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The M2/E2 30-06 Round

In November 1974, a letter written by Richard Keogh (Hawaii, USA) appeared in the US magazine, *The Gun Report*. The letter described an unusual 30-06 round that had been acquired from a US Army ammunition depot on Okinawa (Keogh, 1974). The cartridge was packaged singly in a plastic envelope with a numbered slip of paper. Five cartridges were packed per tin can, described as like a “spam can”, due to the key opening method. The cans were packaged into a plain wooden box, unmarked and not recorded. The rounds were examined by EOD personnel, who described them as having a lead projectile containing a firing pin, primer detonator, and a pentaerythritol tetranitrate (PETN) charge. Keogh provided a composite image showing an example of the round, and an X-ray image (Figure 1; Keogh, 1974).

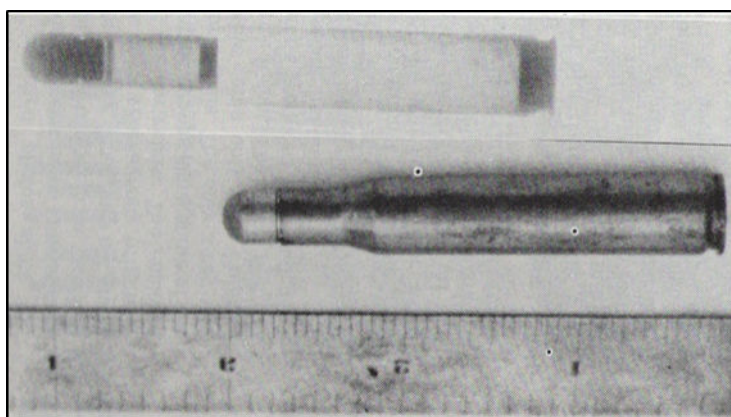


Fig 1. Image from Letter to Frank Wheeler, November 1974

In February 1975, another letter appeared describing the unusual round found by Richard Keogh as the “most potent and dangerous 30-06 round ever devised”. This letter was written by Mr Jerry Yonetz of Frederick, Maryland (Figure 2 below; Yonetz, 1975). The letter described the round owned by Keogh as a practice round due to the blue-coloured tip. Yonetz stated that the fill was not PETN but talc. Any rounds with different coloured tips, other than blue are lethal. Any such rounds should be turned over to EOD personnel. However, Yonetz highlighted the rarity of the rounds, and suggested that EOD may not recognise the extreme hazards associated with the rounds. He suggested that he could be contacted to arrange for disposal if required.

Dear Sir:

This is a somewhat difficult letter to write because of the military aspects concerned. However, I will write what I consider to be warranted and necessary. It could save the life of some person or persons.

The 30-60 round as described by Richard Keogh in the Nov. GUN REPORT is the most potent and dangerous 30-06 round ever devised. This round when activated in its designated manner can kill every person in a room or building. Even the most careful disassembly can and will cause your death.

The round described by the writer was a practice round as designated by the blue tip. It was not loaded with PETN but merely talc. Any similar rounds with tips colored, other than blue are lethal. If any such rounds are found, they should be turned over to an Explosive Ordnance Disposal Group. Because of their rarity, even EOD personnel might not recognize the extreme hazard in their disposal. If in doubt about their disposal, I can be contacted and will arrange for it.

I repeat again--the functioning or disassembly of this round (other than a practice round) will surely cause your death. Do NOT keep it in your collection.

Sincerely yours,
Jerry Yonetz
602 Schley Ave.
Frederick, MD 21701

Fig 2. Jerry Yonetz response to Keogh

Over the last 50 years, information has appeared in published articles and declassified US Government documents, enabling a greater understanding of the unusual 30-06 round, the background to its production, as well as Mr Yonetz himself.

On 25th November 1969, US President Nixon announced that the US had decided to destroy its entire stockpile of biological agents and munitions and to confine future research to defensive measures only, such as vaccines and field detectors (Nixon, 1969). Over the next 3 years, the US organised the disposal of the biological agents and delivery systems stockpile that it held. The destruction operations for anti-personnel agents took place at Pine Bluff Arsenal (PBA; Alabama, USA). The destruction process was designed to ensure safety and security throughout the transfer, breakdown and destruction of agents and delivery systems. The process was documented, and witnessed in order to be incontrovertible. The destruction documentation holdings are now available; some documents are available from Google Books (US Army, 1971;1972), others from the holdings of the US National Archives and Records Administration (NARA), at the Philadelphia Federal Records Centre (US NARA ID 638778; 638779).

The M2 munition

The documentation at US NARA Philadelphia provides images of the PBA staff issuing, inspecting, and checking different munitions for destruction. The munition that appears to be the same as the 30-06 round described by Keogh is the M2 munition (Anon, 1972). A close-

up image of the M2 primary packaging shows a key (for opening the can) attached to the top of the can (Figure 3; Anon, 1972).



Figure 3. Opening of can using unseaming machine.

Once the top of the can was removed, individual cartridges (packaged in a plastic envelope with a paper label) can be seen (Figure 4 & 5; Anon, 1972).



Figure 4. Cartridges removed from can.



Figure 5. Individually wrapped cartridges from the can.

The M2 munition was described in a proposed question/answer document as a small arms round that upon impact produced a small aerosol or cloud of agent (Dashiell, 1970a). The fill of the M2 was either dry Botulinum toxin (XR) or dry *Bacillus anthracis* (TR2; Anthrax) spores (Dashiell, 1970b). A simulant version for training was filled with Bentonite (BN; Dashiell, 1970b).

M2 type	Filling	Number For Disposal
M2/XR	Botulinum toxin	49775
M2/TR2	Dry <i>Bacillus anthracis</i> spores	20557
M2/BN	Bentonite	1364
M2/unfilled	Unfilled	14039
Total		85735

Table 1. The quantity of M2 rounds that required destruction at PBA.

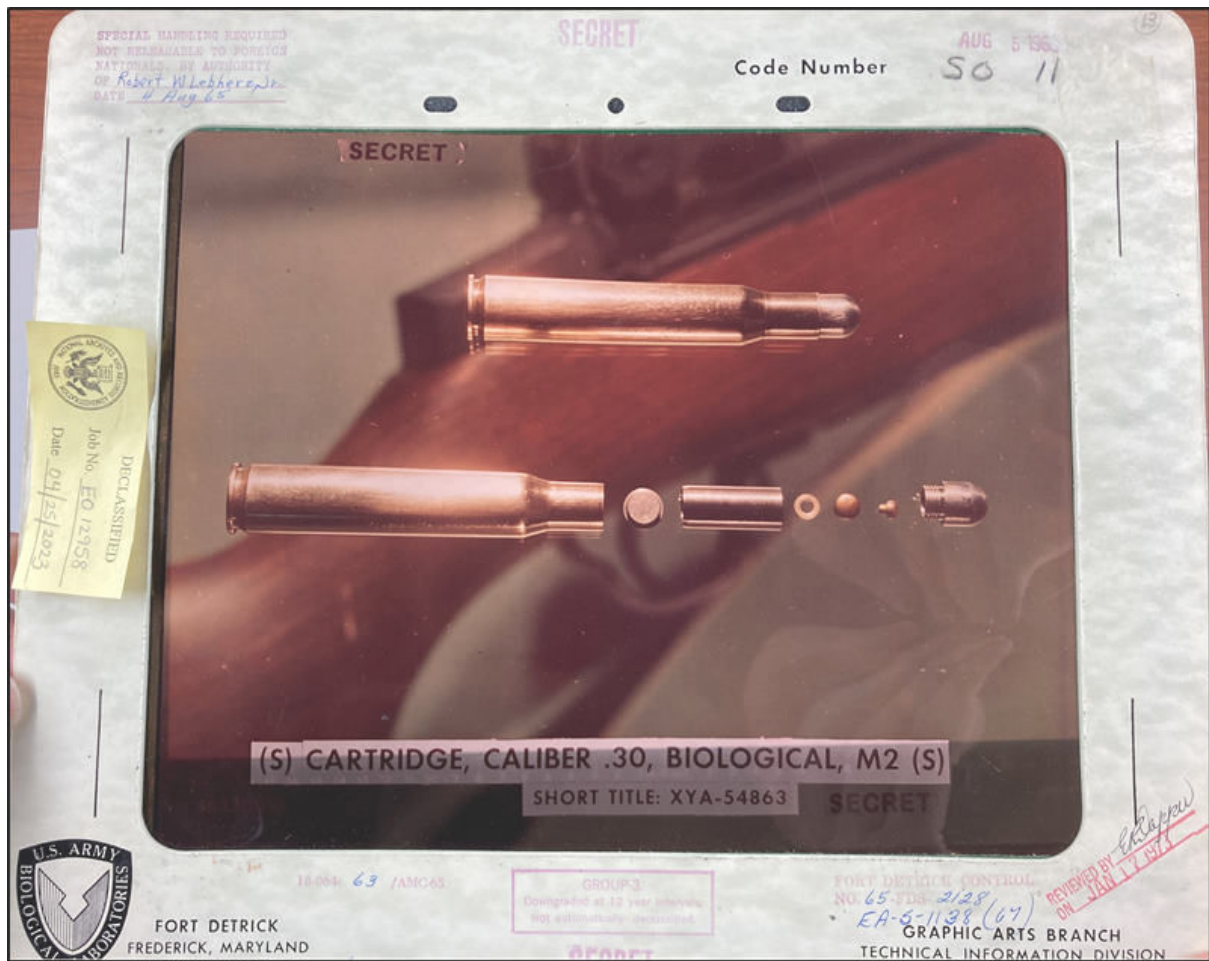


Figure 6. Formerly classified, 1960s Vu Graph showing the components that comprise the M2 cartridge (from US NARA ID 638778).

The Big Five Munitions

The M2 munition was a member of the family of Big Five Biological munitions. The munitions were developed for US Special Operations Forces (SOF; Wikipedia, 2024; Hackley *et al.*, 2015). They were comprised of five delivery systems:

- M1 - a 30-06 small arms round that delivers a toxin-coated projectile, using either saxitoxin (TZ) or botulinum toxin (XR), for surreptitious elimination of a guard/sentry (Dashiell, 1970a). A simulant version using lipstick was produced for training. The M1 was initially termed the E1, denoting an experimental item during development.
- M2 - as described above. The M2 was termed the E2 during development.
- M32 - a large ground-emplaced aerosol generator, filled with dry *Francisella tularensis* (ZZ) or dry *Bacillus anthracis* (TR2) to enable attacks against targets downwind (Dashiell, 1970a). A training version contained a simulant, Bentonite. The M32 was termed the E32 during development.
- M4 - a small aerosol generator, filled with either ZZ or TR2 for attacking targets downwind (Dashiell, 1970a). A training version filled with talc was produced. The M4 was termed the E41 during development.
- M5 - a road depositor to spread a layer of finely divided powder across a road (the material later gets resuspended as marching troops, or convoys pass over it; Dashiell, 1970a; Senseney, 1975). The only filled versions were training devices containing Bentonite. The M5 was termed the E44 during development.

The Big Five munitions (filled, training or unfilled hardware sets) were destroyed by the US Government at Pine Bluff Arsenal (US NARA ID 638778).

Who was Gerald Yonetz?

The writer of the 1975 letter to The Gun Report, Gerald Charles Yonetz, was Chief of the Developments Branch of the US Army Special Operations Division until 1969. The Special Operations Division (SOD) was part of the US Army Biological Laboratories at Fort Detrick (Frederick, MD, USA; Ad Hoc study group of the Advisory Panel on Biological and Chemical Defense, 1961). It was formed following the recommendations in the 1948 report on Special Biological Warfare Operations (Committee on Biological Warfare, 1948). The role of the Developments Branch was to design and manufacture Chemical and Biological Warfare delivery devices and associated hardware (Ad Hoc study group of the Advisory Panel on Biological and Chemical Defense, 1961; Crittenden-Schmitt, 2002).

Limited information exists in the open about tasks carried out by the Developments Branch. However, declassified documents provide some details. Historically, the US produced Technical Abstract Bulletins that highlighted reports produced by US Government. Some of these are now available on Google Books. Volume 65, Issue 7 (Anon, 1965) lists the following:

- AD 357221L G. C. Yonetz & L.A. Rice. Engineering Design and Development of the E2 Munitions (U). January 1965.

The 1968 Technical Abstract Bulletin – Personal Author Annual Index (Anon, 1968) lists:

- AD 386150L G. C. Yonetz. M5 – Toxin study. 68-4.

A response to a 2013 Freedom of Information Act (FOIA) request, for a listing of technical reports produced by the West Desert Technical Information Center (Dugway Proving Ground, UT. USA) that were dated/originated between 1961 and 1965, provided details of a report from 1963 (Morisy, 2013, McGlon, 2013):

CBRNIAC Number: CB-127168. AD Number: 498192.
Title: Demilitarization of E1, E2, E32R1, E41R2, and E44.
Report Number: TEST-A-1777 63-TE-1777. Publish Date: 1963-05-20
Corp Author Name: FORT DETRICK FREDERICK MD APPLIED AEROBIOLOGY
DIV Distribution Statement: Distribution Controlled. All requests for this document shall be referred to Commanding Officer, Attn: Technical Information Division, Frederick, MD 21701. Document Classification: U

Although the report is not currently available in open sources, it suggests that destruction of the Big Five devices had been investigated.

Conclusion

In summary, the public correspondence in 1974/75 in *The Gun Report*, flagged an interesting story and a round that until then, hadn't been seen in the public domain. It opened the door to what is a fascinating subject that has over the years lead to speculation and a number of incorrect assumptions being made. In addition, the story highlighted a number of key issues, including the importance of caution when examining unknown ordnance related items; good record keeping during manufacture, storage and disposal activities; archiving documentation for later use, and institutional memory.

No doubt, further information will continue to become available as material is released from Government archives via routine declassification and FOIA requests. This will support further publications that will explain a forgotten area of history.

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Notes:

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“No new data were created or analysed in this study. Data sharing is not applicable to this article”

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The European Cartridge Research Association (E.C.R.A.)

<https://www.ecra.info/>

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