

Suppressor Condemnation - Sustainment

Dr. Les Flemming – Small Arms Signature Lab



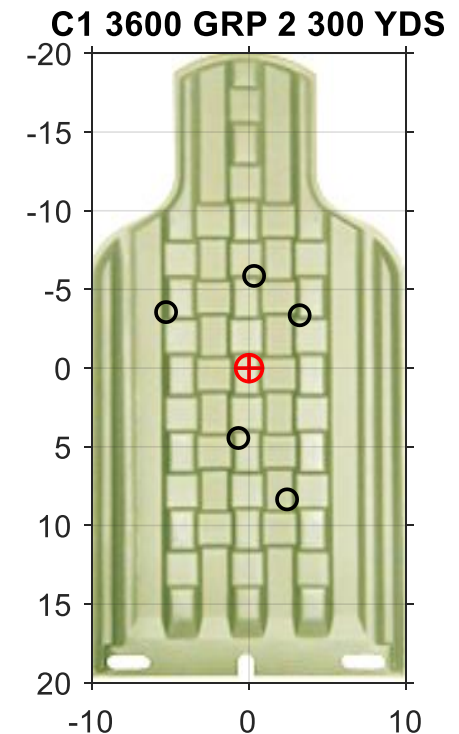
CAPT Duncan McKay, USN
Commanding Officer



Dr. Angela Lewis, SES
Technical Director

- **Condemnation**
 - Test & Evaluation
 - In Service
- **Sustainment**
 - Maintenance
 - Development / Design

- **Performance**
 - Dispersion
 - POI Shift
- **Characteristics**
 - Mass
 - Geometry – Visual Inspection
- **Signature**
 - Sound
 - Blowback
 - Flash
 - Thermal





Condition Codes

Excess property is a source of affordable and proven equipment for other DoD activities and Foreign Military Sales (FMS) countries and it provides the U.S. government an opportunity to potentially recoup a return on investment. Accurate condition coding and property descriptions provide Disposition Services the ability to maximize the return on excess/surplus through either sales or reutilization.

Code	Description	Condition
A	Serviceable issuable without qualification	New, used, repaired, or reconditioned material which is serviceable and issuable to all customers without limitation or restrictions. Includes material with more than 6 months shelf life remaining.
B	Serviceable issuable with qualification	New, used, repaired, or reconditioned material which is serviceable and issuable for its intended purpose but which is restricted from issue to specific units, activities, or geographical areas by reason of its limited usefulness or short service life expectancy. Includes material with 3 through 6 months shelf life.
C	Serviceable priority issue	Items which are serviceable and issuable to selected customers, but which must be issued before Condition A and B material to avoid loss as a usable asset. Includes material with less than 3 months shelf life remaining.
D	Serviceable test modification	Serviceable material which requires test, alteration, modification, conversion or disassembly. This does not include items which must be inspected or tested immediately prior to issue.

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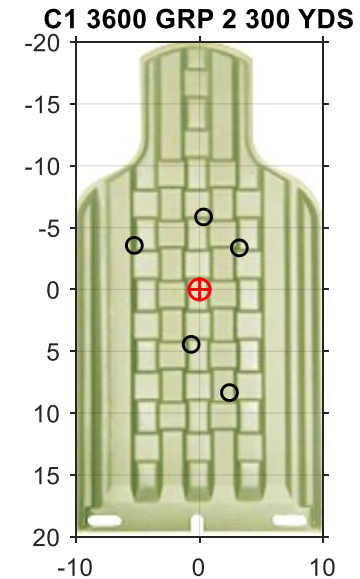
End Cap
Strikes



Baffle
Strikes

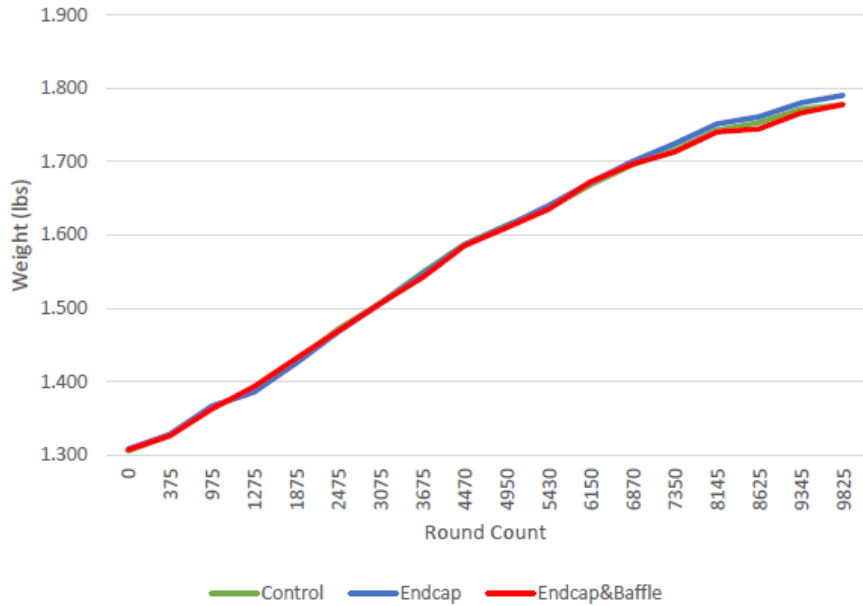


- **Performance**
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 - POI Shift
- **Characteristics**
 - Mass
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 - Sound
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 - Thermal

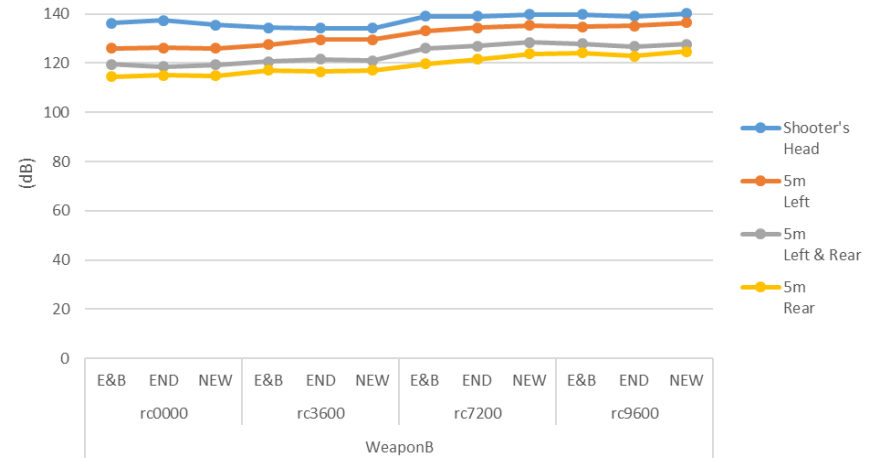


Suppressor Condemnation Summary

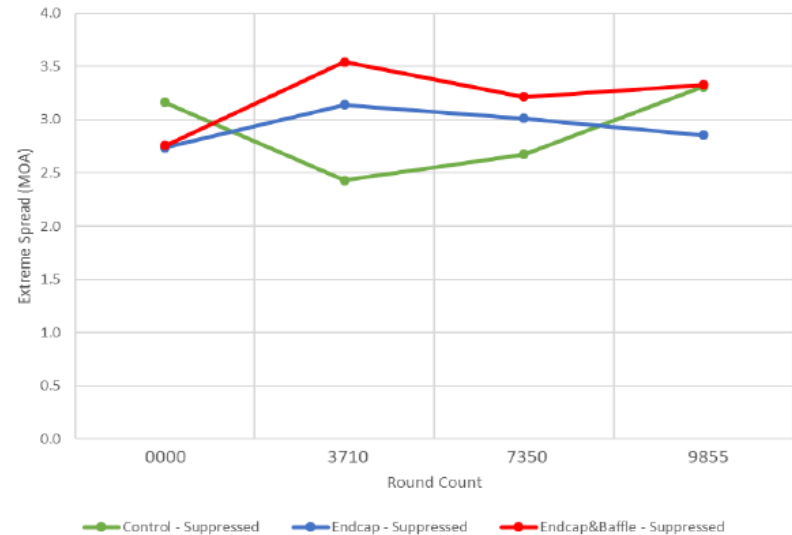
"B" Weapons Suppressor Weight



Median Peak Sound Pressure Level - L_{pk}

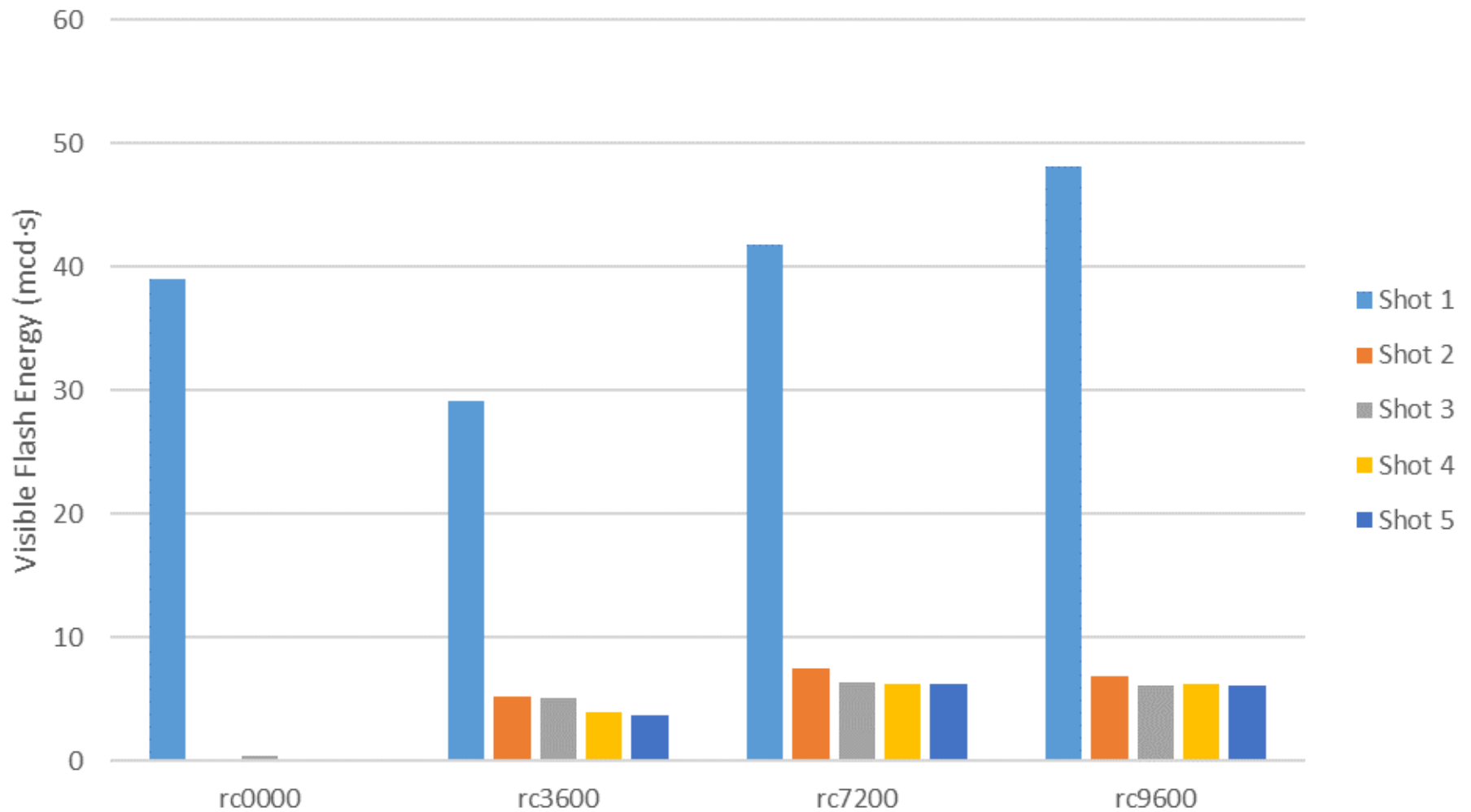


"B" Weapons Average Extreme Spread



Suppressor Condemnation Summary

Average Visible Flash Energy

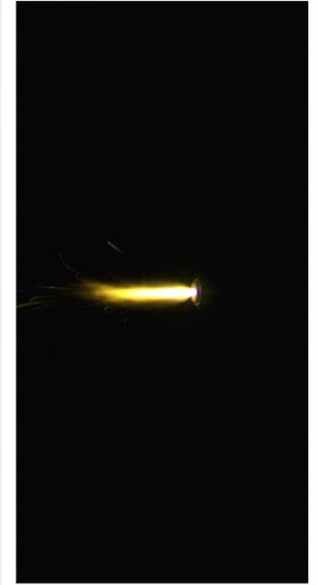


Suppressor Condemnation Example

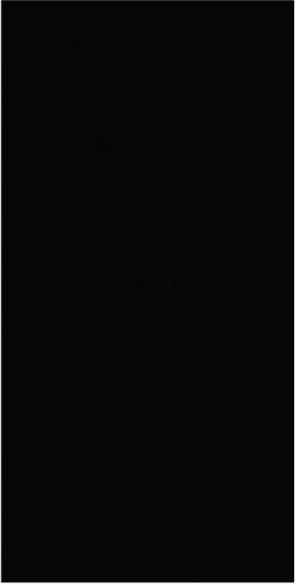
Round Count 0
Shot 1



Round Count 3600
Shot 1



Round Count 0
Shot 2

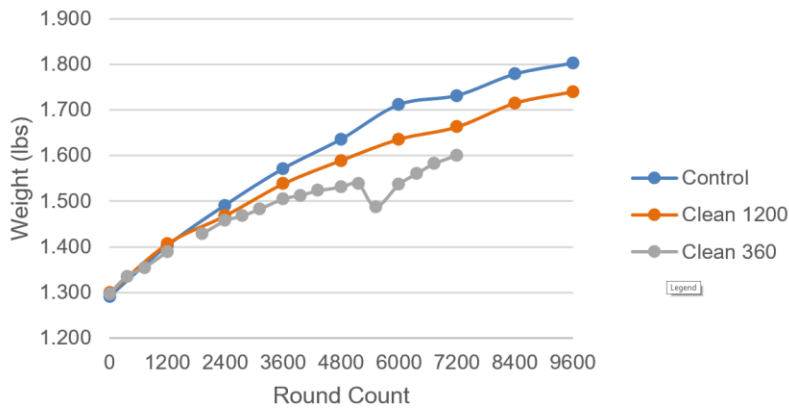


Round Count 3600
Shot 1

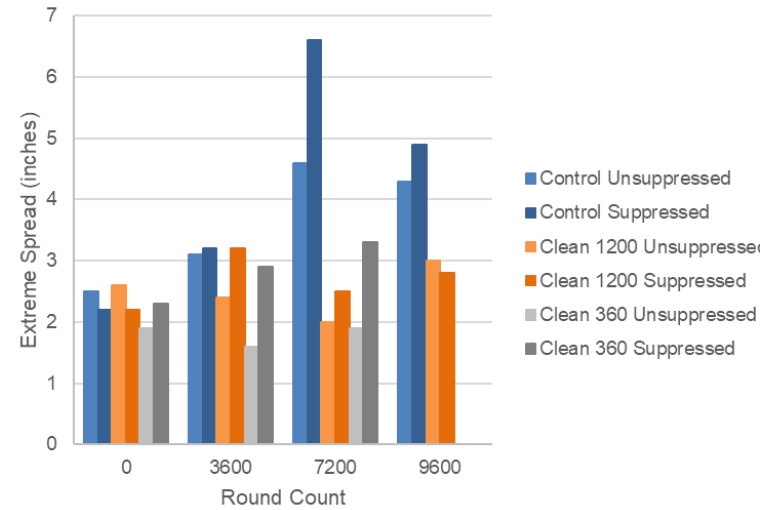


Suppressor Cleaning Example

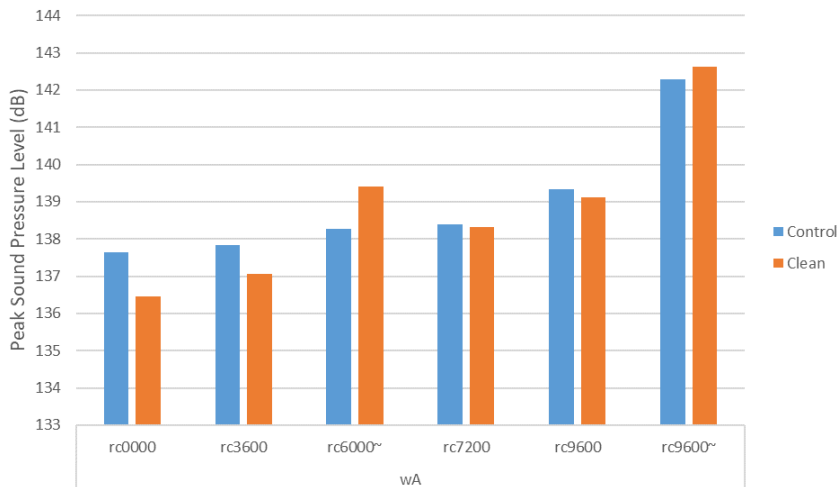
"A" Weapons Suppressor Weights



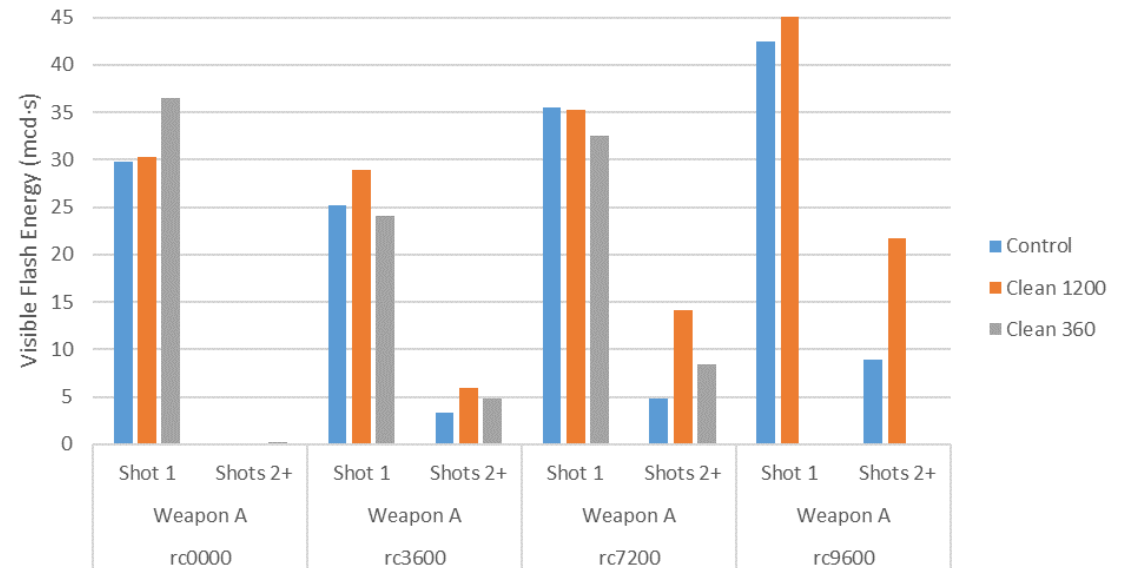
"A" Weapons Dispersion



"A" Weapons Average Peak Sound Pressure Level (dB)

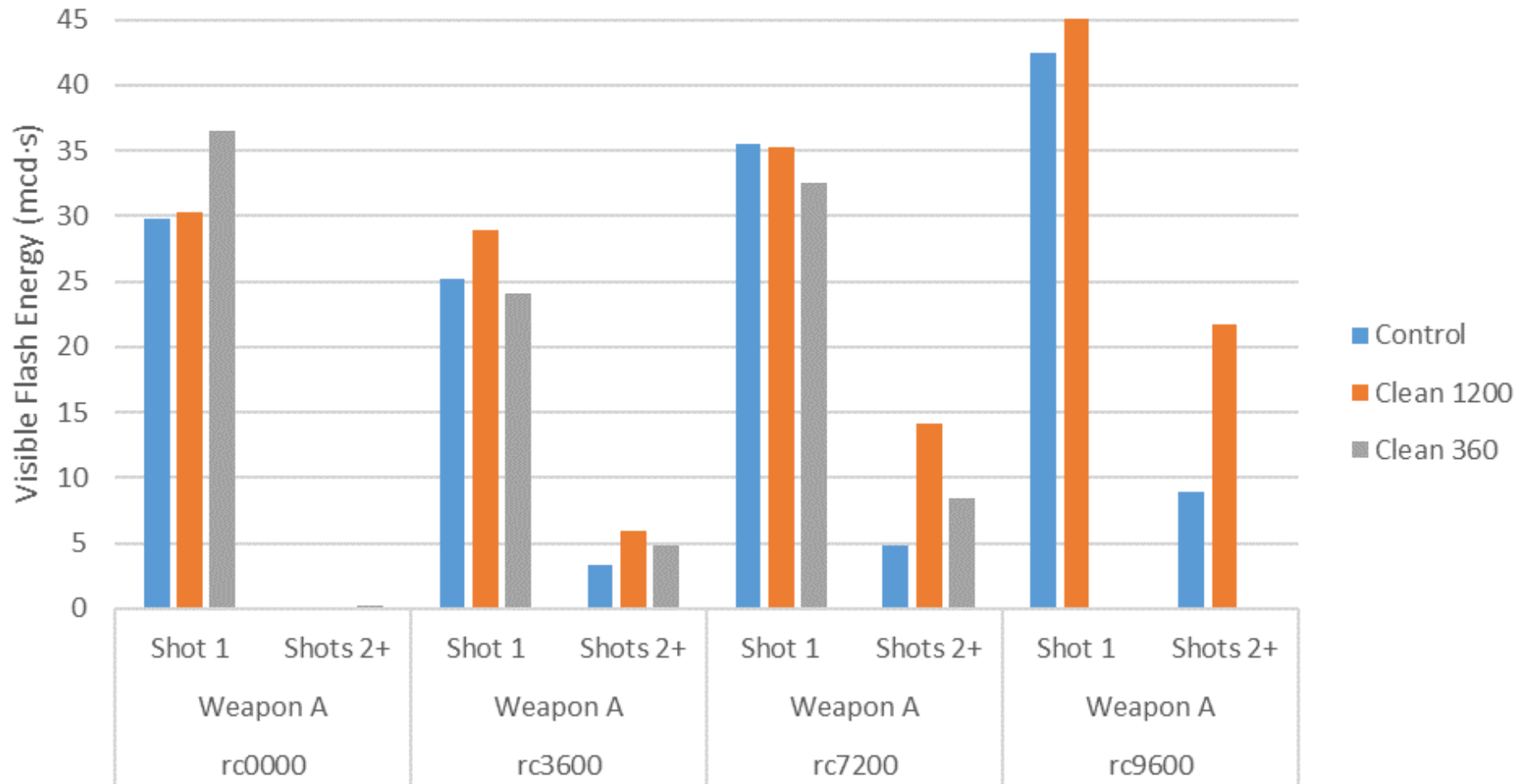


Median Visible Flash Energy



Suppressor Cleaning Example

Median Visible Flash Energy



- **Methods**
 - **Mechanical**
 - Brush / Impact
 - Thermal
 - Ultrasonic Cleaner
 - **Chemical**
- **Execution Level**
 - Soldier
 - Armorer
 - Depot
 - Vendor
- **Cost / Benefit**



- **Sustainment Cost**
 - Tools and Material
 - Hazardous Material
 - Reconditioning Labor
 - Replacement

- **Condemnation**
 - Round Count
 - Duration
 - Mass



- **Identify stagnate air flow**
 - **Computational Fluid Dynamics (CFD) Modeling**
 - **CT Scan (x-ray)**
- **Coatings**
 - **Material & Application Process**
- **Testing & Data Analysis**
 - **NATO STANREC4785 - TEST PROCEDURES FOR SMALL ARMS SUPPRESSORS**