



Available

Medium Caliber

Barrel life improvements

NDIA Guns & Ammo

Panama City FL

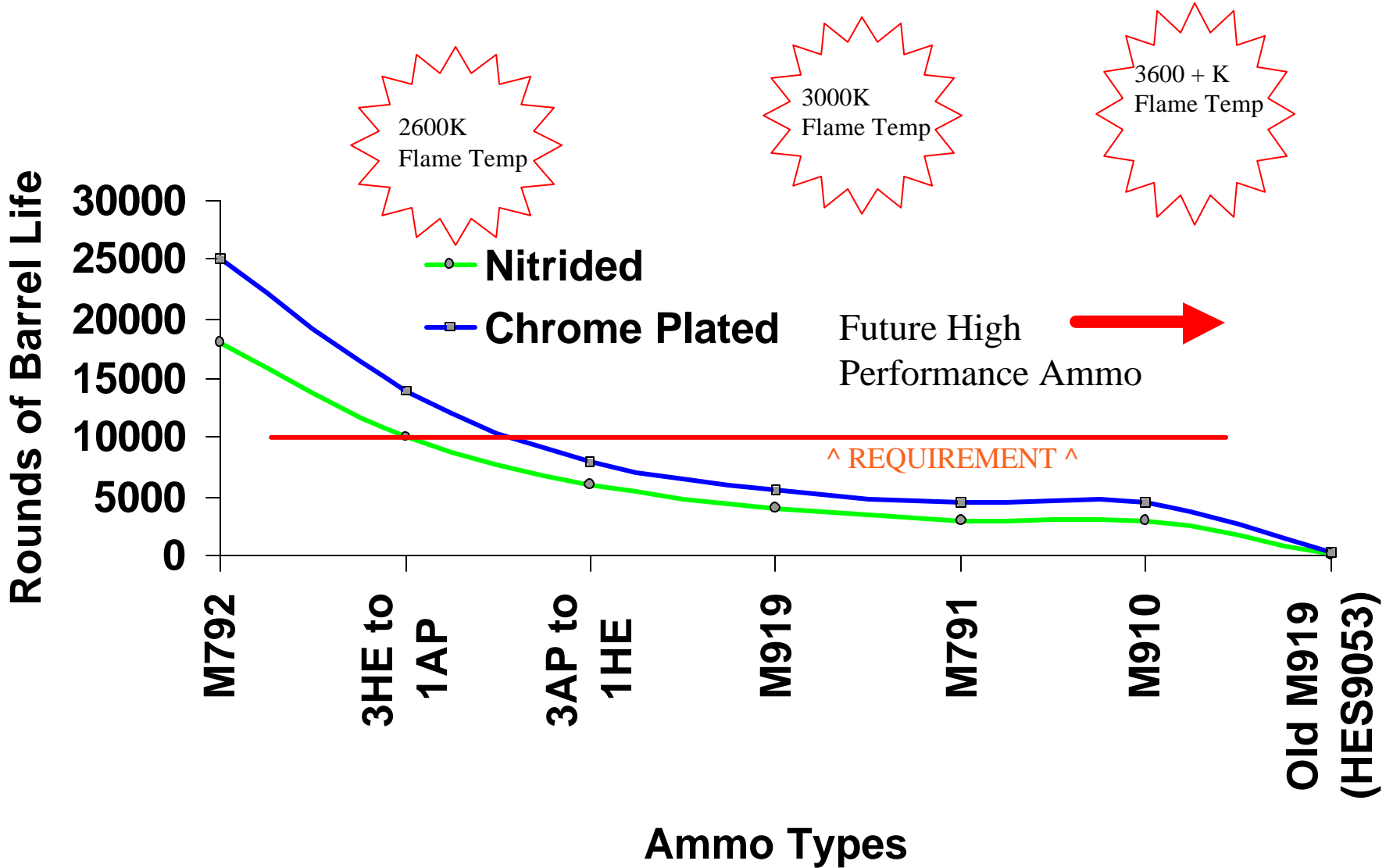
15-18 April 2002

Presented by: Bob Waterfield

Outline

- **M242 barrel life history**
- **Barrel life comparison test data**
 - **MK44**
 - **M242**
 - **27mm**
- **Test result summary**
- **Comments**
- **Availability status**

M242 25mm Automatic Gun



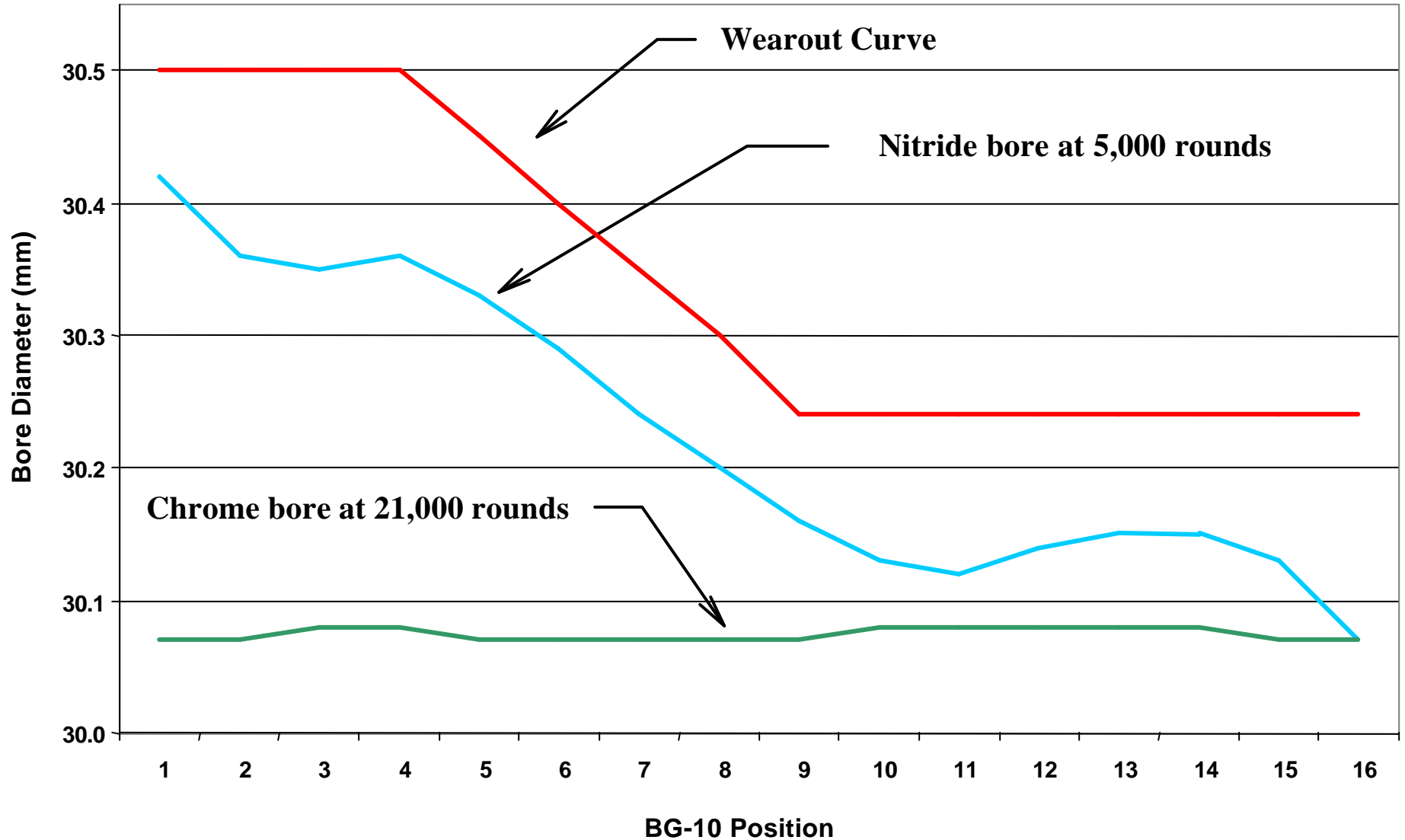
MK44 test schedule

**A mixture of SS, 3 round & 5 rounds burst
totaling 198 rounds in 27.5 minutes
and cool to ambient**

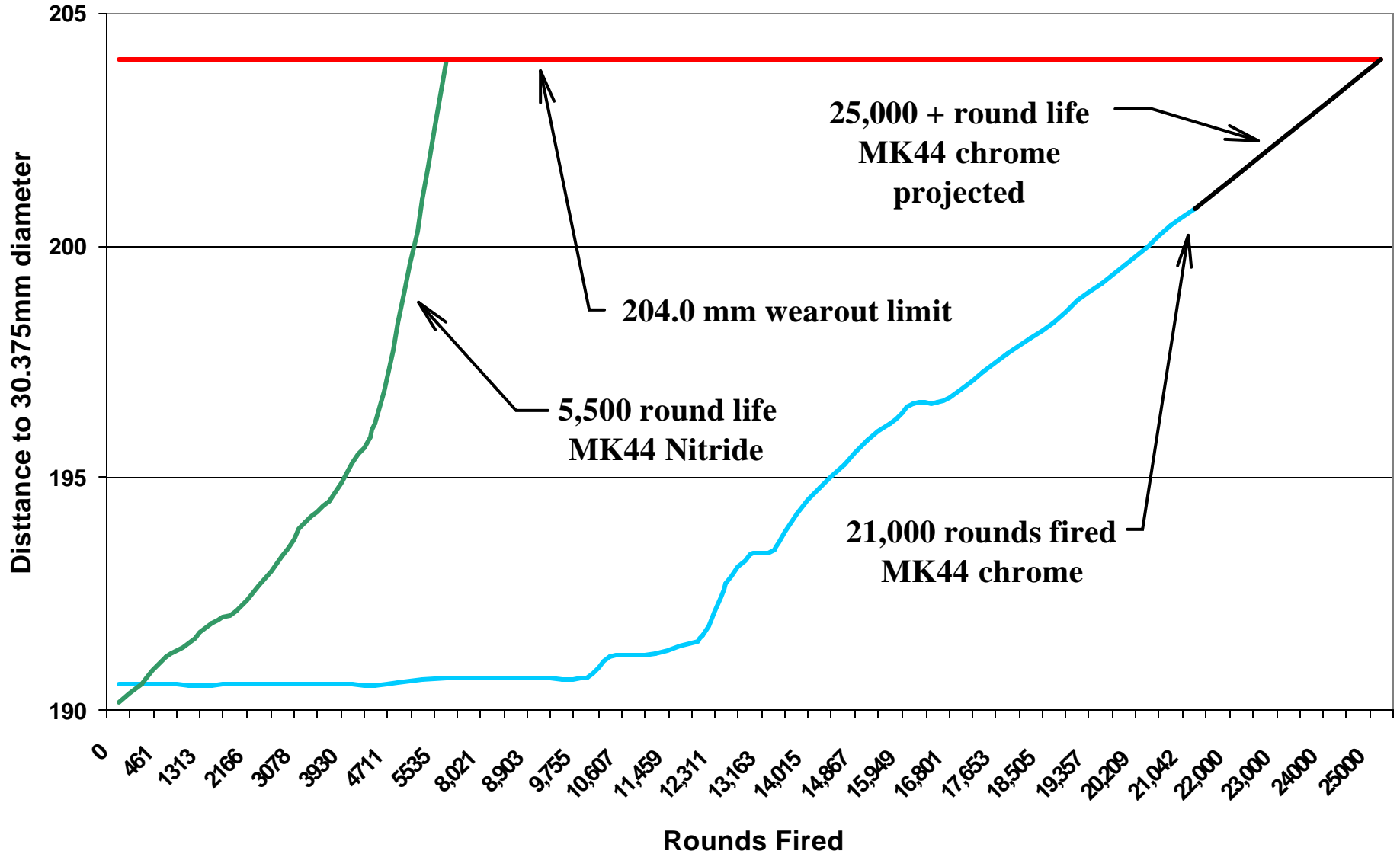
- 66 rounds in 2.5 minutes**
 - 10 minute cool**
- 66 rounds in 2.5 minutes**
 - 10 minutes cool**
- 66 rounds in 2.5 minutes**



30mm MK44 barrel BG-10 results



Forcing Cone Erosion vs. Rounds Fired



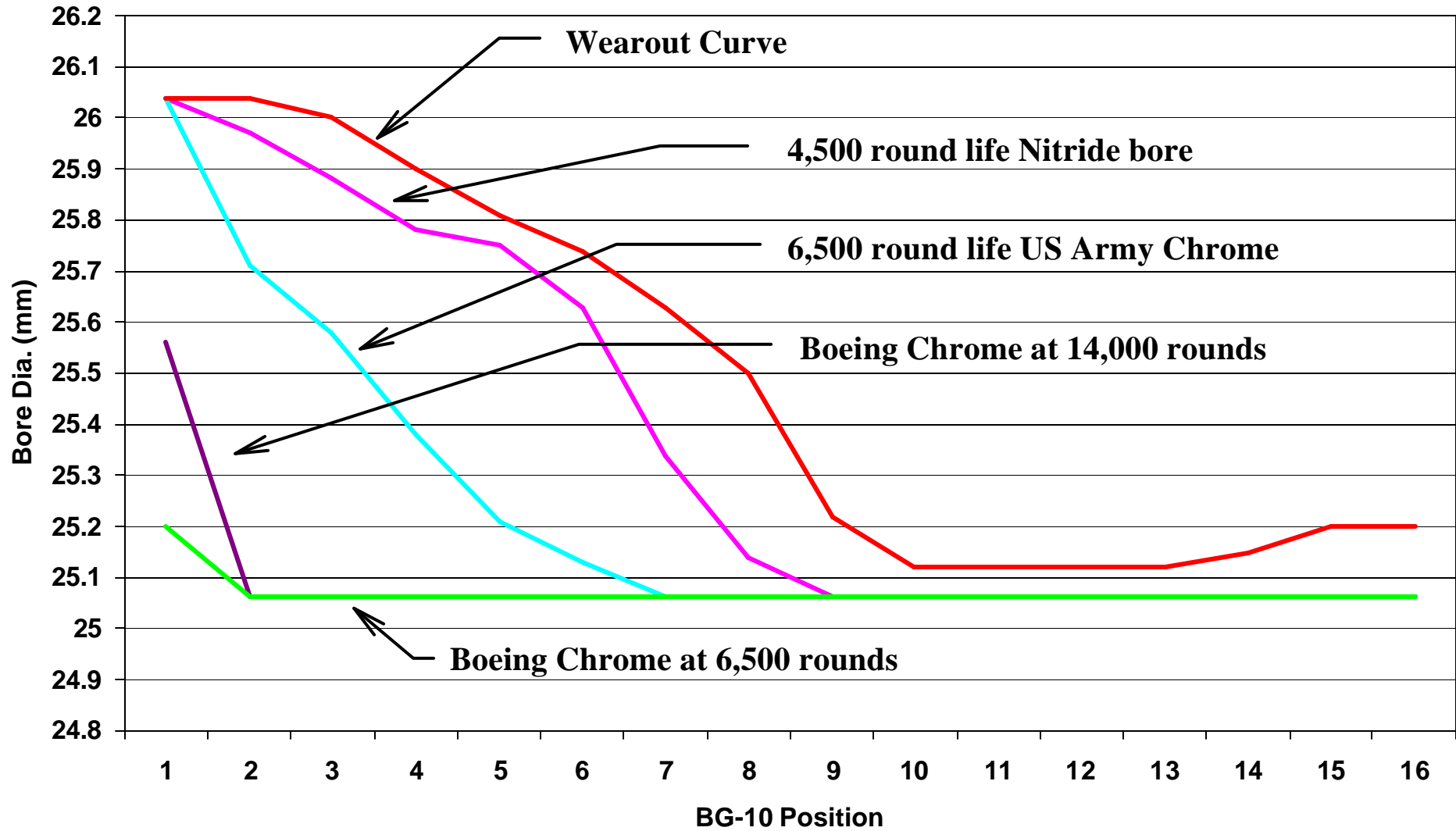
M242 test schedule

A mixture of SS, & 10 rounds burst
totaling 300 rounds in 34 minutes
and cool to ambient

- 150 rounds in 2 minutes
 - 30 minute cool
- 150 rounds in 2 minutes

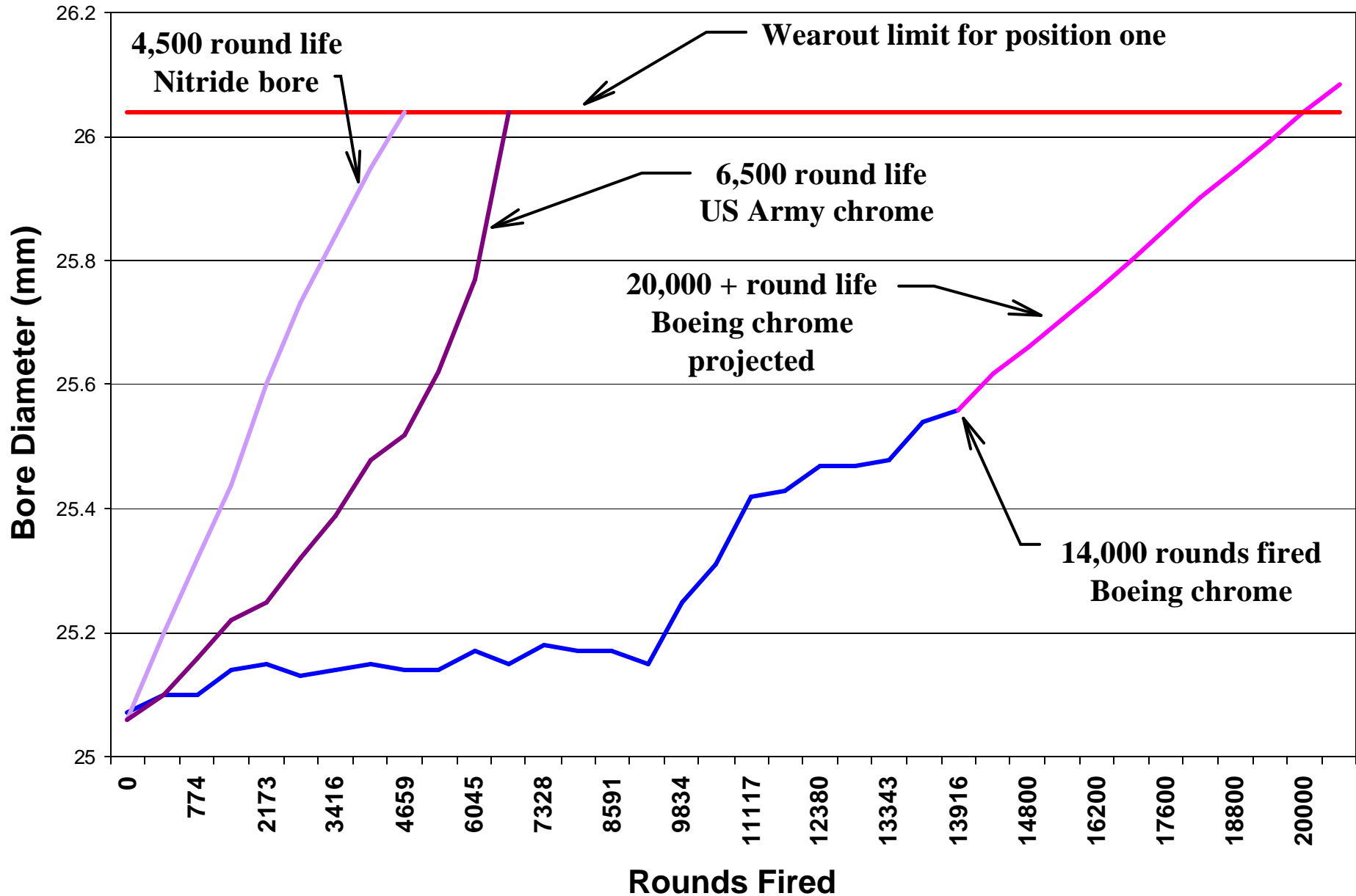


25mm M242 barrel BG-10 results



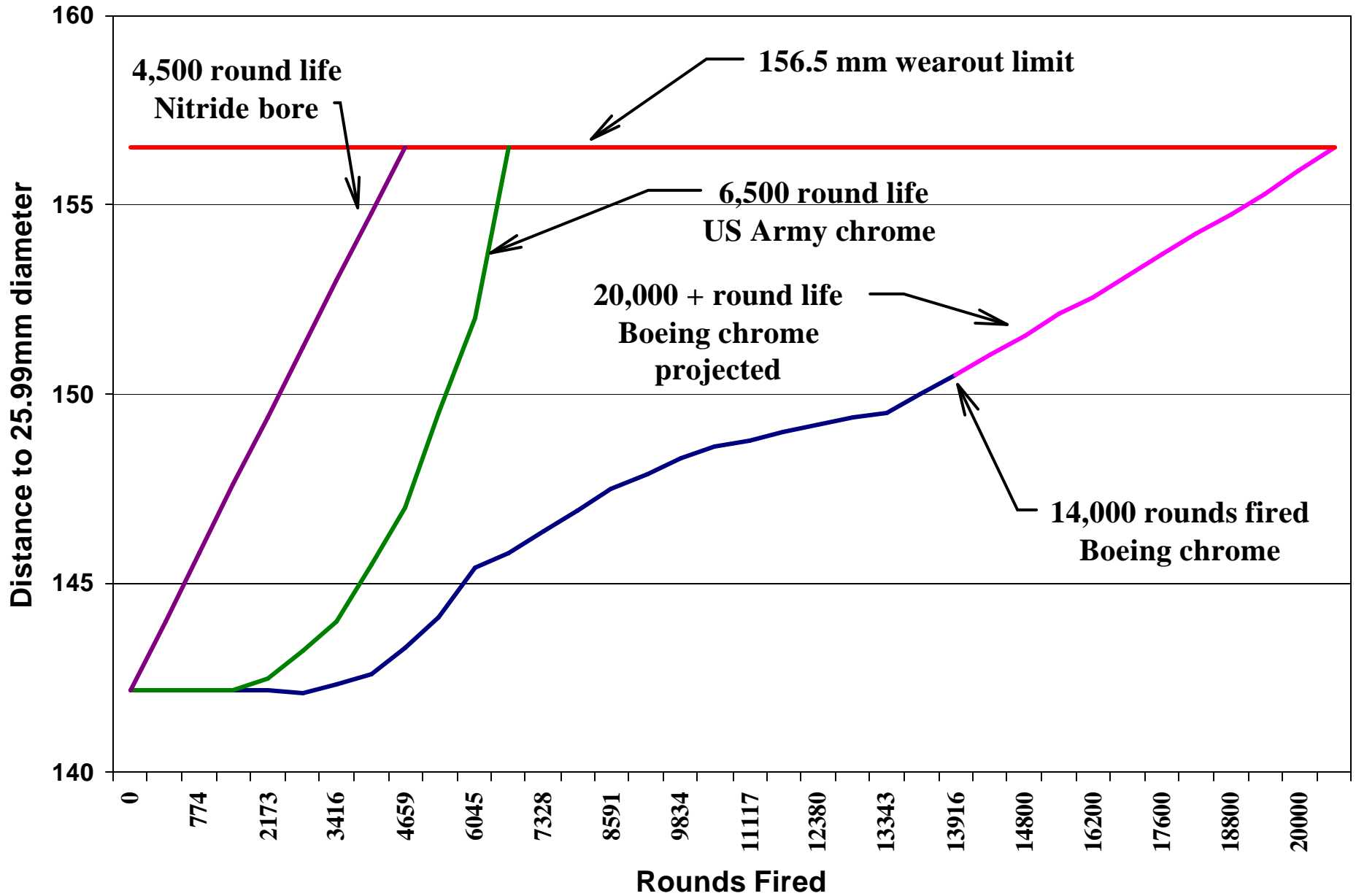


Position 1 \emptyset (@158mm) vs. Rounds Fired





Forcing Cone Erosion vs. Rounds Fired



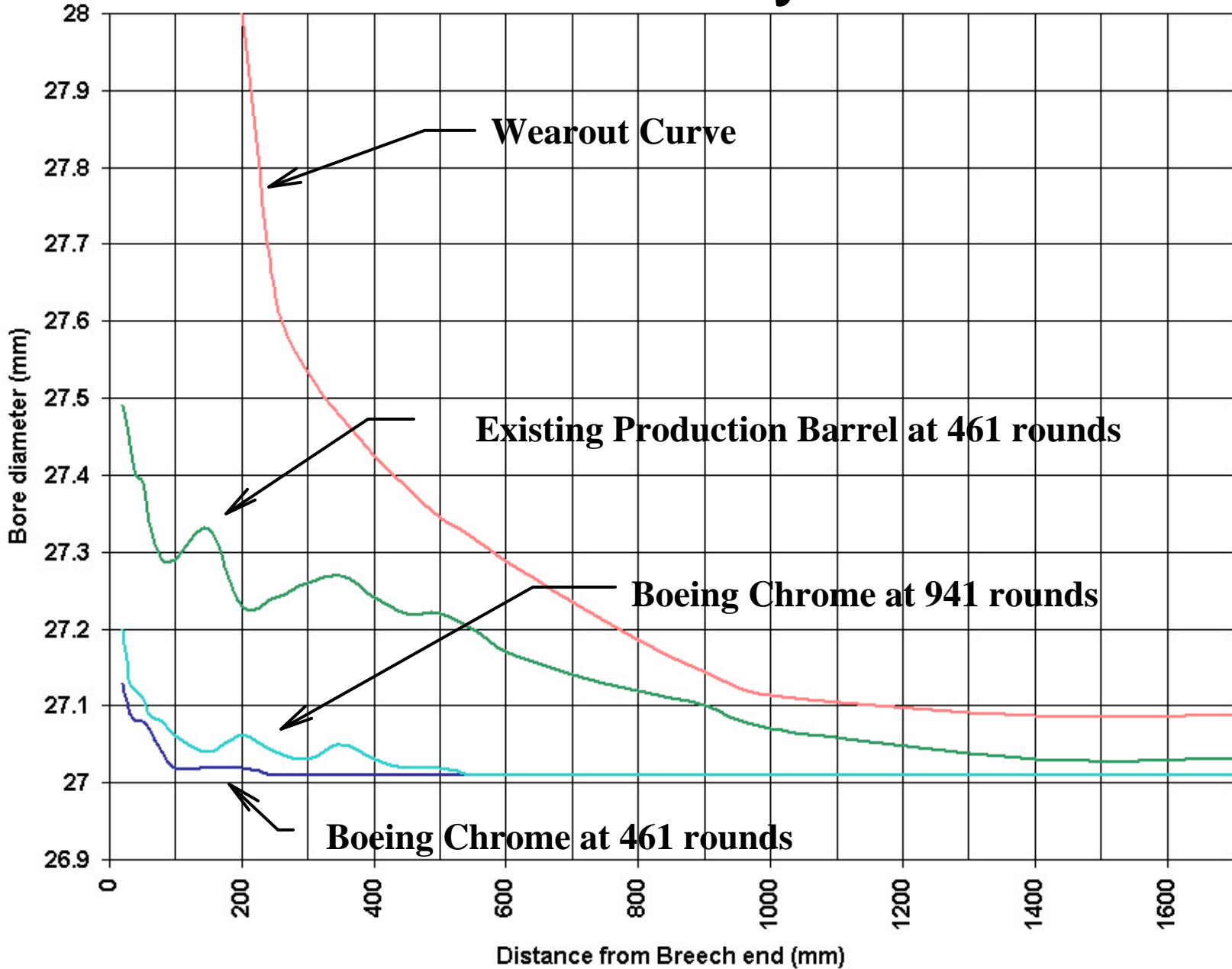
BK27 test schedule

Four (4) one second bursts of 30 rounds each totaling 120 rounds in 7.5 minutes and cool to ambient

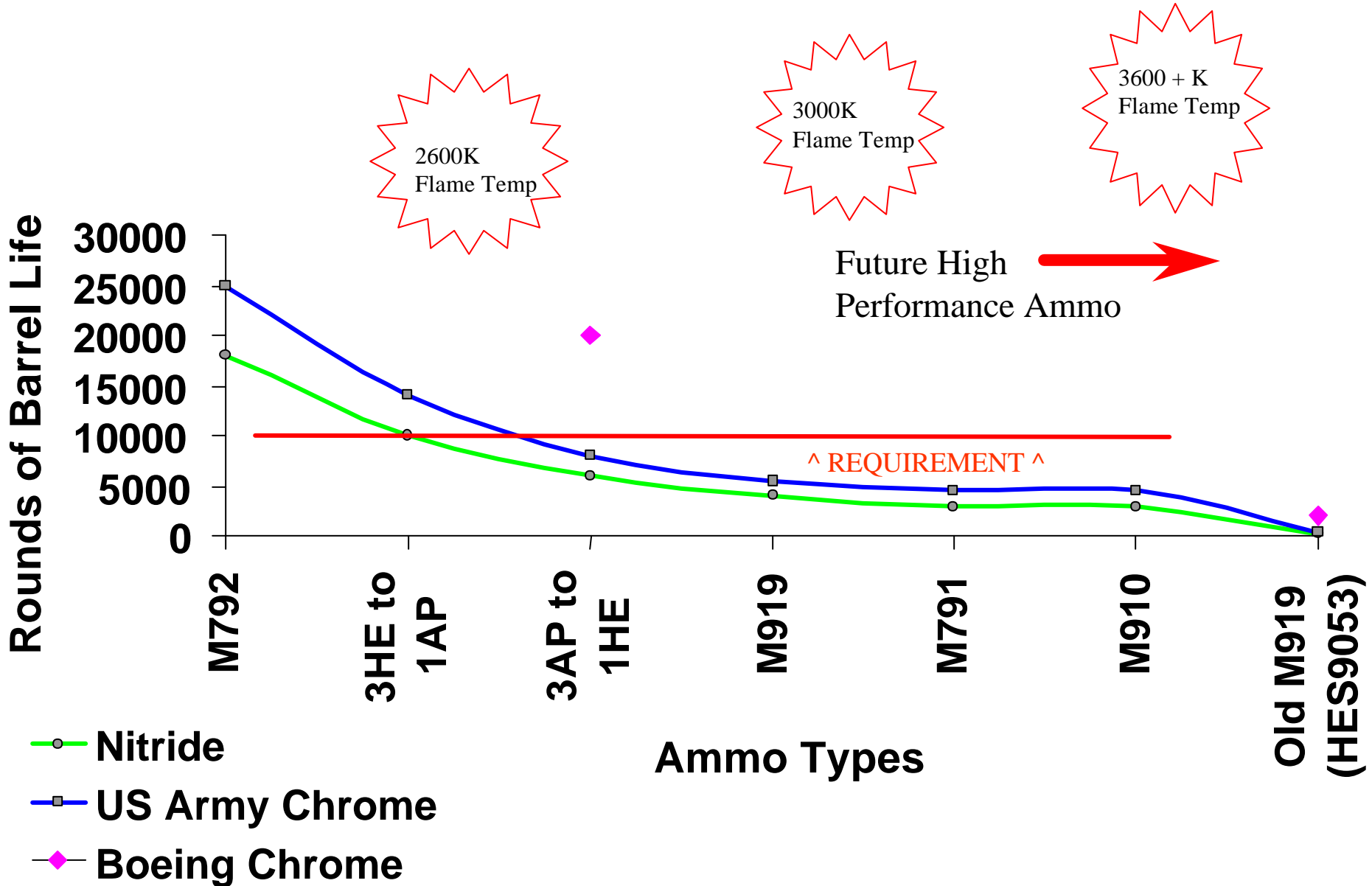
- 30 round burst in one second
 - 2.5 minute cool
- 30 round burst in one second
 - 2.5 minute cool
- 30 round burst in one second
 - 2.5 minute cool
- 30 round burst in one second



27mm Preliminary test results



M242 25mm Automatic Gun



Test result summary

Boeing's chrome process increases life

- Greater than 4x compared to our baseline nitride.
 - 30mm MK44 barrels
 - 25mm M242 barrels
- Greater than 3x compared to existing M242 fielded barrels
- Greater than 4x Compared to existing BK27 fielded barrels

M242 Comments

- Current fielded M242 barrel does not meet Bradley MN barrel life requirement with present ammo mix.
- Boeing manufactured chrome barrels
 - Exceed MN requirement
 - Will reduce life cycle cost & logistical burden
 - Allows for increased performance (higher flame temp.) propellants.



MK44 Chrome barrels

Availability status

MK 44 barrels in production with
deliveries on going for
US Navy
US Marines
Norwegian Army
Swiss Army
Finnish Army



M242 & 27mm Aircraft

Chrome barrels Availability status

MK 242 barrels

Process established

Awaiting kick off customer

Advanced 27mm Aircraft barrels

Process established

Ready & waiting for JSF

or

Any other Kick off customer