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**DEPARTMENT OF THE ARMY**  
**UNITED STATES ARMY INTELLIGENCE AND SECURITY COMMAND**  
**FREEDOM OF INFORMATION/PRIVACY OFFICE**  
**FORT GEORGE G. MEADE, MARYLAND 20755-5995**

REPLY TO  
ATTENTION OF:

Freedom of Information/  
Privacy Office

21 AUG 2014

Mr. John Greenewald, Jr.



Dear Mr. Greenewald:

This is in further response to your Freedom of Information Act (FOIA) request of April 11, 2014, for a copy of the National Ground Intelligence Center (NGIC) Report, titled "Iraq: Chemical Weapons Continue to be Recovered", dated April 4, 2006 and supplements our response of April 16, 2014.

As noted in our letter, the search has been completed with another element of this command and a record (33 pages) has been returned to this office for our review and direct response to you.

We have completed a mandatory declassification review in accordance with Executive Order (EO) 13526. As a result of this review, information has been sanitized and 20 pages are denied in their entirety, as the information is currently and properly classified SECRET according to Sections 1.2 (a)(2), 1.4 (a), 1.4 (c), and 1.4 (g) of EO 13526. This information is exempt from the public disclosure provisions of the FOIA pursuant to Title 5 U.S. Code 552 (b)(1). It is not possible to reasonably segregate meaningful portions of the withheld pages for release. A brief explanation of the applicable sections follows:

Section 1.2 (a)(2) of EO 13526 provides that information shall be classified SECRET if its unauthorized disclosure reasonably could be expected to cause serious damage to the national security.

Section 1.4 (a) of EO 13526 provides that information concerning military plans, weapons systems, or operations shall be considered for classification protection.

Section 1.4 (c) of EO 13526, provides that information pertaining to intelligence activities, intelligence sources or methods, and cryptologic information shall be considered for classification protection.

Section 1.4 (g) of EO 13526 provides that information concerning the vulnerabilities or capabilities of systems, installations, infrastructures, projects, plans or protection services relating to the national security, which includes defense against transnational terrorism shall be considered for classification protection.

The deleted information is also exempt from automatic declassification in accordance with EO 13526, Section 3.3(b)(1) because its release would clearly and demonstrably be expected to reveal the identity of a confidential human source, a human intelligence source, a relationship

with an intelligence or security service of a foreign government or international organization, or a nonhuman intelligence source; or impair the effectiveness of an intelligence method currently in use, available for use, or under development.

Since the release of the information deleted from the record would result in an unwarranted invasion of the privacy rights of another individual concerned. This information is exempt from public disclosure provisions of the FOIA pursuant to Title 5 U.S. Code 552 (b)(6).

Information have been sanitized and withheld from the record that would reveal sensitive intelligence methods, techniques and sources. This information is exempt from public disclosure pursuant to Title 5 U.S. Code 552 (b)(7)(E) of the FOIA. The significant and legitimate governmental purpose to be served by withholding is that a viable and effective intelligence investigative capability is dependent upon protection of sensitive investigative methodologies.

The withholding of the information described above is a partial denial of your request. This denial is made on behalf of Major General George J. Franz III, Commanding, U.S. Army Intelligence and Security Command, who is the Initial Denial Authority for Army intelligence investigative and security records under the FOIA. You have the right to appeal this decision to the Secretary of the Army. Your appeal must be postmarked no later than 60 calendar days from the date of this letter. After the 60-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 of your disagreement with the response and provide justification for a 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, for forwarding, as appropriate to the Secretary of the Army, Office of the General Counsel.

There are no assessable FOIA fees for processing this request.

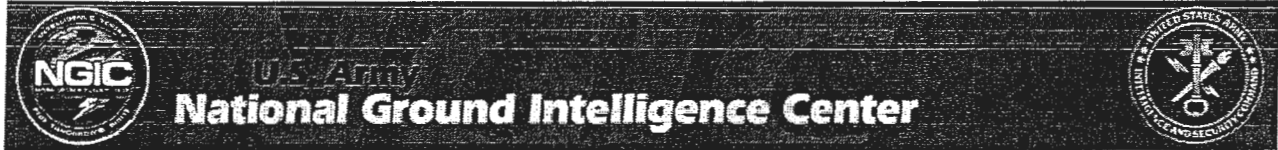
If you have any questions regarding this action, contact this office at 1-866-548-5651, or email the INSCOM FOIA office at [usarmy.meade.902-mi-grp-mbx.inscom-foia-service-center@mail.mil](mailto:usarmy.meade.902-mi-grp-mbx.inscom-foia-service-center@mail.mil) and refer to case #1440F-14.

Sincerely,



Terry M. Reynolds  
Director  
Freedom of Information/Privacy Office  
Investigative Records Repository

Enclosure



Date Revised: 2006-09-14

~~(S)~~

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(U) Purpose

~~(S//NF)~~  
 (U) This assessment provides an overview of the chemical munitions recovered in Iraq since May 2004 and examines the possible location and ramifications of residual pre-1991 Gulf War Iraqi chemical weapons.

(U) Key Points

- ~~(S//NF)~~ Since May 2004, Coalition forces (CF) have recovered at least 501 pre-1991 Gulf War Iraqi chemical weapons—including 448 122-mm al Borak rocket warheads, many of which contain the nerve agent sarin (GB).
- ~~(S//NF)~~

(b)(1)

(U) Summary of Chemical Weapons Recovered in Iraq since May 2004

~~(S//NF)~~  
 (U) Since May 2004, Coalition forces (CF) have recovered 501 filled and unfilled pre-1991 Gulf War Iraqi chemical weapons (see table and figure below). The chemical munitions recovered were composed of cannon projectiles and rocket warheads designed to be filled with mustard, sarin, or a

sarin/GF mixture.

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~~(S)~~ Additional Iraqi Chemical Weapons Exist

~~(S//NF)~~ <sup>(U)</sup> Pre-Gulf War chemical weapons exist in Iraq. From 1982 to 1991, Iraq weaponized and stockpiled CW munitions for all major delivery systems, including the following:

- (U) Missiles.
- (U) Mortars.
- (U) Cannon artillery.
- (U) Rockets.
- (U) Aerial bombs.

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SECRET//REL TO USA and MGFI//MR

(U//FOUO) 122-mm Sarin-Filled Borak Rocket Warhead

**(U) Past Efforts to Locate and Destroy Iraq's Chemical Weapon Stockpiles**

(U) **Operation DESERT STORM.** The majority of Iraq's chemical weapons production sites suffered extensive bomb damage during DESERT STORM. However, large stockpiles of both filled and unfilled munitions, bulk agent, and precursors remained under the control of the regime at the end of the Gulf War.

(U) **Iraq's Unilateral Weapons Destruction.** Following the war and under pressure from International Atomic Energy Agency (IAEA ) inspections, Iraq decided to destroy unilaterally the undeclared weapons that it had concealed from the UN. Reportedly, Iraq completed the unsupervised destruction of its undeclared chemical-weapons stockpile by the end of 1991, with most items destroyed in July of that year. The number and types of weapons that Iraq destroyed in this effort cannot be completely verified.

(U) **UNSCOM's Chemical Destruction Group.** In 1992, the United Nations Special Commission on Iraq (UNSCOM) stood up the Chemical Destruction Group (CDG), which operated in Iraq from 1992 to 1994 and again in 1996. The CDG was tasked with the job of destroying all of Iraq's declared bulk agent, filled munitions, and agent precursors from the former chemical-weapons program. Under the CDG, all declared chemical munitions stored throughout Iraq were to be consolidated and destroyed at the Al Muthanna Complex. The CDG oversaw destruction of 30,000 pieces of ordnance, 480,000 liters of chemical agents, and more than two million liters of chemical precursors.

(U) **Operation IRAQI FREEDOM.** Since the onset of Operation IRAQI FREEDOM (OIF) in March 2003, Coalition forces have been systematically identifying, consolidating, and destroying captured enemy ammunition found throughout Iraq. To date, nearly 10,000 weapons caches have been identified and moved to one of seven designated depots or are destroyed in place. In June

2003, the Coalition established the Iraq Survey Group (ISG) to conduct a systematic investigation of Iraq's former WMD programs. Part of the ISG investigation involved examination of the operations at the seven captured enemy ammunition (CEA) depots in an effort to exploit a broad spectrum of Iraqi munitions, possibly including WMD-capable munitions. Upon the conclusion of its investigation in September 2004, the ISG determined with high certainty that no chemical weapons have been discovered or destroyed as a result of the CEA consolidation and destruction activities.

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(U) One of the Al Muthanna Cruciform Bunkers

**(U) Samarra (Al Muthanna) CW Storage Facility Background**

(U) The Samarra CW Storage Facility (BE 0427DA0053) was part of the Samarra CW Research/Production and Storage Facility, also known as Al Muthanna. Al Muthanna, located 80 km northwest of Baghdad, was Iraq's primary chemical-weapons research, production, and storage facility prior to Operation DESERT STORM (January 1991). The facility suffered extensive bomb damage during the war.

(U) After DESERT STORM, Al Muthanna served as the UNSCOM's primary site for collection and destruction of Iraq's declared CW munitions, bulk agent, precursor chemicals, and chemical-production equipment. In the years following completion of the operations by the CDG, most of the facilities at the complex were razed or disassembled by Iraq and sold for scrap.

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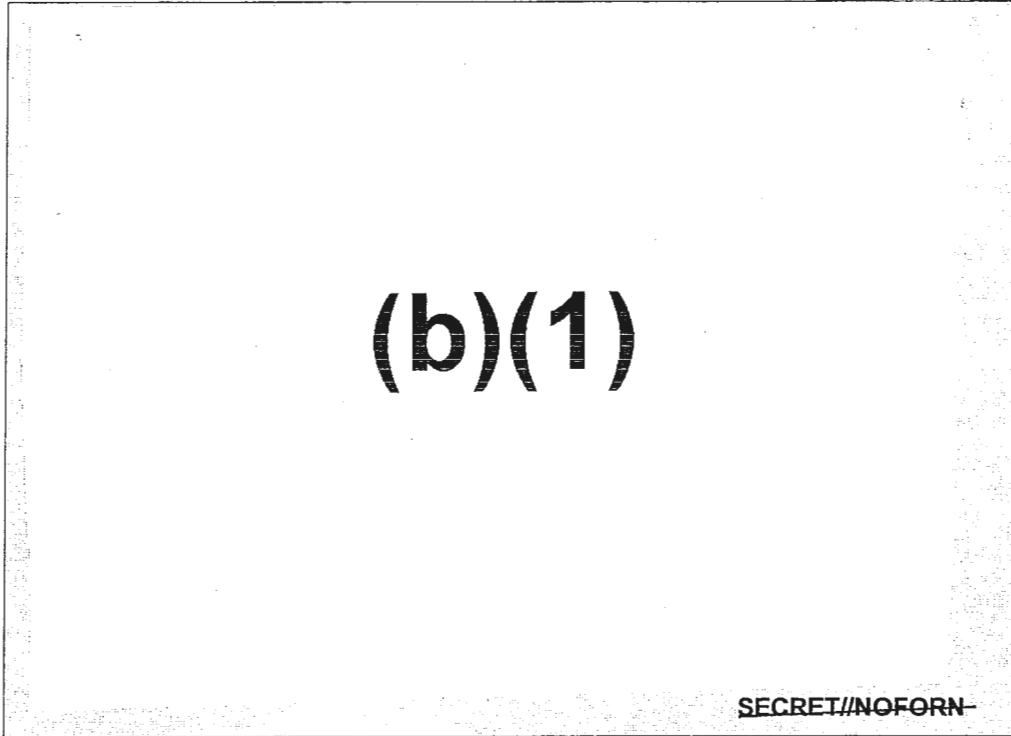
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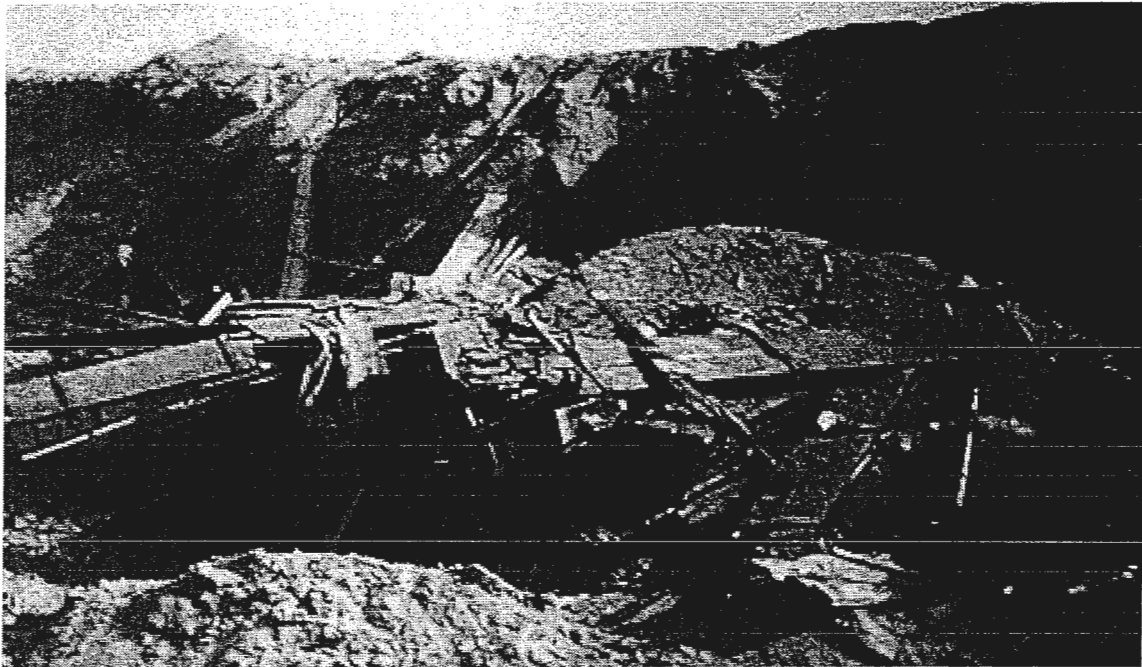
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(U) The figure below depicts the pit area at Khamisiyah.



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(U) The Pit Area at Khamisiyah

(U) Tactical Firing Points

(S//NF)

(b)(1)

(U) Which Iraqi Factions Would Want to Acquire and Use Chemical Weapons

(S) Iraq has many factions, which are concentrated in various parts of the country. The figure below is an overlay of the possible chemical-weapons storage locations on the general area of concentration of each Iraqi faction.

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(U) Map Identifying the Area of Concentrations for Iraqi Factions

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(S) Location of Ground War and Chemical Attacks During the Iran-Iraq War

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Auth Para 4-102 DOD 5200.1R



(U) Examples of Reported Iraqi Use of CW Agents

Date	Location	Agent Used	Reported Casualties
August 1983	Hajj Umran	Mustard	Fewer than 100 Iranian/Kurdish casualties
October-November 1983	Panjwin	Mustard	3000 Iranian/Kurdish casualties
February-March 1984	Majnoon Island	Mustard	2500 Iranian casualties
March 1984	al-Basrah	Tabun	50-100 Iranian casualties
March 1985	Hawizah Marsh	Mustard & Tabun	3000 Iranian casualties
February 1986	al-Faw	Mustard & Tabun	8000 to 10,000 Iranian casualties
December 1986	Um ar-Rasas	Mustard	1000's Iranian casualties
April 1987	al-Basrah	Mustard & Tabun	5000 Iranian casualties
October 1987	Sumar/Mehran	Mustard & nerve agent	3000 Iranian casualties
March 1988	Halabjah & Kurdish area	Mustard & nerve agent	1000's Kurdish/Iranian casualties
April 1988	al-Faw	Mustard & nerve agent	1000's Iranian casualties
May 1988	Fish Lake	Mustard & nerve agent	100's or 1000's Iranian casualties
June 1988	Majnoon Islands	Mustard & nerve agent	100's or 1000's Iranian casualties
July 1988	South-central border	Mustard & nerve agent	100's or 1000's Iranian casualties
August 1988	Hajj Umran	Mustard	Fewer than 100 Iranian/Kurdish casualties
March 1991	an-Najaf - Karbala area	Nerve agent & CS	Casualties not known

Note: These are selected uses only. Numerous other smaller-scale CW attacks occurred.

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**(U) Appendix B: Hazard Modeling Parameters**

(U) The expected potential hazard effects areas resulting from attacks utilizing pre-Gulf War Iraqi chemical weapons depends primarily on the type and number of munitions, percent fill, and agent purity.

(U) NGIC has conducted detailed consequence assessments on several scenarios involving the use of pre-Gulf War Iraqi chemical weapons (see table below). These munitions are assumed to function as intended—explosively driven, cylindrical-dissemination devices. Source-term modeling was performed using NGIC's Chemical and Radiological Release Model (CARREM) to determine the performance parameters of the improvised device. In order to address uncertainty in the effects from such weapon system/agent combinations, the following parameter values were used:

- ~~(S//REL TO USA, AUS, CAN, GBR)~~ <sup>(U)</sup> Payload = 4.88 kg GB for the al Borak warheads, 7.7 kg GB for the Sakr-18 warheads, 4.3 kg HD for the 155-mm projectile, and 2.7 kg GB for the 152-mm binary projectile.
- (U) Agent purities = 15%, 25%, and 90%.

- (U) Percent full = 100%.
- (U) Dissemination efficiency = 40%, 60%, and 80%.
- (U) Height of burst = 0.0 meters.

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(U) For additional hazard prediction information, see (U) Iraq: Potential Hazards from Degraded 122-mm Borak Rocket Chemical Warfare Warheads and a 152-mm Binary Consequence Assessment to be posted in the near future.

Footnotes

**(b)(7)(E)**

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