

# The American Military is Creating an Environmental Disaster in Afghanistan

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The American military presence in Afghanistan consists of fleets of aircraft, helicopters, armored vehicles, weapons, equipment, troops and facilities. Since 2001, they have generated millions of kilograms of hazardous, toxic and radioactive wastes. The Kabul Press asks the simple question:

“What have the Americans done with all that waste?”

The answer is chilling in that virtually all of it appears to have been buried, burned or secretly disposed of into the air, soil, groundwater and surface waters of Afghanistan. While the Americans may begin to withdraw next year, the toxic chemicals they leave behind will continue to pollute for centuries. Any abandoned radioactive waste may stain the Afghan countryside for thousands of years. Afghanistan has been described in the past as the graveyard of foreign armies. Today, Afghanistan has a different title:

“Afghanistan is the toxic dumping ground for foreign armies.”

The (U.S.) Air Force Times ran an editorial on March 1, 2010, that read: “Stamp Out Burn Pits” We reprint here the first half of that editorial:

“A growing number of military medical professionals believe burn pits are causing a wave of respiratory and other illnesses among troops returning from Iraq and Afghanistan. Found on almost all U.S. bases in the war zones, these open-air trash sites operate 24 hours a day, incinerating trash of all forms — including plastic bottles, paint, petroleum products, unexploded ordinance, hazardous materials, even amputated limbs and medical waste. Their smoke plumes belch dioxin, carbon monoxide and other toxins skyward, producing a toxic fog that hangs over living and working areas. Yet while the Air Force fact sheet flatly states that burn pits “can be harmful to human health and environment and should only be used until more suitable disposal capabilities are established,” the Pentagon line is that burn pits have “no known long-term health effects.”

On April 12, 2010, the Richmond Times-Dispatch carried an article by David Zucchini who investigated the American burn pits in Iraq. He interviewed Army Sgt. 1st Class Francis Jaeger who hauled military waste to the Balad burn pit which was being operated by a civilian contractor for the Pentagon. Jaeger told Zucchini:

“We were told to burn everything - electronics, bloody gauze, the medics’

biohazard bags, surgical gloves, cardboard. It all went up in smoke.”

The Pentagon now admits to operating 84 “official” burn pits in Iraq and Afghanistan. The number of unofficial burn pits is not known. The Pentagon claims that it is phasing out its burn pits in favor of incinerators and that 27 incinerators are currently operating in Iraq and Afghanistan with 82 more to be added in the near future.

According to a website called the “Burn Pits Action Center,” hundreds of American veterans who came in contact with burn pit smoke have been diagnosed with cancer, neurological diseases, cardiovascular disease, breathing and sleeping problems and various skin rashes. In 2009, they filed more than 30 lawsuits in Federal courts across the United States, naming Kellogg Brown and Root (KBR), and its former parent company Halliburton. These companies were named because of their involvement in the LOGCAP (Logistics Civil Augmentation Program) contracts for Iraq and Afghanistan. Several KBR entities either managed or assisted in the management of the American military’s waste in both countries and allegedly operated some or all of the burn pits. Additional lawsuits were filed in 2010, including one in Federal District Court in New Jersey.

The lawsuits reveal that the Pentagon has ignored American and international environmental laws and the results appear to be the widespread release of hazardous pollutants into the air, soil, surface water and groundwater across Afghanistan. This is a persistent problem that continues today. Unlike Saudi Arabia which insisted that American forces cleanup their pollution after the war to oust Iraq from Kuwait in 1991, or the Government of Canada which likewise insisted on a strict cleanup of American bases on its soil, the Government of Afghanistan has been unable to force the Americans and their allies to repair all the environmental damage that they have caused and continue to cause. Afghanistan does not want to wind up like Vietnam. While American ground combat units withdrew from South Vietnam in 1972, neither Vietnam nor its people have recovered from the long term environmental damage and mutagenic effects that American military operations and their exotic chemicals caused.

This article summarizes the problem of America’s military wastes and examines the types of hazardous wastes that are likely to have been released into Afghanistan.

Part 2 of this series will address the contradictory responses by the Pentagon to this problem and it will explore one of the remedies that the Pentagon is currently implementing, which is to phase out the burn pits, replacing them with incinerators. The article examines the flaws in that strategy and why Afghanistan should carefully consider whether to permit the continued use of military incinerators.

Part 3 of this series will set out the recommendations of the author to the Government of Afghanistan on how to investigate and clean up the pollution of Afghanistan’s countryside caused by the burn pits, landfills and other disposal facilities used by American forces.

#### The Sources or Means by Which the Various Wastes Are Being Released

The American military hazardous wastes that are believed to have entered the air, soil, groundwater and surface water of Afghanistan did so through the following methods (this list is partial only):

Burn pits

Incinerators

Burying/landfilling of the waste and ash

Intentional dumping

Accidental spills

Surface runoff

Leaking storage tanks, sumps and basins

Latrines

Categories of American Military Waste

The American military's waste, at this time, cannot be completely characterized. The volume and variety of waste (i.e., thousands of different chemicals) are not known and there are certain to be classified items and materials which have been brought into Afghanistan for which there may be no documentation. Regardless of that, much is known about the materials and chemicals that the military routinely uses and about the waste that it routinely generates. Most American military wastes will fall into one of the following twelve (12) categories:

The Dirty Dozen:

1. Fuel leaks and spills. These include releases of aviation fuel, gasoline and diesel fuel. These releases would range from large releases at American airbases of hundreds or even thousands of liters, to minor spills at Forward Operating Bases and combat outposts as soldiers seek to refill diesel generators. Petroleum residues have the ability to leach rapidly into underground drinking water aquifers and create plumes that will permanently contaminate local wells. There is no known way to completely remediate a groundwater source after it has been contaminated with hydrocarbons.
2. Paints, asbestos, solvents, grease, cleaning solutions (such as perchloethylene) and building materials that contain formaldehyde, copper, arsenic and hydrogen cyanide.
3. Hydraulic fluids, aircraft de-icing fluids, antifreeze and used oil. Used oil is carcinogenic, anti-freeze is poisonous, de-icing fluids can contain hazardous ethylene and propylene glycol, along with toxic additives such as benzotriazole (which is a corrosion and flame inhibitor). Hydraulic fluids can contain TPP (triphenyl phosphate).
4. Pesticide/poison leaks and spills: Afghanistan apparently has no list of the pesticides, fungicides, termiticides and other poisons that the Americans brought into Afghanistan and used, spilled and released into the countryside in order to control flies, mosquitos, ants, fleas and rodents. The military refers to such practices as "vector control." It is expected that the list of such neuro-toxins and the quantity sprayed or spilled throughout Afghanistan is staggering.

5. Lead, nickel, zinc and cadmium battery waste and acids (which are toxic and/or corrosive).

6. Electronic waste (or E-waste). This includes computers, printers, faxes, screens, televisions, radios, refrigerators, communications gear, test equipment. They contain cancer-causing chemicals such as the flame retardant PBDE (polybrominated diphenyl ethers), PCDD (polychlorinated dioxins), barium, copper, lead, zinc, cadmium oxides and cadmium sulphides and trivalent antimony, which is eco-toxic.

7. Light bulbs. This may not seem important but many military light bulbs are fluorescent and therefore contain toxic levels of mercury. Disposal of these light bulbs in ordinary landfills is prohibited in the United States.

8. Plastics. The U.S. military uses thousands of different types and formulations of plastic. While most are harmless in their present state, such as plastic water bottles and Polyvinyl Chloride (PVC) piping, the military has been burning its plastic waste in Afghanistan. When burned, many plastics release a deadly mix of chemicals including dioxins, furans, benzene, di 2-ethylhexyl phthalates (DEHP), hydrochloric acid, benzo(a)pyrene (BAP) and various acids and chlorine gas (which is a neurotoxin). Breathing a few seconds of this mixture in a concentrated form would likely be fatal.

9. Medical Waste. Infectious disease waste and biohazard materials, including used syringes, bloody bandages, sheets, gloves, expired drugs, amputated limbs and animal carcasses.

10. Ammunition waste. Lead, brass and other metals from ammunition along with all the constituents of the propellants, including trinitrotoluene, picric acid, diphenylamine, nitrocellulose, nitroglycerin, potassium nitrate, barium nitrate, tetracene, diazodintrophenol, phosphorus, peroxides, thiocarbamate, potassium chlorate, vinyl fluoride, vinyl chloride, sodium fluoride and sodium sulfate.

11. Radioactive waste. When one thinks of radioactive waste, usually one thinks only of atomic weapons, but that is not the case. The American military routinely uses a variety of devices and equipment that contain radioactive elements or radioluminescent elements. These materials are referred to as "Radioactive Commodities" by the American military. The primary radioactive materials are: Uranium, Tritium, Radium 226, Americium 241, Thorium, Cesium 137 and Plutonium 239.

Some of the equipment containing radioactive elements:

Night Vision Devices

M-16 Front Sight Post Assemblies

M72 Light Antitank Weapons

T-55 Aircraft Engine components

M58 and M59 Light Aiming Posts

M4 Front Sight Post Assemblies

RADIAC Calibrator Sets and Check Sources

Radium Compasses

L4A1 Quadrant Fire Control Devices

Fire Control Azimuths

Level Gauges

M-1 Collimators

M-1 Muzzle Reference Sensors

Soil Moisture Density Testers

TACOM Vehicle Dials and Gauges

Radios, including VRC-46/GRC-106/GRC-19

Chemical Agent Monitors

Testing Instruments

Vehicle Depleted Uranium Plates

Depleted Uranium Ammunition, including 20 millimeter ammunition

Electron Tubes for Communications Equipment

Various types of Laboratory and Hospital Analysis and Testing Machines.

Note: The American military will likely insist that it strictly controls the disposal of radioactive waste, but such assertions are not credible. While there are strict regulations, the time and cost of complying with them in a war zone are such that base commanders in Afghanistan most likely ignored them, opting instead for throwing the waste into burn pits. The evidence for this is contained in Part 3 of this Report, which cites to a Pentagon-funded study of what American field commanders think of the Pentagon's environmental regulations.

If the American military continues to insist that it did not release radioactive materials in Afghanistan it should document such assertions by releasing its records. The Pentagon should publicly release all data on every radioactive commodity brought into Afghanistan. They should all be listed in HMIRS (the Hazardous Materials Information System). The Pentagon should then detail where each commodity is today.

12. Grey and Black Water. The American military and its contractors in Afghanistan operate human waste facilities. The military refers to these as LSS (Latrine, Shower and Shave) facilities. They generate what is known as grey and black waste-water. Grey water from sinks and showers has as its primary pollutant soap residue (i.e., phosphates and other chemicals that generate what is known as BOD - biological oxygen demand, which means they can absorb all the available oxygen in streams and rivers so fish cannot breathe). Some American soaps contain additives such as MIT (methylisothiazolinone), which is under investigation as a toxin.

Latrines generate black water pollution. While the American military has to adhere to strict rules regarding the discharge of such waste in the United States, it faces no restrictions in Afghanistan. Latrines can be dug near ground water and even upgradient from surface water (so that discharges can flow into them). There are no known maps of all the American latrines. After a latrine pit is filled, it is apparently covered over with dirt and forgotten.

While environmental releases involving categories 1 and 12 above are a certainty, it is feared that millions of kilograms and millions of liters of wastes set out in categories 2 through 11 were all thrown into the hundreds of American burn pits in Afghanistan or dumped into secret landfills. If true, the American legacy to Afghanistan is not freedom, but pollution.

In February 2010, the U.S. Department of Veterans Affairs began an 18-month study of the burn pits in Afghanistan and their effect on human health. Afghanistan cannot wait eighteen months for the results of this study, it has to act now.

*The author is a former U.S. Air Force Captain. He advised on environmental cleanups at Logistics Command regarding the Air Force's most contaminated bases and depots. He then worked for Bechtel Environmental and was involved in Superfund cleanups across the United States and radiological cleanups at U.S. Department of Energy sites. He later served as a consultant to a group of environmental remediation companies, smelters and waste recyclers.*

Sources for Further Reading:

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