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### CHEMICAL AND BACTERIOLOGICAL (BIOLOGICAL) WEAPONS

Note verbale dated 4 August 1983 from the Acting Permanent Representative of the United States of America to the United Nations addressed to the Secretary-General

The Acting Permanent Representative of the United States of America has the honour to submit a further report on the use of chemical and toxin weapons which contains new evidence available to the United States. It is based on the scientific analysis of a series of blood samples, drawn from victims of earlier toxic attacks in Laos, that were frozen for future analysis, as well as blood samples drawn from victims of a toxic attack in Kampuchea in March of this year.

The United States of America, over the past three years, has submitted a series of reports presenting the evidence in detail and continues to be deeply concerned over the use of chemical and toxin weapons in flagrant violation of international conventions and international law. In view of the concerns of Members of the United Nations as expressed in General Assembly resolutions 35/144 C, 36/96 C and 37/98 D and E, and in view of the study being conducted under your direction on means of dealing with allegations of use of chemical, biological and toxin weapons, it is requested that the enclosed report be circulated at an early date as an official document of the General Assembly under item 61 of the provisional agenda.

\*A/38/50.

ANNEX

Further Report on Use of Chemical and Toxin Weapons  
- New Evidence Available to the United States

The United States continues to receive and analyze disturbing evidence and reports of use of chemical and toxin warfare agents in Laos, Kampuchea and Afghanistan. The use of these weapons is a flagrant contravention of two major international agreements and customary international law.

In an ongoing effort to call world attention to the problem, and to secure a halt to the use of these weapons, the United States has periodically released its evidence. Over the past two years, biomedical samples (blood, urine, or tissue) from victims have been analyzed in American laboratories for the presence of T2 and HT2 trichothecene toxins. To date, biomedical samples from 20 victims of eight separate toxin weapon attacks in Laos and three separate attacks in Kampuchea have been shown to contain trichothecene toxins. Control samples, taken from similar individuals who had not been subjected to toxin agent attack, were negative. Additional samples from victims and controls have been collected over the past year and are currently under analysis employing newly developed, more sophisticated, increasingly sensitive, state-of-the-art techniques. The complexity of trichothecene analysis in biomedical samples has necessitated development of new techniques and analytical procedures, a lengthy and tedious process. The levels of trichothecenes detected cannot be attributed to any known natural phenomena. Previously reported analysis results of biomedical and other data may be found in earlier United States submissions.

The following is an account of the results of the analysis of four additional sets of blood samples.

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On November 6, 1981, a Lao resistance fighter was injured by a toxic agent grenade in northern Vientiane Province of Laos. Following the blast he experienced severe eye irritation and tearing and was blinded for approximately 30 minutes. Within a few hours, and continuing over a period of several days, he experienced the development of hundreds of small (2 to 5 mm) fluid filled blisters on the exposed areas of his upper torso and edema of the head and neck.

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He was assisted to the Nong Khai Hospital in Thailand where the camp physician and a U.S. physician examined him on November 11 (5 days after the attack) and noted the blisters and mild conjunctivitis in both eyes. Blood samples were drawn at that time, chilled and maintained on ice during transit to the U.S., and frozen for future analysis.\* Two blood samples, analyzed at the U.S. Army Chemical Systems Laboratory for the presence of traditional chemical agents, were negative for such agents. Three blood samples were submitted to a private U.S. laboratory for analysis by gas chromatograph-mass spectrometer (GC-MS) technique for the presence of trichothecenes. Detectable levels of T2 and HT2, a metabolite of T2, were found in all three samples of the victims' blood as follows:

<u>Sample No.</u>	<u>T-2</u>	<u>HT-2</u>
1	9 ppb	6 ppb
2	10 ppb	6 ppb
3	9 ppb	5 ppb

(ppb = parts per billion)

\* \* \* \* \*

On 24-26 March 1982, at the Nong Khai refugee camp in Thailand blood samples were drawn by U.S. and camp medical personnel from H'Mong refugees who reported symptoms as a result of exposure to aircraft-delivered toxic agent warfare attacks in Laos on the 3rd, 11th and 16th of January 1982.

Symptoms reported by the victims included: headache, nausea, vomiting with blood, diarrhea with blood, weakness, vertigo, drunklike sensations, and visual disturbances. As a result of the attacks, of 154 people involved, 44 died within 2 to 5 days of exposure. Analysis of a blood sample from one of the surviving victims, a 10-year old boy, for T2 and HT2 trichothecene toxins revealed the presence of 32 ppb HT2. This victim

\*Due to the volume of samples received and the limited capacity of the laboratories conducting the analyses, it has been necessary to freeze some biomedical samples while higher priority samples were analyzed. Since only one victim was sampled in this attack, it initially received a low priority.

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also was suffering from malaria and showed a depressed white cell count of 4,200. The blood samples were handled in the same manner as above, and analysis was performed at the same private U.S. laboratory using identical GC-MS techniques.

Also on 24-26 March 1982 at the Nong Khai camp, blood samples were drawn from four H'Mong who had been exposed to attacks on 15 February 1982 in Laos. The survivors reported that two attacks were directed against several villages with a collective death count estimated to be between 85-100 people. Most of the villager's chickens and half of their pigs also died. Rice, tapioca, and other crops were affected as well. Symptoms reported by the victims included: fever, headache, nausea, vomiting, diarrhea, double vision, coughing, chest pain, eye irritation and tearing, hearing difficulty, fatigue, and jaundice.

Blood samples from these victims were handled and analyzed as with the others, for the presence of T2 and HT2 trichothecene toxins. The blood of one of the victims showed the presence of 28 ppb T2 and 16 ppb HT2 toxin. This individual, a 35-year old male, had also been exposed to a previous toxic agent attack in mid-December 1981.

Blood was drawn at the same time from three control individuals in the camp who had not been subjected to a toxic agent attack. These control samples were analyzed for T2 and HT2 trichothecene toxins with negative results.

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On March 20, 1983, at Khao Din refugee camp in Thailand, near the Kampuchean border, three young Kampuchean women aged 18, 19 and 25, complaining of effects of a toxic agent, were examined by physicians. The three victims complained of symptoms typical of past trichothecene toxin exposure victims. They had become ill on March 9 after passing through an area in Kampuchea reported to have been subjected to a toxic agent attack on March 4 and 5. Blood samples were drawn from each victim and from two control individuals who were living in the same area under the same conditions as the victims, but who had not been exposed to any toxic agent.

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The blood samples were analyzed by a private United States laboratory for the presence of T2 and HT2 toxins. One of the victims still had detectable levels of both T2 and HT2 (19 ppb T2 and 32 ppb HT2 respectively) in her blood. Blood samples from both control individuals were negative for both toxins.

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All samples were submitted on a blind, coded basis to a private United States laboratory. Blood samples were precipitated with acetone and filtered. The filtrate was evaporated to dryness, dissolved in methanol:water (1:19, v/v) and passed through a XAD-2 column. The 90 percent methanol eluate was collected and dried on a steam bath. The samples were analyzed on a HP-5985B gas chromatograph-mass spectrometer data system.

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