

# governmentattic.org

"Rummaging in the government's attic"

Description of document:	Army Foreign Science and Technology Center (FSTC) Sino-Soviet Bloc Chemical And Biological Warfare Weapon Systems, FSTC 381-3082, June 1965
Requested date:	28-February-2022
Release date:	19-May-2023
Posted date:	29-May-2023
Source of document:	During COVID Pandemic conditions: Email
	FOIA Request Commander, INSCOM ATTN: IAMG-C-FOI 2600 Ernie Pyle Street Fort Meade, MD 20755-5995

The governmentattic.org web site ("the site") is a First Amendment free speech web site and is noncommercial and free to the public. The site and materials made available on the site, such as this file, are for reference only. The governmentattic.org web site and its principals have made every effort to make this information as complete and as accurate as possible, however, there may be mistakes and omissions, both typographical and in content. The governmentattic.org web site and its principals shall have neither liability nor responsibility to any person or entity with respect to any loss or damage caused, or alleged to have been caused, directly or indirectly, by the information provided on the governmentattic.org web site or in this file. The public records published on the site were obtained from government agencies using proper legal channels. Each document is identified as to the source. Any concerns about the contents of the site should be directed to the agency originating the document in question. GovernmentAttic.org is not responsible for the contents of documents published on the website.

-- Web site design Copyright 2007 governmentattic.org --



DEPARTMENT OF THE ARMY UNITED STATES ARMY INTELLIGENCE AND SECURITY COMMAND FREEDOM OF INFORMATION AND PRIVACY ACT OFFICE 2600 ERNIE PYLE STREET FORT MEADE, MD, 20755-5995 May 19, 2023

Freedom of Information/ Privacy Office

This is in reponse to your Freedom of Information Act (FOIA) request of February 28, 2022, and supplements our letter of March 8, 2022.

We have completed a mandatory declassification review of the INSCOM information in accordance with Executive Order (EO) 13526. As a result of our review, information has been sanitized that would result in an unwarranted invasion of the privacy rights of the individuals concerned. This information is exempt from the public disclosure provisions of the FOIA pursuant to Title 5 U.S. Code 552 (b)(3) and (b)(6). Exemption (b)(3) pertains to information that is exempt by statute. The applicable statute is 50 U.S.C. § 3024 (i), which protects intelligence sources and methods.

The withholding of the information described above is a partial denial of your request. This denial is made on behalf of Major General Michele H. Bredenkamp, Commander, U.S. Army Intelligence and Security Command, who is the Initial Denial Authority for Army intelligence investigative and security records under the Freedom of Information Act and may be appealed to the Secretary of the Army. If you decide to appeal at this time, your appeal must be post marked no later than 90 calendar days from the date of our letter. After the 90-day period, the case may be considered closed; however, such closure does not preclude you from filing litigation in the courts. You should state the basis for your disagreement with the response and you should provide justification for an additional reconsideration of the denial. An appeal may not serve as a request for additional or new information.

An appeal may only address information denied in this response. Your appeal is to be made to this office to the below listed address for forwarding, as appropriate, to the Secretary of the Army, Office of the General Counsel.

Commander U.S. Army Intelligence and Security Command Freedom of Information/Privacy Office (APPEAL) 2600 Ernie Pyle Street, Room 3S02-B Fort George G. Meade, Maryland 20755-5910 If you have any questions regarding this action, feel free to contact this office at 1-866-548-5651, or email the INSCOM FOIA office at: <u>usarmy.meade.usacic.mbx.inscom-foia-</u> <u>service-center@army.mil</u> and refer to case #0148F-22. You may contact our FOIA Public Liaison, Ms. Crystle Poge, for any further assistance and to discuss any aspect of your request at 571-515-0306 or at her email address: <u>usarmy.belvoir.hqda-oaaahs.mbx.rmda-</u> <u>foia-public-liaison@army.mil</u>. Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, email at <u>ogis@nara.gov</u>, telephone at 202-741-5770; toll free at 1-877-684-6448; or facsimile at 202-741-5769.

Sincerely,

HEATON.MICH Digitally signed by HEATON.MICHAEL.TODD. 0922075 Date: 2023.05.19 07:12:59 -04'00' Michael T. Heaton GG-15, Director Freedom of Information/Privacy Act Office

Enclosure



U.S. Army Foreign Science and Technology Center Munitions Building, Washington, D.C. 20315

FSTC 381-3082 is published for the information and guidance of all concerned.

Comments, and réquests for additional copies, should be sent to the Commanding . Officer, at the above address.

A Category II Intelligence Document. This document was compiled and produced by the U.S. Army Foreign Science and Technology Center of the U.S. Army Materiel Command. It has been approved by the Assistant Chief of Staff for Intelligence, Department of the Army, and therefore contains agreed Department of the Army intelligence.

#### DESCRIPTORS

Chemical and biological warfare weapon systems, CW toxic-filled munitions, CW agents, nerve agents, antipersonnel BW agents, Sino-Soviet Bloc.

#### WARNING NOTICE

This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws (18 U. 2 C. 293, 794), the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

January 1967

FSTC 381-3082, C1

Publication No. · FSTC 381-3082 Change No. 1

(U)

U.S. ARMY MATERIEL COMMAND FOREIGN SCIENCE AND TECHNOLOGY CENTER Munitions Building, Washington, D.C. 20315

SINO-SOVIET BLOC CHEMICAL AND BIOLOGICAL WARFARE WEAPON SYSTEMS (U)

Publication No. FSTC 381-3082, June 1965, is changed as follows:

Make the following changes:

(E) Remove pages 9 and 15; insert new pages 9 and 15.

Regraded Unclassified When Separated From Classified Inclosure

COPY # 10 of 25 curris



Project G1 5200



FSTC 381-3082

## SINO-SOVIET BLOC CHEMICAL AND BIOLOGICAL WARFARE WEAPON SYSTEMS (U)

June 1965

(Based on information available as of 31 December 1964)

#### ABSTRACT

(U) This study discusses Sino-Soviet Bloc CW and BW policies, doctrines, agent development programs, and agent stockpiles, as well as current Sino-Soviet Bloc weapon systems considered feasible for disseminating toxic chemical and biological warfare agents.

13

THIS INFORMATION IS NOT RELEASABLE TO FOREIGN GOVERNMENTS EXCEPT U.K. AND CANADA





## SINO-SOVIET BLOC CHEMICAL AND BIOLOGICAL WARFARE WEAPON SYSTEMS (U)

#### COMPENDIUM

(U) 1. <del>(C)</del> PURPOSE

The purpose of this study is to provide the user with the basic information necessary for the sevelop

a. Forecasts and evaluations of the Sino-Soviet Bloc capability to conduct offensive chemical warfare (CW) and/or biological warfare (BW) operations.

b. Evaluations of the vulnerability of the United States and other Free World nations to Sino-Soviet Bloc CW and/or BW attack.

c. Determinations of area coverages and lethality effects of the various CW and BW agent/munition system combinations.

(U) 2. <del>(C)</del> SCOPE

This study is an analysis of the current Sino-Soviet Bloc weapon systems considered feasible for disseminating toxic CW and BW agents. It depicts Sino-Soviet Bloc (a) policies and doctrines on the use of toxic agents, (b) agent development programs, and (c) CW agent stockpiles. It also discusses the antipersonnel BW agents which could be produced and stocked by the U.S.S.R. Characteristics and estimated agentfilling weights of the probable Soviet CW - BW munitions are presented in tabular form.

(U) 3. <del>(S)</del> CONCLUSIONS

a. The Soviet stockpile of CW agents (all types) is at least 50,000 tons.

b. Currently, the U.S.S.R. probably has no stockpiles of BW agents.

However, the Soviets could produce significant quantities of these agents, particularly the antipersonnel type.

c. Communist China has limited stocks of World War I-type CW agents.

d. Within the Sino-Soviet Bloc, only the U.S.S.R. has the capability to:

(1) Produce CW and BW agents on a large scale.

(2) Support large-scale offensive CW operations.

e. The Soviets have CW-filled munitions for many of their artillery and aerial weapons and for some of their ballistic and cruise missiles.

f. The U.S.S.R. could supply the other Sino-Soviet Bloc nations with CWfilled aerial rounds and missiles, and artillery rounds for most of the standare obsolescent and obsolete artillery weapons presently on hand in those countries.

g. In the event of war --

(1) The U.S.S.R. will employ probably CW and possibly BW agents on a larger scale.

(2) The European Satellites will, based on Soviet dictates, use CW and BW agents.

(3) Communist China will employ World War I-type CW agents against.neighboring countries having poor protection capabilities.





## DISCUSSION (U) Section I. <del>(S)</del> GENERAL

#### (U) 4. -(S)- CW TOXIC MUNITIONS

The Soviets have developed various artillery, rocket, aerial, and missile weapons capable of disseminating toxic CW agents, and reportedly have CW munitions for most of these systems. They have supplied most of the other Bloc nations with artillery and rocket weapons, some of which are now obsolete or limited standard in the U.S.S.R. Missile systems have been furnished to some of the European Satellites or are in the inventories of Soviet troops stationed in these countries. No information is available on the agent-filling weights and other characteristics of the CW projectiles, except a few World War II Soviet artillery and aerial munitions, currently used with these systems.

5. (S) BW MUNITIONS

(U)

(U)

No BW munitions have been identified in the Sino-Soviet Bloc.

## Section II. (U) Section II. (S) POLICY

6. -(S) CHEMICAL WARFARE

a. U.S.S.R.

(1) Soviet policy is to employ CW agents offensively and defensively, as the situation dictates. Soviet CW policy also requires the maintenance of an effective chemical service organization and an adequate logistical support system.

(2) The decision to use CW agents will be made at the highest civilian level and will be implemented by the front commander who, in turn, may delegate authority for their use down to division comanders.

b. <u>European Satellites</u>. The European Satellites have patterned their chemical warfare policies after that of the Soviet Union. However, since all bulk chemical toxics and toxic-filled munitions stored in these countries remain under Soviet control, the decision to use them rests with the U.S.S.R.

#### c. Communist China.

(1) Communist Chinese policy emphasizes the employment of CW agents when the situation dictates. However, because Communist China has only a small stockpile of World War I-type agents, use will be limited to operations against neighboring countries with little or no defensive capability. Communist China's CW policy also provides for increased production of World War I-type agents,





(U)

development of a capability to produce new agents, and acquiring of ground and aerial weapon systems for disseminating toxic agents.

(2) The decision to use CW agents will be made at the highest civilian level and will be implemented by army group commanders.

d. <u>North Korea and North Vietnam</u>. North Korea and North Vietnam have no offensive chemical warfare capability. However, if supplied with CW munitions and weapons, they would follow Communist China's policy for disseminating CW agents.

7. (S) BIOLOGICAL WARFARE

a. U.S.S.R. Soviet leaders have designated biological (as well as chemical and atomic) warfare weapons as "weapons of mass destruction" and are well aware of the potential of these weapons, especially against industrial centers and other rear-area facilities. Based on stated Soviet policy to use all available means to destroy the enemy, the belief is that, in the event of a major conflict, the U.S.S.R. would employ BW weapons, particularly in strategic roles.

b. European Satellites. BW policy within the European Satellites is probably patterned after that of the Soviet Union.

c. Asian Communist Countries. No information is available on the BW policies of Communist China, North Korea, and North Vietnam.

> (U) Section III <del>(S)</del> DOCTRINE

8. CHEMICAL WARFARE

a. U.S.S.R.

(1) CW toxic agents and munitions are an integral part of the overall Soviet weapon system and are being developed in balance with other types of weapon systems. Their employment is planned both alone and in conjunction with other weapons, including nuclear weapons.

(2) The Soviets consider CW weapons as surprise weapons to be used primarily in tactical situations, such as in meeting engagements, on the forward edge of the battle area, against assembly areas, in preparing drop zones, and for neutralizing command posts, control points, and missile launch sites. The Soviet use of these weapons in strategic roles, however, cannot be ruled out.

(3) Soviet offensive CW droctrine calls for:

(a) Achieving large-area contamination by using free rockets over ground (FROG) and ballistic- and cruise-type missiles, all equipped with massive-fill

Regraded UNCLASSIFIED on 21 DEC 2022 by USAINSCOM FOI/PA Auth Encl 5, para 1-d, DOD 5200-01-V1 4





CW warheads to be burst above the target at heights ranging from 1250<sup>+</sup> feet for the FROGs to 5000<sup>+</sup> feet for ballistic and cruise missiles.

(b) Aerial dissemination by spray tanks and massive-fill bombs.

(c) Ground delivery by utilizing artillery, mortars, and rockets.

(d) Achieving surprise effects by employing multiple rocket launchers.

b. European Satellites. CW doctrine within the European Satellites is identical with that of the Soviet Union.

c. <u>Communist China</u>. Communist China's CW doctrine calls for disseminating toxic agents in tactical situations from artillery, mortars, and rockets, and possibly from aerial bombs and aerial spray tanks.

d. North Korea and North Vietnam. The North Koreans and the North Vietnamese would probably disseminate toxic CW agents in the same manner as the Communist Chinese, provided that the necessary munitions were made available to them.

(U)

9. (S) BIOLOGICAL WARFARE

a. U.S.S.R. No definite information is available on Soviet offensive BW doctrine. However, military and civilian defense manuals, reports of scientific research, propaganda material, and statements by Soviet leaders reveal a high level of interest in, and a knowledge of, the potentials and capabilities of biological warfare. From the information in these sources, the inference is drawn that the U.S.S.R. considers BW primarily a strategic offensive weapon. This inference is corroborated by defense manuals which indicate that the Soviets expect to defend against BW attacks on cities, industrial complexes, and rear-area support facilities--targets that probably reflect their own doctrine for the offensive use of BW weapon systems.

b. European Satellites. The European Satellites would probably orient their BW doctrine to that of the Soviets.

c. Asian Communist Countries. No information is available on BW doctrine within Communist China, North Korea, or North Vietnam.

Section IV. (S) DEVELOPMENT PROGRAMS

10. (S) CHEMICAL WARFARE

(U)

a. <u>U.S.S.R</u>. The Soviets are continuing to direct their research efforts toward developing new and more toxic agents, agents which cause mental and physical incapacitation, and more effective antidotes for the nerve-type agents. This







research has resulted in (1) the standardization of VR-55, believed to be a nerve agent much more toxic than any agent known to the Free World and (2) a patented process for low-cost mass-production of pinacolyl alcohol--a process which has made the production of soman (GD) economically feasible. Soviet scientists have allegedly developed a GD antidote, a therapeutic treatment not yet discovered by the Free World.

b. European Satellites. CW research in the European Satellites, except in Czechoslovakia, is confined to defensive materiel. Czechoslovakia, because of its excellent scientific capabilities and possibly because the Soviets consider it more politically reliable, has been permitted to conduct research on nerve and incapacitating agents and on bacterial toxins and curare-type compounds.

c. <u>Communist China</u>. Communist China is conducting small-scale research on nerve-type agents.

d. North Korea and North Vietnam. Available information does not indicate that the North Koreans or the North Vietnamese are engaged in CW research.

11. (S) BIOLOGICAL WARFARE

a. U.S.S.R. Little concrete evidence is available to prove that the Soviets are actively engaged in a BW program. However, the research and development effort in the U.S.S.R. suggests that scientists are performing BW-related studies on the production and stabilization of antipersonnel agents, such as those which cause tularemia, botulism, plague, viral encephalitis, Q fever, and anthrax. Indications are that the Soviets may have field tested some of these agents at such test facilities as those suspected on Vozrozhdeniya Island in the Aral Sea.

b. European Satellites and Asian Communist Countries. The European Satellites and the Asian Communist countries do not appear to be active in BW research but are conducting BW-related studies which could yield data applicable to a BW research and development program.

#### (U)

## Section V. (S) STOCKPILES

12. (S) CHEMICAL WARFARE

a. U.S.S.R.

(1) The latest National Intelligence Estimate states that the Soviet CW agent inventory is estimated as at least 50,000 tons and that it may be as high as 300,000 tons. Contained in this stockpile are World War I and World War II agents, as well as the V-type agents (including VR-55, which is believed to be a nerve agent). Table I lists these agents by type and shows their relative toxicity. The toxicity of the

SECRET UNPage 9 of 478



agents effective through the respiratory tract is compared to that of phosgene (e.g., hydrogen cyanide is 1.2 times and sarin is 20 times more toxic than phosgene); the toxicity of lewisite is used as the basis for comparison in the column headed "Percutaneous route."

		Relative toxicity	
Agent	Туре	Respiratory tract	Percutaneous route
Phosgene (CG)	Choking	1	*
Hydrogen cyanide (AC)	Blood	1.2	
Lewisite (L)	Blister	1.5-2.0	1
Mustard (H)	Blister	2.0-3.5	1
Tabun (GA)	Nerve	8	5-7
Sarin (GB)	Nerve	20	4
Soman (GD)	Nerve	30	2-10
vx	Nerve	<b>40</b> ·	500
VR-55	Nerve	Unknown	1000-1500

	( <b>0</b> )			
Table	1-(5)-	CW Ag	ents (U)	

....

**WARKENER** Weichthemical rounds have been reported for current Soviet artillery, mortar, and rocket weapons, information is lacking on model numbers calibers, agent-fillings, and agent-filling weights for these munitions. However, by using rounds with known characteristics as the basis for computation, Table II (page 11) lists the following data:

(a) Calibers of agent-munition combinations, together with estimated agent-filling weights, considered feasible for disseminating CW agents.

(b) Weapons from which these rounds could be fired, their rates of fire, and their minimum and maximum ranges.

(c) Nations that the U.S.S.R. has supplied with these weapons and that it could supply with CW-filled munitions for use with them in the event of hostilities.

(3) Although Soviet doctrine indicates that CW agents will be disseminated aerially, data are available only on World War II aerial munitions (see Table III, page 13). The information does not reveal whether these munitions have been



7



modified for use with high-performance aircraft or whether they are still in the Soviet inventory. The bombs and spray tanks included in the table are those most likely to have been adapted to jet aircraft usage.

(4) The U.S.S.R. reportedly has CW agent-filled warheads for several of its missile systems that could be used against targets within a 350-n.m. range, but the systems so equipped cannot be identified. Table IV (page 14) lists the missile systems which the Soviets probably would use against targets located within the prescribed range. The table also shows the probable agent-fillings for these missiles and the estimated agent-filling weights.

b. <u>European Satellites</u>. All toxic CW agents stored in the European Satellites are under Soviet control. Information is lacking on CW aerial munitions and missile systems on hand in these countries.

c. <u>Communist China</u>. Communist China's stockpile of World War I-type CW agents reportedly is sufficient only for small-scale operations against neighboring nations with little or no defensive capabilities.

d. North Korea and North Vietnam. No stocks of CW agents, aerial munitions, or missile systems have been reported in North Korea or North Vietnam.

13. (S) BIOLOGICAL WARFARE

a. U.S.S.R.

(1) No evidence is available to confirm Soviet production of BW agents for stockpile purposes. However, the U.S.S.R. could easily produce large quantities of the following antipersonnel agents:

(a) Anthrax (Bacillus anthracis).

(b) Botulism (Clostridium botulinum)

(c) Brucellosis (Brucella melitensis).

(d) Encephalitis (Russian spring-summer virus).

(e) Plague (Pasteurella pestis).

(f) Q fever (Coxiella burneti).

(g) Tularemia (Pasteurelle tularensis)

(2) Soviet artillery weapon systems, because of their limited range and other characteristics, are not considered feasible for use with BW agents. This same estimate of feasibility applies to Soviet massive-fill explosive-type aerial

> SECRET WPage 11 of 478



# FSTC 381-3082, C1

L

bombs and aerial-spray tanks because of their low disseminating\_efficiency (approximated at less than 1.0 percent). The Soviet aerial munitions shown in Table V (page 14) could be utilized in offensive BW operations.

(3) Most of the current Soviet missile systems (see table VI, page 15) could be adapted to toxic BW agent dissemination. The warheads could be filled either with spherical bomblets containing a "wet" agent or with Flettner-(rectangular) type bomblets containing a "dry" agent.

b3

b. European Satellites and Asian Communist Countries. Information is lacking on BW agent production and stockpiling in the European Satellites and the Asian Communist countries.



Page 12 of 478

IT IS NOT REASONABLE TO SEGREGATE MEANINGFUL PORTIONS OF THE RECORD FOR RELEASE.

INFORMATION HAS BEEN WITHHELD IN ITS ENTIRETY IN ACCORDANCE WITH THE FOLLOWING EXEMPTIONS(S):

b3

#### DISTRIBUTION

# Copies

3

. . .

Copies

	AND AD IN
1	AMXST-SD-AF
1	AMXST-SD-PB
25	AMXST-SD-TD
1	AMXST-OC
l	AMXST-CP
1	AMXST-CP-CB
1	AMXST-AB
1	AMXST-CE
1	AMXST-CM
1	AMXST-GE
1	AMXST-MS
1	AMXST-BS
2	AMXST-WS
1	FSTC In Ofc, WPAFB
1	Sig TI Team 2
1	Sig Tech Info Team
l	CmlC Info & In Ofc
5	AMCRD-I
1	AMCRD-RC
1	AMCRD-RE
1	AMCRD-DC
1	AMCRD-SE
l	AMXDO-TI
1	AMXMR-AX
1	AMXRE-PI
1	AMC PM-DECS
3	AMSEL-RD-B
1	SELHU-EN
1	SELWS-W
1	SELRA-TNP
3	
1	SMOFB-AI
1	
1	SMOSM-0
l	SMOFE-ADJ
1	AMSMU-RE-TT
10	AMXST-AB-BL
10	AMXST-AB-CL
l	SMJFA-0610(FIO)
5	SMJPA-VF
5	AMSTE-ADE
4	STEAP-FI

1	STEDP-IO
1	STEJP-EO
1	
1	STEBD-AD
1	STEBE-FI
1	STEBB-ST
1	STEBA-AJ
1	STEBG-AA
1	STEAV
1	
1	STEBC
l	
1	
1	STEYT-IO
51	AMSWE-RDF-3
1	SWERI-FIO
l	SWESP-PRD-FIO
1	SWEWV-RD-FIO
1	Air Univ
	(Army Member)
1	Air War College
	(Army Member)
1	Navy War College
	(Sr Army Advisor)
1	USAF Air Gnd Op Sch
	(Army)
l	CG, Army Records Ctr.
	St. Louis, Missouri
1	CG, Carlisle Bks, Pa.
	Attn: Ops Gp, Sec 6
1	CG, Ft Bragg, NC Attn: Staff Ln O,
7	Sec 9
1	CG, Ft Ritchie, Md
1	Attn: Det F, Sec 9 10th Spec Forces Gp
ī	
i	Armed Forces Staff
-	College
1	USAINTC
ī	V US Army Corps

1 VII US Army Corps

#### DISTRIBUTION (Continued)

Copies

#### Copies

1 U.S. Army CBR Weapon's Orientation Course 1 Asst Sec, R&E 2 Wpn Sys Eval Gp 1 Sec/State Def Milit Info Con Com DDR & E 40 Def Intel Agcy 1 Asst Sec, R & D 1 Chief/Staff 2 DCS-Milit Oper 3 ACS-Force Devlp 1 DCS-Logistics 1 CofEngrs Chief, Res & Devmt 1 5 USA Scty Agey 5 USA Materiel Comi 20 USA Cmbt Devlp Comd 4 ACSI 1 ID Br 2 S&T Div 1 WW Div 2 Surgeon General USA Caribbean-G-2 1 5 USA Europe 5 513 Intel Corps Gp 2 7th US Army 5 USA Pacific 1 USARYIS/IX Corps 1 8th US Army 1 USA Alaska-G-2 1 USA Japan CINCSAC 1 1 CINCSOUTH 1 CINCEUR CINCPAC 1 1 US Taiwan Def Comd Comd USF, Korea 1 1 Strike Command 1 US Nat Mil Rep, SHAPE l US Marine Corps

Hq, USCONARC 5 1 USA Arty Bd USA Inf Bd 1 1 USA Air Def Bd 2 Dir, Sp Wpn Dev First US Army 1 Second US Army 1 1 Third OS Army Fourth US Army 1 1 Fifth US Army Sixth US Army 1 1 XVIII Abn Corps 1 101st A/B Div 1 III Corps 1 Nat War College Ind Coll Armd Forces 1 USA War College 1 1 Comd & Gen Stf College US Military Academy 1 1 USA Cold Wea and Mt Sch 1 US Air Def Sch 1 Art & Msl Sch 1 Art & Msl Ctr 1 Armor Sch 1 USA Aviation Ctr 1 USA Infantry Sch 1 QMC Sch 1 Sp Warfare Ctr 1 Sp Warfare Sch Engineer Sch 1 1 Engineer Ctr 1 USA Med Fld Svc Sch USA Sig Sch 1 USA PMG Sch 1 1 USA Cml Corps Sch Transportation Sch 1 USA Ordnance Sch 1 Hq USA Air Def Comd

