FLAMELESS TRACER & MARKER
Guns and Ammo Presentation
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AGENDA

• INTRODUCTION

• BACKGROUND

• TECHNOLOGY BENEFITS

• Modified M781 40mm TEST FIRINGS at TACOM–ARDEC

• QUESTIONS
INTRODUCTION

• WHAT’S A TRACER?
  – ENERGETIC MATERIAL (HEAVY METALS)
  – INITIATED UPON WEAPON FIRING
  – BRIGHT BURNING, TRAVELS WITH PROJECTILE
  – WEAPON CORRECTION
  – CAN START RANGE FIRES…..

• AMMUNITION FIRES
  – DANGEROUS
  – SMOKE IN SURROUNDING COMMUNITY
  – LOST TIME
  – COST TO EXTINGUISH
BACKGROUND

• 1998 RESEARCH BEGAN UTILIZING VARIOUS ARDEC FUNDING SOURCES.

• PERFORMED PRELIMINARY TANK AMMUNITION TESTING.

• PATENT DISCLOSURE SUBMITTED.

• DEMONSTRATED M781 40mm GRENADE CAPABILITY.

• DEVELOPING TRACERS & MARKERS for MULTIPLE CALIBER AMMUNITION & VARIOUS MISSIONS.

• PROVIDING DEMONSTRATIONS to the USER COMMUNITY.
TECHNOLOGY BENEFITS

• TRAINING BENEFITS
  – ELIMINATES TRACER FIRES.
  – ENVIRONMENTALLY FRIENDLY.
  – SIMULATES FLASH of EXPLOSIVE.
  – ALLOWS MODIFIED M781 to be USED AT NIGHT & DAY.

• TACTICAL BENEFITS
  – SIGNALING & IDENTIFICATION CAPABILITY.
  – INFRARED & VISIBLE LIGHT CAPABILITY.
40mm M781 TEST FIRINGS

- DEMONSTRATED IR & VISIBLE TRACE MARK CAPABILITY with OVER 60 SUCCESSFUL FIRINGS in ARDEC ARMAMENT TECHNOLOGY FACILITY & OUTDOOR RANGE.

- DEMONSTRATED TECHNOLOGY to PM, NATIONAL GUARD, INFANTRY SCHOOL, & OTHER USERS.

- SUCCESSFULLY ADVANCING PRESENT TECHNOLOGY to MEET USER NEEDS.
FLAMELESS TRACER
APPLIED to the 40mm M781 PRACTICE GRENADE

FIG 1. 40mm PROJECTILE WITH TRACER & MARKER CAPABILITY
FIG 2. ATF- 300M RANGE NORMAL LIGHTING
FIG 3. PROJECTILE IMPACTING CEILING
FIG. 4  40mm PROJECTILE with TRACE, IMPACTS FLOOR LEAVES MARK
FIG 5. MARKER (NO TRACER), INITIAL IMPACT on FLOOR RICOCHETING off the WALL and IMPACTING BACK to FLOOR
FIG 6. VIDEO OF 40mm TRACE & MARK in TACOM-ARDEC ATF
FIG 7. DAY TIME VIEW OF TARGET
at PICATINNY OUTDOOR RANGE
FIG 8. ROUND MARKING TARGET at DUSK at PICATINNY OUTDOOR RANGE
FIG 9. ROUND FIRED at NIGHT
at PICATINNY OUTDOOR RANGE
FIG 10. VIDEO of FLAMELESS TRACE & MARK

at PICATINNY OUTDOOR RANGE

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