

# Explaining How Depleted Uranium Is Killing Civilians, Soldiers, Land

Nano-particles pinpointed

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Theme: [Crimes against Humanity, Militarization and WMD](#)

In-depth Report: [Depleted Uranium](#)

Depleted uranium weapons, and the untold misery they wreak on mankind, are taboo subjects in the mainstream media. This exclusive report should break the media embargo imposed on the American people.

Despite being a grossly under-reported subject in the mainstream, there is intense public interest in depleted uranium (DU) and the damage it inflicts on humankind and the environment.

While *American Free Press* is actively investigating DU weapons and how they contribute to Gulf War Syndrome, the corporate-controlled press ignores the illegal use of DU and its long-lasting effects on the health of veterans and the public.

In August 2004 *American Free Press* published a ground-breaking four-part series on DU weapons and the long-term health risks they pose to soldiers and civilians alike. Information provided to AFP by experts and scientists, some of it published for the first time in this paper, has increased public awareness of how exposure to small particles of DU can severely affect human health.

Leuren Moret, a Berkeley-based geo-scientist with expertise in atmospheric dust, corresponds with AFP on DU issues. Recently Moret provided a copy of her letters to a British radiation biologist, Dr. Chris Busby, about how nanometer size particles—less than one-tenth of a micron and smaller—of DU once inhaled or absorbed into the body, can cause long-term damage to one's health.

Busby is one of the founders of Green Audit, a British organization that monitors companies "whose activities might threaten the environment and health of citizens."

Moret's writings were meant to assist Busby in a legal case being heard in the High Court in London where a former defense worker, Richard David, 49, is suing Normal Air Garrett, Ltd., an aircraft parts company now owned by Honeywell Aerospace, claiming exposure to DU on the job has made his life a "living hell."

David worked as a component fitter on fighter planes and bombers but had to quit due to health problems. He says he developed a cough within weeks of starting work.

Today, David suffers from a variety of symptoms like those known as Gulf War Syndrome, including respiratory and kidney problems, bowel conditions and painful joints. Medical tests

reveal mutations to his DNA and damage to his chromosomes, which, he says, could only have been caused by ionizing radiation. He has also been diagnosed with a terminal lung condition.

Honeywell denies DU was ever used at the plant in Yeovil, Somerset, where David worked for 10 years until 1995. David claims that DU's existence at the plant was denied because it is an official secret.

David has asked the High Court for more time to gather evidence. The hearing is due to resume in April. "I don't have any legal representation," David said, "so I am representing myself. It is a real David versus Goliath case.

"I am confident I will win. I hope to set a precedent for other cases of people who have suffered from the effects of depleted uranium," he said.

Moret's letters on the particle effect of DU is based on research done by Marion Fulk, a nuclear physical chemist and former scientist with the Manhattan Project and the National Laboratory at Livermore, Calif. Fulk, who has developed a "particle theory" about how DU nano-particles affect human DNA, donates his time and expertise to help bring information about DU to the public.

Asked about Fulk's particle theory, Busby said it is "quite sound."

"DU is much more dangerous than they say," Busby added. "I've always said that it contributes significantly to Gulf War Syndrome."

When Moret's correspondence to Dr. Busby was posted on the Internet over the New Year's holiday under the title "How Depleted Uranium Weapons Are Killing Our Troops," some 6,000 people read the letter in the first two days. The following Monday, a producer from BBC's *Panorama* program contacted Moret to arrange an interview.

If the BBC follows up with an investigation on the health effects of DU, it may be hard for the U.S. media to maintain their cover-up. More than 500,000 "Gulf War Era" vets currently receive disability compensation, many of them for a variety of symptoms generally referred to as Gulf War Syndrome. Experts blame DU for many of these symptoms.

"The numbers are overwhelming, but the potential horrors only get worse," Robert C. Koehler of the Chicago-based Tribune Media Services wrote in an article about DU weapons entitled "Silent Genocide."

"DU dust does more than wreak havoc on the immune systems of those who breathe it or touch it; the substance also alters one's genetic code," Koehler wrote. "The Pentagon's response to such charges is denial, denial, denial. And the American media is its moral co-conspirator."

## **U.S. GOVERNMENT KNOWS**

The U.S. government has known for at least 20 years that DU weapons produce clouds of poison gas on impact. These clouds of aerosolized DU are laden with billions of toxic sub-micron sized particles. A 1984 Department of Energy conference on nuclear airborne waste reported that tests of DU anti-tank missiles showed that at least 31 percent of the mass of a

DU penetrator is converted to nano-particles on impact. In larger bombs the percentage of aerosolized DU increases to nearly 100 percent, Fulk told AFP.

DU is harmful in three ways, according to Fulk: “Chemical toxicity, radiological toxicity and particle toxicity.”

Particles in the nano-meter (one billionth of a meter) range are a “new breed of cat,” Moret wrote. Because the size of the nano-particles allows them to pass freely throughout the organism and into the nucleus of its cells, exposure to nano-particles causes different symptoms than exposure to larger particles of the same substance.

Internalized DU particles, Fulk said, act as “a non-specific catalyst” in both “nuclear and non-nuclear” ways. This means that the uranium particle can affect human DNA and RNA because of both its chemical and radiological properties. This is why internalized DU particles cause “many, many diseases,” Fulk said.

Asked if this is how DU causes severe birth defects, Fulk said, “Yes.”

## **MILITARY AWARE**

The military is aware of DU’s harmful effects on the human genetic code. A 2001 study of DU’s effect on DNA done by Dr. Alexandra C. Miller for the Armed Forces Radiobiology Research Institute in Bethesda, Md., indicates that DU’s chemical instability causes 1 million times more genetic damage than would be expected from its radiation effect alone, Moret wrote.

Dr. Miller requested that questions be sent in writing and copied to a military spokesman. She did tell AFP that it should be noted that her studies showing that DU is “neoplastically transforming and genotoxic” are based on *in vitro* cellular research.

Studies have shown that inhaled nano-particles are far more toxic than micro-sized particles of the same basic chemical composition. British toxicopathologist Vyvyan Howard has reported that the increased toxicity of the nano-particle is due to its size.

For example, when mice were exposed to virus-size particles of Teflon (0.13 microns) in a University of Rochester study, there were no ill effects. But when mice were exposed to nano-particles of Teflon for 15 minutes, nearly all the mice died within 4 hours.

“Exposure pathways for depleted uranium can be through the skin, by inhalation, and ingestion,” Moret wrote. “Nano-particles have high mobility and can easily enter the body. Inhalation of nano-particles of depleted uranium is the most hazardous exposure, because the particles pass through the lung-blood barrier directly into the blood.

“When inhaled through the nose, nano-particles can cross the olfactory bulb directly into the brain through the blood brain barrier, where they migrate all through the brain,” she wrote. “Many Gulf era soldiers exposed to depleted uranium have been diagnosed with brain tumors, brain damage and impaired thought processes. Uranium can interfere with the mitochondria, which provide energy for the nerve processes, and transmittal of the nerve signal across synapses in the brain.

“Damage to the mitochondria, which provide all energy to the cells and nerves, can cause chronic fatigue syndrome, Lou Gehrig’s disease, Parkinson’s disease and Hodgkin’s

disease.”

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