and maintained all function.



Accuracy targets for thermal sample. Targets shot in order of left to right, then top to bottom. Please note that after 315 rounds the endurance string was increased to 200 rounds to shorten testing time.

### 8. Debris in Optic's Housing

**8.1. Problem:** After about 520 rounds of live fire it was noted that debris appeared on the display screen within the scopes housing. As firing continued, debris fell off the display screen and was replaced with different debris. The debris was described as dry flakes that bounced when the rifle was fired.

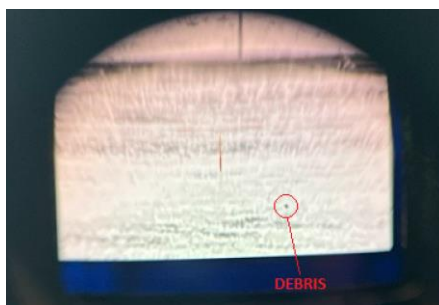


Fig 1. Debris Spotted on Optic's Internal Display

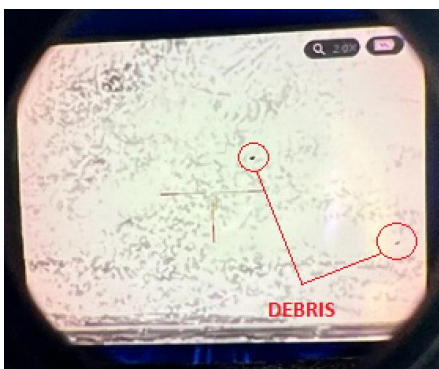


Fig 2. Different Debris appeared on Optic's Internal Display