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GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**  
*Hazardous & Radioactive Materials Bureau*  
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PETER MAGGIORE  
SECRETARY

July 27, 1999

Edmund W. Libby  
Colonel, U.S. Army  
Project Manager for Non-Stockpile Chemical Material  
Aberdeen Proving Ground, Maryland 21010-4005

**RE: Possible Burial of Mustard Rounds at Ft. Wingate, New Mexico**

Dear Col. Libby,

Thank you for sending me the Draft Survey and Analysis Report, Second Edition, December 1996. This draft report classifies Ft. Wingate as a possible burial site for mustard agent-filled chemical weapons. Fort Wingate is scheduled for base closure and my bureau, the Hazardous and Radioactive Materials Bureau, has oversight responsibility for the clean up of Ft. Wingate. After closure, ownership of most of the land will eventually be transferred to the Navajo and Zuni Indians.

According to the draft report, a total of 28,932 mustard-filled 75-mm shells, 46,669 mustard-filled 155-mm shells, and one 30-pound mustard-filled bomb were in storage at Ft. Wingate on May 1, 1942 and that 45 carloads of mustard-filled munitions were shipped from Ft. Wingate to the Black Hills Ordnance Depot on March 6, 1944 (see enclosure). This suggests that these weapons were stored for at least two years at Ft. Wingate. However, the documentation does not indicate if these weapons were stored at Ft. Wingate prior to May 1942. The Tooele Army Depot has provided my bureau with additional information regarding the storage location of these items, but they indicated that there was no evidence they were buried or disposed of at Ft. Wingate (see enclosed letter dated June 3, 1999).

I have been told by UXO-trained personnel that these kinds of mustard rounds frequently leaked and that the standard practice back in the 1940s was to bury the leaking items nearby or transport the items a short distance and then bury them. If this is the case, then it appears highly likely that mustard rounds were buried at Ft. Wingate.

I would appreciate it if you would provide me with the following information:

1. Please explain if the following types of mustard rounds had a history of leakage: 75mm and 155mm mustard-filled shells and 30-pound mustard-filled bombs. Please include any information on leakage rates for each type of mustard round (e.g., 1/1000 of mustard-filled 75-mm shells leak per year).
2. Please describe the 1940s standard practice for handling and disposing of leaking mustard-filled shells and bombs.

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Edmund W. Libby  
Page 2  
July 27, 1999

3. Please explain how we can find out the following information:

- the length of time that mustard-filled items were in storage at Ft. Wingate prior to the May 1, 1942 status report,
- whether the number of items in the inventory changed from May 1, 1942 to March 6, 1944,
- whether all the items that were listed on the May 1, 1942 status report were shipped out on March 6, 1944,
- whether the Army would have made an inventory report listing the number of mustard-filled items that were shipped to/from Ft. Wingate and to the Black Hills Ordnance Depot.

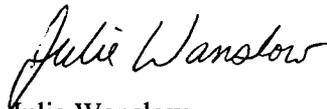
4. Knowing the amount and type of mustard-filled items stored at Ft. Wingate, please indicate if there is a high likelihood for burial or disposal of these items at this location.

5. Please send me a list of chemicals that would be associated with the leakage of and break down of the mustard agent (including chemicals that may be present in the soil gas).

6. Please send me information regarding recommended chemical analytical test methods, field screening methods, and detection technologies (e.g., soil gas) for identifying mustard-filled items.

I look forward to your response. If you have any questions, please contact me at 505-827-1561, ext. 1023. I greatly appreciate your help in this matter.

Sincerely,



Julie Wanslow  
RCRA Permits Management Program  
Hazardous and Radioactive Materials Bureau

Enclosure

cc: James P. Bearzi, Chief, HRMB  
Robert S. (Stu) Dinwiddie, Program Manager, HRMB  
Steve Pullen, HRMB  
Jennifer Parker, Ground Water Quality Bureau  
Julie Jacobs, Ground Water Quality Bureau  
Barbara Hoditschek, Surface Water Quality Bureau  
Chuck Hules, Solid Waste Bureau  
Don Beardsley, Solid Waste Bureau

Edmund W. Libby

Page 3

July 27, 1999

Chuck Hendrickson, EPA BCT (6PD-NB)  
U.S. Environmental Protection Agency  
1445 Ross Avenue  
Dallas, Texas 75202-2733

Ms. Roseria Duwyenie, Environmental Protection Assistant  
U.S. Department of Interior  
Bureau of Indian Affairs, Navajo Area Office  
P.O. Box 1060  
Gallup, New Mexico 87305

Ms. Sharlene Begay-Platero, Industrial Development Representative  
Navajo Nation, Project Development Department  
P.O. Box 663  
Window Rock, Arizona 86515

Mr. Pablo H. Padilla  
Pueblo of Zuni  
Environmental Protection Infrastructure Development Program  
P.O. Box 339  
Zuni, New Mexico 87327-0339

File



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY

TOOELE ARMY DEPOT

TOOELE, UTAH 84074-5000

June 3, 1999

SIOTE-CO-EO

SUBJECT: FWDA storage/disposal of Chemical Warfare Material

Dr. Robert S. Dinwiddie  
Program Manager  
RCRA Permits Management Program  
Hazardous and Radioactive Materials Bureau  
2044 Galisteo Street  
Santa Fe, New Mexico 87502

Dear Dr. Dinwiddie:

In response to your letter dated February 22, 1999, concerning the above subject, and after researching the Defense Environmental Restoration Program for Property Owned by the Department of Defense Ordnance and Explosive Waste Chemical Warfare Materials Archives Search Report for Fort Wingate, dated July 1995, the following information is provided:

- 1- As stated in the above report, interviews were conducted to obtain background and first hand knowledge concerning Chemical Warfare Materials (CWM). A Mr. Elroy Salas, Gallup, NM, stated that 155mm mustard rounds were stored in Area H (Igloo block H area). Mr. Ike Lewis, Ramah, NM, recalled the temporary storage of 155mm Mustard rounds at FWDA but did not recall any demil of chemical munitions. Anecdotal evidence also indicates that mustard gas was temporarily stored at FWDA at one time, but was later shipped to another installation.
- 2- From all of the information reviewed in the above report and from all the people interviewed there is no evidence that any CWM was ever disposed or buried at FWDA..
- 3- From all the information gathered in the above report, the Army did not feel that CWM hazardous constituents existed at FWDA, therefore no sampling was conducted.

If additional information is received, concerning CWM at FWDA, the material will be furnished to your office. If you have any questions please call Mr. Larry Fisher, at (435) 833-3504.

Sincerely,

THOMAS A. TURNER  
Chief, Environmental Office

CF:  
Malcolm Walden

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**U.S. ARMY  
PROGRAM MANAGER FOR  
CHEMICAL DEMILITARIZATION**

**DRAFT**

**SURVEY AND ANALYSIS REPORT  
SECOND EDITION**

**PROJECT MANAGER  
FOR  
NON-STOCKPILE CHEMICAL MATERIEL**

**December 1996**

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|------------------------|--|
| <b>LOCATION</b>        | Fort Wingate Depot Activity  |
| <b>LOCALITY</b>        | Gallup   |
| <b>STATE</b>           | NM   |
| <b>SITE</b>            | Storage  |
| <b>DESCRIPTION</b>     | Also known as Fort Wingate; used as a storage site. Source cites storage of 75-millimeter, 105-millimeter, and 155-millimeter mustard shells, and 30-pound mustard bomb. |
| <b>SIZE</b>            | Unknown  |
| <b>CONTENTS</b>        | Unknown. Potential for 75-millimeter and 155-millimeter mustard shells due to storage site use.  |
| <b>COMMENTS</b>        | In March 1944, source sites all munitions moved to the Black Hills Ordnance Depot (45 railcar loads). Complete inventory not specified.                                  |
| <b>TYPE</b>            | Disposal   |
| <b>INSTALLATION</b>    | Army   |
| <b>BURIED CWM SITE</b> | Small quantity, explosive  |
| <b>CLASSIFICATION</b>  | 4 - Possible burial  |

**NAME OF LOCATION:** Fort Wingate Depot Activity

Fort Wingate was established in 1850 as a military outpost. In 1862, the fort received the name Fort Wingate and was later garrisoned by units of the New Mexico volunteers, the 37th U.S. Infantry, and the 3rd Cavalry.

At the beginning of World War I, the installation was designated as the Fort Wingate General Ordnance Depot, with the mission to store TNT. The depot was the largest storage depot of high explosives in the world.

The present Fort Wingate dates back to 25 February 1941, when construction was started on a new depot several kilometers west of the original Fort Wingate. In 1941, as the United States entered World War II, the installation became highly active with incoming and outbound shipments of high explosives. Storage of ammunition other than TNT began in 1942.

In 1962, plans were initiated to use Fort Wingate as a site for test firing the PERSHING and SERGEANT Missile systems. Several successful firings were conducted. Fort Wingate officially closed in January 1993.

Records of chemical-filled munitions storage at Fort Wingate were not found during the installation assessment that was conducted in 1980 or by the U.S. Army Environmental Hygiene Agency's Ground Water Contamination Survey conducted in 1988. However, status reports of chemical-filled ordnance dated 1 May 1942, stated that 28,932 75mm shells, (mustard-filled) and 46,669 155mm shells (mustard-filled) were in storage at Fort Wingate. The U.S. Army Technical Escort Unit records also state that 45 carloads of mustard-filled munitions were shipped from Fort Wingate, New Mexico, to the Black Hills Ordnance Depot, South Dakota, on 6 March 1944.

**LOCALITY/STATE:** Fort Wingate Depot Activity is located 8 miles east of Gallup, New Mexico and about 130 miles west of Albuquerque on Interstate 40. It is bordered on the west by the Bureau of Indian Affairs (Navajo Tribal Trust Land), Navajo Tribe (Freelands), on the south, on the east by the Cibola National Forest, and on the north by the Red Rock State Park. The depot occupies approximately 22,120 acres (34 square miles) of land in McKinley County, New Mexico.

**SCOPE OF RESTORATION EFFORT:** Reports mention that chemical agent was stored at Fort Wingate Depot Activity at one time but has since been removed. The installation assessment conducted by the U.S. Army Toxic and Hazardous Materials Agency in 1980 stated that no chemical or biological agents or radiological materials are stored on the installation. Personnel interviews conducted in 1992 during the preparation of the base closure environmental investigation work plans confirmed this fact, and as a result, the base closure remedial investigation/feasibility study (RI/FS) has not included investigations for chemical agents or related materiel.

**EFFORT TO DATE:** Restoration efforts associated with chemical agent are not currently applicable for the Fort Wingate Depot Activity.

**REMEDICATION SCHEDULE:** RI/FS was completed in July 1995. If new information develops, it will be followed up immediately.

**RISK PERCEPTION:** None due to chemical agent.