



# THE MEMPHIS DEPOT TENNESSEE

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## ADMINISTRATIVE RECORD COVER SHEET

AR File Number 35

may 1993

## Questions and Answers from May 24th Mayor's Town Meeting

Q. What was the method of disposing of mustard gas?

A. According to newspaper articles at the time, three of approximately nine box cars traveling to Pine Bluff Arsenal were discovered to be leaking. The cars were rerouted to DDMT. About 29 bombs were found to be leaking. The detonator was removed and holes shot in the casings which were suspended over a super-tropical bleach (STB) slurry solution and allowed to drain. The resulting solution was then burned.

Q. What's the chemical reaction and by-products?

A. Chemical reactions from the disposal of mustard are complex. It has been determined that the final decontamination and breakdown products include thiodyglycol, sulfur dichloride, hydrochloric acid, vinyl sulfide, calcium sulfate, and calcium chloride. Breakdown reactions will be different for each product, therefore, it is not possible to provide all breakdown products. When DDMT performs chemical analyses of the soil and water around the suspected burial site, tests will be performed for all known disposal items and possible breakdown products.

Q. What's in the electrical transformers and do we have any?

A. The Depot no longer uses electrical transformers containing PCBs. They were all removed in 1991.

Q. What are the means by which contaminants reach households?

A. Through ingestion, inhalation, or dermal absorption. Meaning residents would have to drink or eat contaminated water, fish, or soil, breath volatilized vapors or contaminated dust, or bath in contaminated water. In looking at groundwater at DDMT, contamination in the upper (fluvial) aquifer has not reached the lower (Memphis Sand) aquifer which is Memphis' major water source. Another ingestion pathway would be through the consumption of surface water or fish from Cane Creek or Nonconnah Creek. Turning to soil at DDMT, the contamination exists below the first foot of ground surface so ingestion does not seem to be a possible pathway. Due to the heavy vegetation at Dunn Field and the development at the Main Installation as well as the depth of contaminated soil, inhalation does not seem to be a possible pathway.

Q. Who are the 24 people mentioned in a report that were contaminated by air particles? Vol I

A. In the baseline risk assessment included in the preliminary Remedial Investigation/Feasibility Study, a worst-case scenerio was developed involving an estimate of the number of active duty military and family members living at DDMT

and the possible routes of exposure they might encounter. The scenario was not based on an actual occurrence.

Q. Why does it take so long to determine we have a problem? Why wait until year 2005?

A. It doesn't take long to determine we have a problem. Determining the extent, boundaries, and concentrations of contamination as well as what materials are involved and the exact location of buried materials then developing appropriate clean-up techniques involves extensive testing and analysis which does require time. The first test, the preliminary Remedial Investigation/Feasibility Study produced by Law Environmental, determined the Depot has a contamination problem, but it did not go far enough in determining the full scope of the problem. Now that the Depot is on the National Priorities List, certain laws and regulations must be adhered to in order to protect the community and the Depot from ill-planned or inappropriate clean-up procedures.

Q. Does most of the drinking water come from an aquifer?

A. For Memphis, yes. Most of the city's drinking water comes from the Memphis Sand aquifer. Untreated water is pumped from several different well fields in and around Shelby County and then treated by Memphis Light, Gas, and Water water treatment plants to remove natural impurities and provide disinfection. The water is then piped to residents through the water distribution system. The final, treated water meets all Environmental Protection Agency drinking water standards.

Q. Is the Depot polluting the air and causing a bad odor?

A. As of the last Memphis/Shelby County Health Department air quality audit performed at the Depot in January 1993, the Depot was not in violation of any state or federal air quality standards. All sources of air emissions requiring state and federal permitting have the necessary permits.

Q. When will a report on contaminants at the Depot be more readily available?

A. The preliminary Remedial Investigation/Feasibility Study as well as other documents regarding past restoration activities are currently on public view at the Memphis/Shelby County Library Main Branch. DDMT provided a revised workplan to the Environmental Protection Agency and the Tennessee Department of Environment and Conservation for the next phase of investigation and is also in the process of procuring a new contract to complete this work. Presently, DDMT expects additional fieldwork to begin in late 1993 with an additional report detailing the results in mid to late 1994.

Q. What affects did substances have prior to study?

A. DDMT records indicate that waste disposal activities of concern in Dunn Field began around 1955 and ended in approximately 1970. Records indicate that all homes in the surrounding community were connected to the Memphis Light, Gas, and Water water system around 1960. DDMT does not know for sure exactly when the items buried in Dunn Field began to leak and contaminated the fluvial aquifer. In addition, the exact rate at which this occurred is unknown. In general, these processes of leaking, transporting to the fluvial aquifer, contamination, and migration occur over a relatively long period of time (i.e., 10 to 20 years). The next phase of the investigation is intended to fully define the extent of contamination. When this is known, an attempt to approximate the rate at which the contamination migrated will be made. To further complicate matters, no records exist to tell us what the water quality of private wells may have been prior to the start of MLGW service in this area.

Q. Why weren't we told of past occurrences?

A. At the time, burial was the accepted method of disposal and no one was fully aware of possible health effects. In 1981, as the Depot began investigating the possibility that materials buried in Dunn Field may be leaking from containers, the evidence indicated that there was no immediate health risks so the public was not notified.

Q. What can we expect from eating crops during the 40s and 50s?

Q. Does the monitoring well have an affect on the watering system?

A. Properly constructed monitoring wells do not have any affect on the water supply or distribution system for Memphis. The wells on DDMT were constructed to meet EPA and TDEC standards.

Q. What is the cause of discolored water with odor?

A. At the Depot, the odorous, discolored water is caused by rust in the water lines. The Safety Office regularly flushes the lines, but because of their age, rust develops between flushings.

Q. Are the Depot substances causing the health problems located on a street located near the Depot?

Q. What types of industries cause health problems to the surrounding communities?

A. That is a question for the Tennessee Department of Environment and Conservation

Q. What types of substances are being released that might create health problems?

Q. What about Agent Orange? Dioxin?

A. Depot records are fairly specific about exactly what was buried in Dunn Field. Agent Orange is not one of these items. Analyses were conducted in 1989-90 for a wide variety of pesticides and herbicides. Agent Orange is a defoliant - herbicide - and was not detected.

Q. Is there any future danger of dioxin being stored?

A. The Depot does not store dioxin or the pesticide known as Agent Orange.

Q. Are the monitoring wells working? What are they for?

A. The monitoring wells were installed to monitor the water quality in the fluvial aquifer. Monitoring wells generally have no moving parts, with the exception of a pump which may be used to bring the water to the surface, and all of DDMT's wells are functional. These wells will be periodically checked and sampled to ensure that they have not been damaged.

Q.. What hazardous materials are the Depot storing?

A.

Q. How do we dispose of toxic waste today?

A. It is turned into the Defense Reutilization and Marketing Office. The DRMO turns the material over to an EPA approved and permitted contractor who picks up the material and directs it to a licensed disposal facility. In order to ensure contractors and facilities are operating within the bounds of the law, DRMO conducts an inspection before and after awarding a contract. The Department of Defense also has third party liability meaning it is ultimately responsible for the impacts of hazardous waste disposal, so DRMO closely scrutinizes contractors to ensure they comply with environmental laws.

Q. What are the remedial actions we are going to take?

A. In the near future, DDMT plans to install a groundwater treatment plant in the northwest quadrant of Dunn Field to treat the fluvial aquifer groundwater contamination. This will be an interim action until a permanent solution is agreed upon between DDMT, EPA, TEDC, and the community at the conclusion of the next phase of investigation.

Q. How do we dispose of hazardous waste/materials?

A. It is turned into the Defense Reutilization and Marketing Organization (DMRO) for proper disposal.

Q. What are in the barrels in the neighborhood near the Depot? (by the pump test area)  
Is it hazardous?

A. The barrels present in Dunn Field contain dirt which was extracted to install the pump test wells and piezometers during the fall of 1992. Some of this dirt may be

contaminated, but poses no threat to any of the residences. DDMT and the Corps of Engineers are presently working with the TDEC to dispose of the contents of these drums.

Q. Is the 1800 block of Rozelle located in the 6 contaminated areas of Dunn Field? We need more info on wells that were shut down.

A. The 1800 block of Rozelle is not located in the six contaminated areas of Dunn Field. The wells in the Allen Well Field were shut down by MLGW. Please note that the only well in the Allen Well Field that exceeded EPA drinking water standards was acontaminated with benzene which has not been detected at DDMT. Please contact the MLGW Public Affairs Office for more information on these wells.

Q. Has the Depot tested the soil in the surrounding community (Rozelle)?

A. No soil has been tested to date in the surrounding community. The next phase of field work will involve sampling in the surround community.

Q. Will the soil testing occur in the Ball Rd. area?

A. A monitoring well is planned for the Ball Road area. Soil samples will be collected from selected intervals of each well. In addition, several soil samples and surface water samples will be collected inside DDMT boundaries in an area directly adjacent to Ball Road.

Josephine Nelson  
 2326 Silver St.  
 mpls. In. 38106  
 Pinf. Munsen  
 Mazell Brown  
 2520 Sherrie St  
 Elora Brown  
 2520 Sherrie St

Michael Johnson  
 1835 Rozelle

Mordred Adams  
 1205 Atch

Boye Anderson  
 3446 Piney Woods 38118

Johnny Wilkerson  
 11636 Wilson 38109

Jessie & Gracie Massey  
 1834 Rozelles  
 mpls In. 38106

Bobbie Tunstall  
 1086 Charter Oak Dr.  
 mpls In. 38109

Sign-in Sheet  
 May 1993 meeting  
 at Corry Jr. High  
 "Mayors Meeting"

Maple Tuggle  
2364 Rozelle St  
38114

Iola Nichols  
1794 State Street  
Memphis Tenn 38114

Norothy A. Simmons  
2381 Bridgeport Dr.  
Memphis Tenn. 38114

Barbara J. Scott  
3954 Camelot Dr  
City 38118

Patricia B. Jacey  
2380 Bridgeport Dr.  
City 38114

Norothy B. Pass  
2323 Seward St 38106

Anni M Brewer  
2565 Fontaine Rd  
38106

PEGGY BROOKS  
1924 HAYS Rd  
38114

Reagenario McFarland  
418 Elora Rd 38106-7826

Jasper Fannie Jones  
2334 Rozelle  
Mpls Tenn 38114

Shuley L. Bradley  
1993 Perry Rd  
Memphis 38106

ARTHUR Bowles  
2409 Rozelle 38114  
Marion Hally  
2404 Bridgeport Dr.  
Mpls. Tenn. 38114

Archie Bradley  
1993 Perry Road  
Memphis 38106

Mr + Mrs Rosalind Esterline  
1508 Harlem  
Memphis, TN 38114

Jo Bridges  
2384 Victoria St  
38114



1) Mrs. GERTRUDE TABOR  
1827 ROZELLE ST  
MEMPHIS, TN 38106

2) Mrs. ANNETTE T. GARNER  
1827 ROZELLE ST  
MEMPHIS, TN 38106

3) Mrs. Mildred Richmond 1817 Rozelle

(4) Mr. Jessie Massey 1834 Rozelle

5) Mr Curtis Richmond - 1817 Rozelle

Beverly Oakes 100 E. McKellar  
Eunice Blakey 3507 Oakford.

Richard Littlejohn 77 H 0726

1793 S. Bon Radak AT 38114

Mrs. Jessie Wilkes 2522 Perry St. 38106

Frank Jones 1738 HAYS 38114

Frederic L. Hall

167 N. Main

U.S. Senator Hank Mathews

Memphis, TN. 38103

ANDRE DEAN

2366 Vesta Dr  
38114

Claudette & Charles White  
2501 Sherrie St.  
Memphis, TN. 38114

Jacqueline Richmond Adair  
2485 Joy Lane  
Mphs TN 38114

Mrs Beatrice M. Roberson  
1867 Wendy Dr 38114

Samuel E. Chambers  
2355 Manchester Rd 38114

Theoric Washington  
95 E. Trigg Ave. 38106

Geraldine C. Robinson  
1917 E. Person Ave. 38114

Shirley Johnson  
18811 Garnicade  
Memph. TN. 38114

Anne Mosley  
2053 So. Lauderdale  
Memph. TN 38106

Lydia Semmons  
11384 Mallory  
Memph. Tenn 38106

Sam Raman  
WMC-TV  
1966 Union Ave  
38103

Rolbert T. Reed  
2434 Bridgeport  
38114

Lucille Littlejohn  
1793 S. Bartok St  
at

Brigitte Catchip  
1844 Kingsnew Dr.  
Memphis, TN 38114

Jeremiah Hendricks  
1736 L A P A U M A  
Memphis TENN.

Bro. Branch White  
828 E. Dempster Ave. 38106  
Mphs, TN

Charles H. Jackson, Jr.  
2567 Bridgeport Drive  
Mphs., TN 38114

Lee E. Johnson  
1900 Gley Rd  
Memphis TN 38114  
Lamp Blakely  
29619 apardens cone  
Memphis TN. 38127

Pabbie Tunstall  
1080 Charter Oak Dr.  
Mphs TN. 38109

Billy Colman  
1438 Clementine  
Mphs TN 3806

Rosie J. Thigpen  
1974 Carbondale  
38114

Florence B. Bonner  
2427 Rozelle St.  
38114

Roosevelt Richmond  
1435 Centerville Rd  
38106

Marilyn Halfacre  
Lesla Halfacre  
1772 Kingsmen  
38114

St. Dean Parke  
1917 E. Persimmon Ave  
38114

Barbara J. Partee  
2424 Vista Dr.  
Mphs, TN. 38114

Verley Mitcham  
2428 Rozelle St  
Memphis Tenn 38114

Cornelia Lugo  
2392 Rozelle St.  
Memphis TN 38114

Clifford Stuckton  
2420 Sherris Cove  
Memphis, TN 38114

Walter EVANS  
2551 Bridgeport Dr.  
Memphis, TN 38114

Eliza Ruth Dillard  
1809 PATRICK  
Memphis, TN 38114

Larry J. Smith  
4819 Barfield Rd  
Memphis TN 38117  
685-5643

Mid South Peace & Justice Center

Maynard Jordan

1054 Monticello Dr - 721-7163

Hazel B. JOHNSON 1848 WENDY DR 38114

Mildred Knowlton  
1989 Gladney Drive, 38114

Moss Clark  
2461 Rozelle St

Mr. & Mrs. Kennel Venson Jr.  
1720 Kingsview Drive 38114

Alma Henderson  
5299 Bradcliff  
Memphis, TN 38109

Derice Allison  
3483 Southland  
38109

Nera Bledsoe Smith  
1240 Manchester Rd  
38114

Barbara J. Wooden  
4874 Neely Rd.  
38109

Charles F. Pinkston  
2434 Vista Dr 38114

Cora L. Johnson  
1835 Rozelle  
38106

Mary Ann Coleman  
1425 Clementine Rd  
38106

Mary A. Johnson  
1835 Rozelle  
38106

Bernice Byers  
5308 Santa Monica #2  
38116

P. Wayne Canby  
P.O. Box 80026  
Mem TN 38108

Fannie E. Dennie  
5308 Santa Monica #2  
38116

GREG Parker  
Mphs / Shelby Co. Health Dept  
814 Jefferson Ave  
Mphs, TN 38105

JARVIS T. DENNIE  
5308 Santa Monica #2  
38116

Donna D. Shipp  
3454 Camelot Ln #1  
38117

Geraldine Strickland  
2350 Rozelle St.  
Memphis, Tenn. 38114

Mrs Ora mal Newson  
1840 Patrick 38114

Lee C Parson 1811 Ball St.  
Sylvia Richmond 1817 Rozelle St

Manix Chamber 1273 Gill 38106

MARVA Dunn  
3170 Winchester # 3 38118

Ophelia Muse  
1908 Pomona 38116

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