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Operation Teapot

Talk

Operation Teapot was a series of 14 nuclear test explosions conducted at the Nevada Test Site in the first half of 1955. It was preceded by *Operation Castle*, and followed by *Operation Wigwam*. *Wigwam* was, administratively, a part of *Teapot*, but it is usually treated as a class of its own. The aims of the operation were to establish military tactics for ground forces on a nuclear battlefield and to improve the nuclear weapons used for strategic delivery.^[1]

Individual blasts [edit]

Wasp [edit]

Article

During shot *Wasp*, ground forces took part in Exercise Desert Rock VI which included an armored task force *Razor* moving to within 900 metres (3,000 ft) of ground zero, under the still-forming mushroom cloud.^[2]

Bee [edit]

An augmented test unit from the United States Marine Corps participated in shot *Bee* during the March 1955 exercises.^[2]

MET [edit]

The *MET* was the first bomb core to include uranium-233 (a rarely used fissile isotope that is the product of thorium-232 neutron absorption), along with plutonium; this was based on the plutonium/U-235 pit from the TX-7E, a prototype Mark 7 nuclear bomb design used in the 1951 *Operation Buster-Jangle Easy* test. It produced a yield of 22kt (comparable to the *Fat Man* plutonium-only weapon that exploded over Nagasaki), but significantly less than the expected amount. Since it was a military effects test, the DoD specified that the device should have a calibrated yield within 1

of ratings. However, weapon designers at Los Alamos substituted the experimental core without notifying the DoD. The unexpected lower yield, 33% less than the DoD expected, ruined many of the military's tests.^{[3][4]}

Apple-2 [edit]

"Doom Town" redirects here. For the card game, see Doomtown. See also: Japanese Village (Dugway Proving Ground) and Nevada Test Site § Landmarks and geography

The Civil Defense *Apple-2* shot on May 5, 1955 was intended to test various building construction types in a nuclear blast. An assortment of buildings, including residential houses and electrical substations, were constructed at the site nicknamed "**Survival Town**" by some and "**Doom Town**" by others.^[5] The buildings were populated with mannequins, and stocked with different types of canned and packaged foods. Not all of the buildings were destroyed in the blast, and some of them still stand at Area 1, Nevada Test Site. A short film about the blast, referred to as "Operation Cue", was distributed by the Federal Civil Defense Administration. The houses are still standing at 37.04476°N 116.07416°W, at the east and west ends of the road loop. They are stops on the Nevada National Security Site (NNSS) tour.

From declassified documents dated February to May 1956, the Apple-2 shot, as part of Operation Teapot Project 35.5 "Effects of Nuclear Explosion on Records and Records Storage Equipment" was staged on the Nevada Test Site to determine the effects of nuclear explosions on various types of records and record storage equipment.^[6]



Operation Cue (1955)

Teapot series tests [edit]

Purpose ^[note 6] weapons		Device ^[note 7]	Yield ^[note 8]	Venting
weapons	weapons			
development	development		1 kt	I-131 ver detected 160 kCi
				(5,900 T



Country	United States					
Test site	NTS Areas 5, 11, Frenchman Flat NTS, Areas 1–4, 6–10, Yucca Flat					
Period	1955					
Number of tests	14					
Test type	e cratering, free air drop, parachuted, tower					
Max. yield	43 kilotonnes of TNT (180 TJ)					
T	est series chronology					
← Operation (Castle Operation Wigwam →					
thin 10%	Map all coordinates in "Operation Teapot" using OpenStreetMap					
	Download [show links] coordinates as:					

Moth	February 22, 1955 13:00:45.0	PST (-8 h)	NTS Area 3	1,230 m (4,040 ft) + 90 m (300 ft)	tower	weapons development	XW-30 ?	2 kt	I-131 ven detected, 320 kCi (12,000 T
Tesla	March 1, 1955 13:00:30.3	PST (-8 h)	NTS Area 9b 37.1255°N 116.0484°W	1,282 m (4,206 ft) + 90 m (300 ft)	tower	weapons development	Cleo I	7 kt	I-131 ven detected, 1.2 MCi (44 PBq)
Turk	March 7, 1955 13:00:20.2	PST (-8 h)	NTS Area 2	1,370 m (4,490 ft) + 150 m (490 ft)	tower	weapons development	XW-27D "Linda" lightweight secondary ^[12]	43 kt	I-131 ven detected, 6.4 MCi (240 PBq
Hornet	March 12, 1955 13:19:59.8	PST (-8 h)	NTS Area 3a	1,224 m (4,016 ft) + 90 m (300 ft)	tower	weapons development	XW-30 ?	4 kt	I-131 ven detected, 620 kCi (23,000 T
Bee	March 22, 1955 13:04:59.9	PST (-8 h)	NTS Area 7	1,294 m (4,245 ft) + 150 m (490 ft)	tower	weapons development	XW-25 ?	8 kt	I-131 ven detected, 1.2 MCi (44 PBq)
ESS	March 23, 1955 20:00:30.0	PST (-8 h)	NTS Area 10	1,298 m (4,259 ft) - 20 m (66 ft)	cratering	weapon effect	Mk-6 HE	1 kt	I-131 ven detected, 140 kCi (5,200 TE
Apple-1	March 29, 1955 12:00:55.1	PST (-8 h)	NTS Area 4 37.0955°N 116.1037°W	1,317 m (4,321 ft) + 150 m (490 ft)	tower	weapons development		14 kt	I-131 ven detected, (74 PBq)
Wasp Prime	March 29, 1955 17:59:54.8	PST (-8 h)	NTS Area 7	1,261 m (4,137 ft) + 230 m (750 ft)	free air drop	weapons development		3.2 kt	I-131 ven detected, 450 kCi (17,000 T
НА	April 6, 1955 18:00:04.1	PST (-8 h)	NTS Area 1 37.0286°N 116.0586°W	1,280 m (4,200 ft) + 11.16 kilometres (6.93 mi)	parachuted	weapon effect		3.2 kt	I-131 ven detected, 450 kCi (17,000 T
Post	April 9, 1955 12:00:30.2	PST (-8 h)	NTS Area 9	1,294 m (4,245 ft) + 90 m (300 ft)	tower	weapons development	Cleo II	2 kt	I-131 ven detected, 340 kCi (13,000 T
MET	April 15, 1955 19:00:15.3	PST (-8 h)	NTS Area 5 Q 36.798°N	940 m (3,080 ft) +	tower	weapon effect		22 kt	I-131 ven detected,

			115.9298°W	120 m (390 ft)				3.1 MCi (110 PBq)
Apple-2	May 5, 1955 12:00:10.0	PST (-8 h)	NTS Area 1	1,294 m (4,245 ft) + 150 m (490 ft)	tower	weapons development	29 kt	I-131 veni detected, 4.1 MCi (150 PBq)
Zucchini	May 15, 1955 11:59:59.9	PST (-8 h)	NTS Area 7	1,294 m (4,245 ft) + 150 m (490 ft)	tower	weapons development	28 kt	I-131 vent detected, (150 PBq)

Table notes:

- 1. A The US, France and Great Britain have code-named their test events, while the USSR and China have not, and therefore have only test numbers (with some exceptions -Soviet peaceful explosions were named). Word translations into English in parentheses unless the name is a proper noun. A dash followed by a number indicates a member of a salvo event. The US also sometimes named the individual explosions in such a salvo test, which results in "name1 - 1(with name2)". If test is canceled or aborted, then the row data like date and location discloses the intended plans, where known.
- 2. ^ To convert the UT time into standard local, add the number of hours in parentheses to the UT time; for local daylight saving time, add one additional hour. If the result is earlier than 00:00, add 24 hours and subtract 1 from the day; if it's 24:00 or later, subtract 24 hours and add 1 to the day.
- 3. A Rough place name and a Latitude/Longitude reference; for rocket-carried tests, the launch location is specified before the detonation location, if known. Some locations are extremely accurate; others (like airdrops and space blasts) may be quite inaccurate. "~" indicates a likely pro-forma rough location, shared with other tests in that same area.
- 4. ^ Elevation is the ground level at the point directly below the explosion relative to sea level; height is the additional distance added or subtracted by tower, balloon, shaft, tunnel, air drop or other contrivance. For rocket bursts the ground level is "N/A". In some cases it is not clear if the height is absolute or relative to ground, for example, *Plumbbob/John*. No number or units indicates the value is unknown, while "0" means zero. Sorting on this column is by elevation and height added together.
- 5. Atmospheric, airdrop, balloon, gun, cruise missile, rocket, surface, tower, and barge are all disallowed by the Partial Nuclear Test Ban Treaty. Sealed shaft and tunnel are underground, and remained useful under the PTBT. Intentional cratering tests are borderline; they occurred under the treaty, were sometimes protested, and generally overlooked if the test was declared to be a peaceful use.
- 6. ^ Include weapons development, weapon effects, safety test, transport safety test, war, science, joint verification and industrial/peaceful, which may be further broken down.
- 7. ^ Designations for test items where known, "?" indicates some uncertainty about the preceding value, nicknames for particular devices in quotes. This category of information is often not officially disclosed.
- 8. ^ Estimated energy yield in tonnes, kilotonnes, and megatonnes (all metric units).
- 9. ^ Emissions to atmosphere, where known. The measured species is only iodine-131 if mentioned, otherwise it is all species. No entry means unknown, probably none if underground and everything if not; otherwise notation for whether measured on the site only or off the site, where known, and the measured amount of radioactivity released.

Gallery [edit]



Teapot-Hornet, 4-kilotons



Teapot-Bee, 8-kilotons



Teapot-Turk, 43-kilotons



Teapot-*Turk*, close-up of fireball within first few milliseconds of detonations



Teapot-Moth, 2-kilotons



"Effects Sub-surface". Test for ADM (Atomic Demolition Munition)



Teapot-ESS, 1-kiloton



One of the shot-towers of the Teapot test, unknown device



Teapot-*MET* (Military Effects Test), 22-kilotons

See also [edit]

· List of United States' nuclear weapons tests

References [edit]

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- A a b "Operation Teapot 1955" (PDF). Nuclear Test Personnel Review. Department of Defense. Archived from the original (PDF) on September 15, 2012.
- 3. ^ "Operation Teapot" . Nuclear Weapon Archive. October 15, 1997. Retrieved December 9, 2008. "The predicted yield was 33 kt. The actual 22 kt was 33% below this, seriously compromising the data collected." cf. "Nuclear Test Film - Operation Teapot" (linked below) ~17:30 "While the expected yield was 28 kilotons, radiochemical analysis indicated a yield closer to 22 kilotons."
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- 7. A a b c d e f g h i j k I m n "2", Estimated exposures and thyroid doses received by the American people from Iodine-131 in fallout following Nevada atmospheric nuclear bomb tests, National Cancer Institute, 1997, retrieved January 5, 2014
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- 9. ^ a b c d e f g h i j k l m n United States Nuclear Tests: July 1945 through September 1992 (PDF) (DOE/NV-209 REV15), Las Vegas, NV: Department of Energy, Nevada Operations Office, December 1, 2000, archived from the original (PDF) on October 12, 2006, retrieved December 18, 2013
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External links [edit]

- The short film Big Picture: The Atom Soldier is available for free viewing and download at the Internet Archive.
- The short film Nuclear Test Film Operation Teapot (1954) is available for free viewing and download at the Internet Archive.
- The short film Operation Cue (1955) is available for free viewing and download at the Internet Archive.
- The short film *Big Picture: Individual Protection Against Atomic Attack* is available for free viewing and download at the Internet Archive.
- NPR web page: effect on commercial beverages [1]
- YouTube Lawrence Livermore National Laboratory (LLNL): "Operation Teapot Turk 28112" video
- YouTube Lawrence Livermore National Laboratory Channel: LLNL Atmospheric Nuclear Tests website all uploaded LLNL videos of tests between 1945 and 1962, including 28 of Operation Teapot.

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