

# A generation of indiscriminate dumping

Here are some of the chemical weapons of mass destruction the Army dumped into U.S. oceans from 1944 to 1970:

X = Unknown location

## ALASKA

**AL1** 61 steel containers of mustard gas and 887 containers of Lewisite were dumped 12 miles off Chichagoff Harbor on the island of Attu in the Aleutians from June 30 to July 15, 1947. They likely were either 1-ton or 2-ton containers. The Aleutian archipelago is part of Alaska.

## CALIFORNIA

**C1** On April 19, 1958, the S.S. William Ralston was packed with 301,000 155-pound bombs filled with mustard agent, as well as almost 1,500 1-ton containers of Lewisite. The ship was taken an estimated 117 miles off San Francisco and scuttled in 13,542 feet of water.

The dump zone had been used since the 1940s for surplus conventional high-explosive ordnance, as well as an estimated 47,800 containers of low-level radioactive waste not known to be of military origin.

**C2** A month later, chemical munitions that couldn't fit in the Ralston were loaded onto a barge and towed by the tug Sea Lion to the same location, where it was thrown over the side. Buried there were six 100-pound mustard bombs, 335 1-ton containers of Lewisite, 11 1-ton containers of mustard agent and a pair of mustard-filled projectiles of unknown caliber.

## Florida

**F1** Somewhere roughly 300 miles off the Atlantic coast of Florida are the remains of the S.S. Joshua Alexander, sunk in December 1948 with a good chunk of the Army's East Coast stockpile of the chemical agent Lewisite.

More than 3,700 containers of Lewisite and Lewisite-filled mines filled the ship's holds. The event was code-named Operation Geranium because Lewisite smells vaguely like geraniums.

The Army cannot determine the size of the containers or give a more precise location for the wreck.

**F2** The last Army dumping of chemical munitions before the practice was banned by international treaty was Aug. 18, 1970, about 250 miles east of Cape Kennedy. The hulk S.S. LeBaron Russell Briggs was loaded at Sunny Point, N.C., with 12,508 concrete vaults encasing M55 rockets filled with nerve gas, along with three artillery shells and a landmine, all filled with nerve gas. The ship was sunk off the continental shelf in 16,440 feet of water. The Army says it photographed and sampled the site every year from 1971 to 1975 and found no evidence the weapons were leaking.

## Gulf of Mexico

**GM1** More than 20 leaking 115-pound mustard gas bombs were dumped into the Mississippi River's Concord Spur in New Orleans in 1944 or 1945 and were never found.

**GM2** A reported 124 German phosgene bombs were dumped off Horn Island, Miss., on July 27, 1946. The bombs were probably thrown over the side of the S.S. Park Benjamin at an undetermined depth. The barrier island now is a popular national park.

**GM3** On July 13, 1946, more than 30 German mustard gas bombs were shipped by barge from Theodore Naval Magazine near Mobile, Ala., and dumped 20 miles off the coast, at a depth of 200 to 600 feet. One bomb later floated ashore. By today's standards, that is not considered deep water.

X An unknown number of mustard gas-filled bombs were sailed out of New Orleans on March 10, 1946, aboard the USS Akutan and dumped somewhere in the gulf.

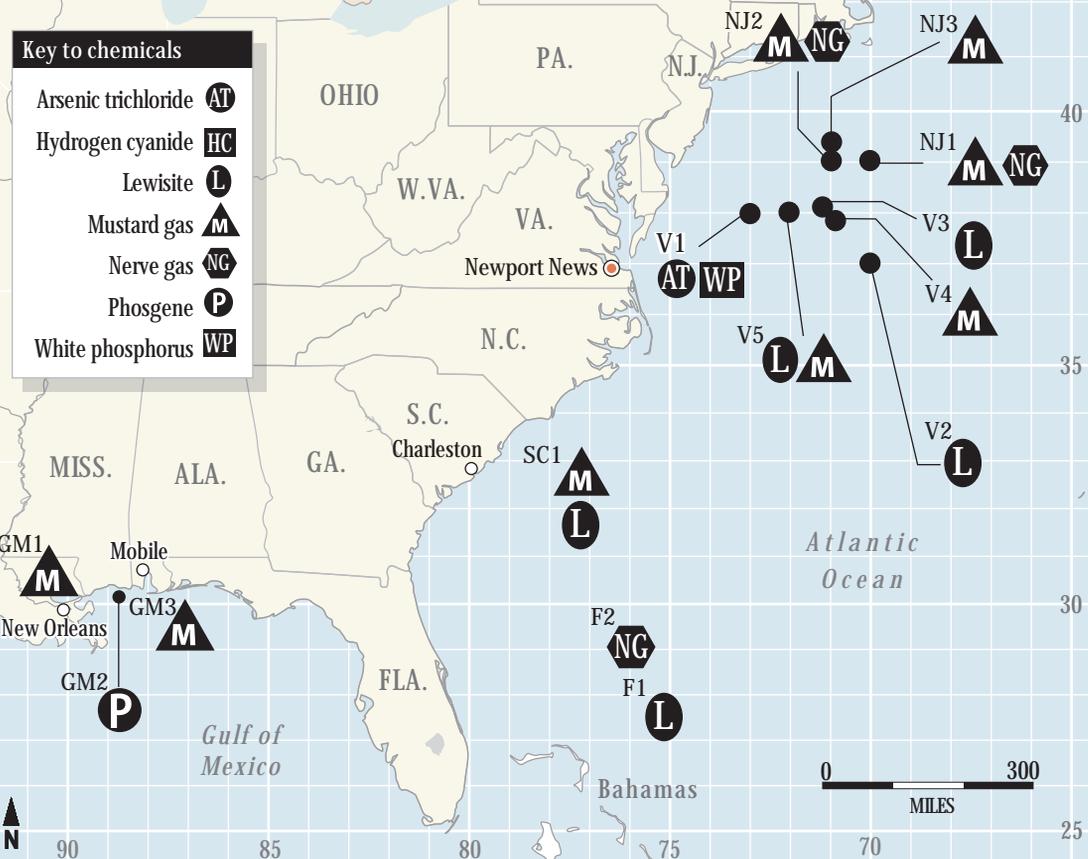
X Two unspecified chemical-filled bombs accidentally sank into quicksand in the shipping channel of the Mississippi River about three miles south of Braithwaite, La., and were never recovered.

X In another dump operation, one or two barges of unspecified "toxic" munitions were loaded at Theodore Naval Magazine, taken out into the gulf and dumped. Exactly where remains unknown, and the Army has no further information on that site.

## Hawaii

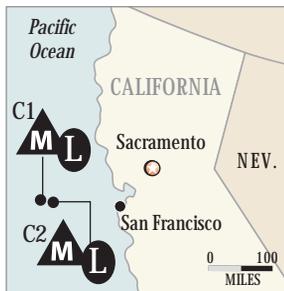
X In 1944, the Army dumped an estimated 4,220 tons of ordnance filled with hydrogen cyanide somewhere off Pearl Harbor, but the Army doesn't know exactly where.

## WMDs close to home



## Known dumpsites in the Pacific

Source: U.S. Army reports



Chemical weapons dumped off Hawaii in 1944 and 1945 included mustard gas and hydrogen cyanide. The exact locations of the three sites are unknown.



DAILY PRESS

X About 16,000 100-pound mustard gas bombs were dumped an estimated five miles off Oahu sometime during 1944. The Army doesn't know where but determined the munitions were stored in the Upper Kipapa and Ala Moana areas before disposal.

X A huge chemical ordnance dumpsite was created during three weeks in October and November 1945 somewhere off Hawaii. The Army can't say where with any more specificity. The material was loaded at Waianae to avoid moving the munitions through densely populated areas.

What was dumped is fairly well established: 1,100 1,000-pound cyanogen chloride bombs; 20 1,000-pound bombs of hydrogen cyanide; 125 500-pound cyanogen chloride bombs; 15,000 115-pound mustard bombs; 31,000 mustard-filled mortar rounds; more than 1,000 1-ton containers of mustard agent; and 190 1-ton containers of Lewisite.

## New Jersey

**NJ1** In 1967, the Army began filling old Liberty-class ships with mustard and nerve gas ordnance and scuttling them off New Jersey in deep water. Most, but not all, of the nerve gas was encased in concrete.

The first of these CHASE operations, short for Cut Holes And Sink 'Em, was dubbed CHASE 8. It was conducted June 15, 1967, when the S.S. Cpl. Eric G. Gibson was packed with 4,577 1-ton containers of mustard agent and 7,380 rockets filled with VX, the most deadly of all nerve gases.

The Army says the ship was loaded at Colts Neck Naval Pier in Earle, N.J., and sunk in 7,200 feet of water off Atlantic City.

Three years later, the wreck was tested environmentally, with no contamination detected.

**NJ2** On June 19, 1968, the S.S. Mormacern was loaded at Colts Neck with 38 1-ton containers of nerve agent in liquid form. Also on board were 1,460 concrete vaults of M55 rockets filled with nerve gas, as well as 120 drums of arsenic and cyanide. The ship was sunk in 6,390 feet of water. The wreck was photographed on the ocean bottom and sampled in 1972. No agent was detected in the water.

**NJ3** The next ship full of chemical weapon material that was sunk off New Jersey exploded on the way to the bottom.

On Aug. 7, 1968, the S.S. Richardson was scuttled with its hold filled with 3,500 one-ton containers of mustard agent mixed with water and an unknown quantity of conventional, high explosive ordnance.

Army officials hypothesize that water pressure set off one piece, triggering a chain reaction.

The Army went back a year later and again in 1972 and could find nothing on the bottom that could be identified as even the vaguest outline of a ship. No water contamination was found.

## North Carolina

X Sometime during World War II, the Army dumped 35 tons of DANC, a white powder used to absorb soil contaminated by mustard gas, somewhere off this state. The Army has no other information on this site.

## South Carolina

**SC1** In 1958, 1,507 1-ton containers of Lewisite and 63 1-ton containers of mustard gas were dumped somewhere off South Carolina. It's unclear whether a dumpsite was created for this shipment or whether a previously used site was the destination. The chemicals originated at Pine Bluff Arsenal in Arkansas and were loaded onto an unidentified ship at Sunny Point, N.C.

X Disposal Site Baker, off Charleston, was the burial location of four railroad cars full of mustard gas bombs and mines dumped over the side of the USS Diamond Head in March 1946. The projectiles were loaded at what is now Naval Weapon Station Yorktown in Virginia.

Twenty-three barges full of phosgene and Lewisite bombs, and German-produced nerve gas bombs, were dumped at the site several months later. An unknown number of 1-ton, mustard gas-filled steel containers were also jettisoned. A barge routinely carried as much as 325 tons of chemical warfare agent.

The Army says the dump zone is somewhere "off Charleston" but can't say exactly where it is located.

X An estimated nine barges of 8-foot-long bombs and 115-pound artillery shells filled with Lewisite were dumped somewhere off South Carolina's coast, but the Army can't say where.

X A third South Carolina offshore dumpsite contains an unknown number of 115-pound bombs full of mustard gas and an unknown number of mustard-filled 105 mm artillery shells. The Army doesn't know the location.

## Virginia

**V1** Seven shiploads of chemical munitions were thrown into the sea near the Virginia-Maryland border off the Eastern Shore during one week in September 1945.

Dumped were 75,852 mortar shells filled with mustard gas and 924 white phosphorous cluster bombs, which could contain as many as 60 smaller munitions each. More than 1,000 55-gallon steel drums of arsenic trichloride — which in small doses damages the nervous system and can cause genetic mutations — were also dumped, as were an estimated 23,000 chemical smoke projectiles.

The Coast Guard cutter Gentian and several amphibious landing ships did the dumping.

**V2** On Nov. 13 and 14, 1957, the USS Calhoun County loaded 48 tons of Lewisite at Colts Neck Naval Pier in Earle, N.J., and dumped it off the continental shelf in 12,600 feet of water off Virginia Beach.

**V3** In 1960, the Army dumped 317 tons of unidentified radioactive waste and two 1-ton containers of Lewisite in deep water off Chincoteague.

**V4** In 1964, the Army used the same location to dump 800 55-gallon drums of some kind of radioactive waste, along with 74 1-ton containers of mustard agent and 1,700 mustard-filled artillery shells.

**V5** In 1962, more than 200 tons of radioactive waste in steel barrels was dumped within a few miles of the 1960 dump zone, along with 700 mustard-filled artillery shells and 5,252 white phosphorous munitions.

X An unspecified type and quantity of chemical munitions might have been dumped somewhere off Norfolk or Virginia Beach during World War II.

The only known surviving record of the sea-dumped chemical weapons says they came from "Nanseman" depot, which likely was the Nansemond Ordnance Depot in Suffolk. The unconfirmed dumpsite was somewhere in "the Atlantic Ocean" near the mouth of the Chesapeake Bay.