



**REPORT OF THE
COMPTROLLER GENERAL
OF THE UNITED STATES**

**Use Of Dogs In Experiments At
Edgewood Arsenal, Maryland**

Department of the Army



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-157334

The Honorable Les Aspin
House of Representatives

Dear Mr. Aspin:

Your letter of July 15, 1975, requested us to investigate the Army's compliance with section 703 of Public Law 93-365 dated August 5, 1974, which prohibited the use of dogs for research and development of chemical or biological weapons. (See app. I.) Specifically, you asked us to investigate all experiments which have taken place since the passage of the law, inspect experiments currently underway, and study future experiments to determine whether the provisions of section 703 are being adhered to.

Section 703 states:

"Notwithstanding any other provision of law, no funds authorized to be appropriated pursuant to this Act may be used for research, testing, and/or evaluation of poisonous gases, radioactive materials, poisonous chemicals, or biological or chemical warfare agents upon dogs for the purpose of developing biological or chemical weapons."

As noted in your letter, the Department of Defense said it would adhere to these restrictions even after their expiration on June 30, 1975.

The Senate and House conferees in their report on Public Law 93-365 stated that they did not support the use of dogs for research in chemical and biological agents whose only purpose is to destroy life. The conferees believed it essential, however, that research to improve and save lives of either man or animal be continued. The conferees agreed that certain research should be conducted that would benefit the health and safety of man. The language as agreed to by the conferees was intended to prohibit the use of dogs in research for the purpose of developing biological or chemical weapons. However, it did not prohibit research on dogs for other purposes, such as establishing immunologic levels, occupational safety hazard levels, and other vital medical research designed to improve and save lives.

In our opinion, the Army complied with the legal restrictions imposed on it for fiscal year 1975, and if the Army's current research continues as planned, we believe that compliance with these restrictions will continue.

In discussing this assignment, your office indicated a general concern about the humane treatment of the dogs housed at Edgewood Arsenal and the lack of inspections of Federal research facilities by the Department of Agriculture as part of its responsibilities under the Laboratory Animal Welfare Act. At the Army's request, the Department of Agriculture inspected the animal facilities at Edgewood Arsenal and found the animals were receiving above average care and treatment. Dogs being exposed to toxic materials in exposure chambers were being well cared for during the experiment. The problems encountered by the Department of Agriculture were related to the facilities in which the animals were housed. (See p. 6.) At the time of our visit, the dogs appeared to be in good condition, but we believe that the facilities should be improved.

Even though the Animal Welfare Act does not now require it, we believe that the treatment of animals in Federal research facilities might be improved if the Department of Agriculture is authorized to make inspections. Legislation would be required.

USE OF DOGS BY BIOMEDICAL LABORATORY,
EDGEWOOD ARSENAL

According to the Army, its experiments involving dogs to test detoxification of chemical munitions and experiments on new nonlethal riot gases, mentioned in your letter, were being conducted only at the Army Biomedical Laboratory, Edgewood Arsenal, Maryland. Edgewood Arsenal is an element of the Army Materiel Command.

Dogs are used by the Biomedical Laboratory in different studies, such as chronic studies involving low-level dosages of substances administered over a period of several months and acute studies involving dosages that produce effects within 24 hours. Such substances are administered in various ways--intravenously, by inhalation, or directly to the skin.

The Laboratory normally uses only one breed of dog--beagles--because extensive technical data is available on the beagle, and various test results from studies, such as

cardiovascular and respiratory studies, can be projected for humans.

Dogs are issued to researchers by the Laboratory's Veterinary Medicine Division. These animals may then be used for more than one experiment and in more than one fiscal year. No dog is ever released to be used for other purposes; all dogs are eventually sacrificed to evaluate the pathological effects of the chemicals administered. The Veterinary Medicine Division has information readily available on the number of dogs issued during the year, but not for the number of times a dog is used during any given year. At the time of our visit, September 8-11, 1975, 170 dogs were being used in experiments.

We reviewed pertinent documents on the projects involving dogs performed by the Biomedical Laboratory in fiscal year 1975, those presently being performed, and those planned for future years.

Fiscal year 1975 projects

In fiscal year 1975 dogs were issued for three research projects.

<u>Project</u>	<u>Number of dogs</u>
Prophylaxis and therapy for incapacitating agents (note a)	2
Prophylaxis and therapy for lethal agents	50
Parathion safety studies	<u>72</u>
Total	<u>124</u>

a/See appendix II for a glossary of terms.

The first project, prophylaxis and therapy for incapacitating agents, involves the discovery and evaluation of drugs, methods, and equipment required for prevention and treatment of poisoning caused by incapacitating and riot control agents.

The second project is a "search for drugs and other means to achieve prophylaxis against or treatment for poisoning by lethal chemical agents and to devise the most effective ways of applying them."

The third project, being done at the request of the National Institute of Occupational Safety and Health, assesses the effects of oral and inhalation exposures to parathion, a pesticide. The results are to be used to determine toxic effects in man and to establish safe levels of exposure to parathion for workers and the general population.

Fiscal year 1976 projects

In fiscal year 1976 two projects involve the use of dogs. One is a continuation of a prior project--the study developing prophylaxis and therapy for lethal agents. As of November 6, 1975, 40 dogs had been issued for this project and another 300 dogs were planned to be issued.

The second project, toxicology of chemical agents, was issued 202 dogs in fiscal year 1974, none in 1975, and is to receive 96 in fiscal year 1976. The project was begun in 1970. Army documents stated that the objectives were to assess the lethal or incapacitating effects of chemical compounds and select the most promising as potential filling for chemical munitions systems and to determine toxicity of military chemicals which might pose a hazard to military personnel using such chemicals.

In recent years the Army has described the project's objectives as being to assess the lethal and incapacitating effects of compounds and to select the most promising for intensive study. Other biological and medical effects are evaluated as necessary.

According to the Army researcher responsible for this project, the use of dogs has been restricted to technological studies of the toxicity of chemical compounds of binary munitions to determine the hazards to personnel using such chemicals. The project is directed toward satisfying occupational safety limits for personnel working in laboratories, field tests, handling, and transporting of chemical substances. The tests include evaluations of mutagenic or teratologic effects.

Army documentation states that data from the studies will be used to determine airborne concentration levels which in turn will be used to establish human health hazards. The experiments have been designed to provide animal (including dogs) data which can be extrapolated to man.

This particular research project supports the binary munitions program but is oriented toward the health hazard

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evaluation of chemical compounds. The Senate and House Conference Report for Public Law 93-365 said that the intent of the law was not to prohibit research on dogs for such purposes as establishing occupational safety levels. Therefore, as long as the research on dogs is for the purpose of evaluating the health hazard of chemical compounds to insure safe working conditions for personnel handling the compounds, we believe that the Army is complying with the intent of the law for this particular project.

Future use of dogs

The research tasks currently underway are scheduled to continue using dogs for the next 3 to 4 years, with the exception of the parathion study, which is to be completed by June 30, 1976.

In June 1975 the Army projected that it would require another 20 dogs for an in-house research project to develop therapeutic means of detoxifying certain organophosphorus compounds. The Army planned to use dogs as test animals, because dogs are similar to human beings in that neither dogs nor humans are able to detoxify these organophosphorus compounds in their bodies. This project has been deferred but is to be reprogramed at a future date.

Facilities and care of dogs

The Laboratory Animal Welfare Act of 1966, Public Law 89-544, as amended by the Animal Welfare Act of 1970, Public Law 91-579, empowers the Secretary of Agriculture to establish standards to govern the humane handling, care, treatment, and transportation of animals by dealers, research facilities, and exhibitors. Although Federal agencies are required by law to comply with the standards issued under the act, the Department of Agriculture has determined that it does not have regulatory jurisdiction over Federal laboratory animal facilities. However, it will inspect such facilities if an official written request is received.

We considered whether the Department of Agriculture is required to inspect the facilities of Federal agencies conducting research on animals. In our opinion, the requirements of the act pertaining to inspections do not apply to Federal research facilities.

In response to a written request from the Office of the Army Surgeon General, the Animal and Plant Health Inspection Service of the Department of Agriculture inspected the facilities and dogs at Edgewood Arsenal.

In its August 20, 1975, report, the Animal and Plant Health Inspection Service concluded that the animals were receiving at least above average care and treatment and the Army's sanitation procedures exceeded minimum standards. However, the report stated that the structural design and construction of the buildings prevented adequate control of rodents and other pests, both in the animal rooms and in the feed storage areas. In addition, some of the facilities had inadequate ventilation. This report also stated that satisfactory sanitation cannot be accomplished in all rooms and buildings due to the inadequate facilities.

The report stated that sufficient renovation could be done to comply with Department of Agriculture minimum standards for animal facilities, but to achieve a long-term solution, new facilities would be necessary. Several requests for new animal facilities have been made since 1963 by Edgewood Arsenal. Up until fiscal year 1976, the requests have been turned down by either higher Army commands or the Congress. The Congress appropriated \$7 million for a new research animal isolation facility in fiscal year 1976.

One of the main concerns expressed in the inspection report was the use of grating for floors in the pens. (See exhibit A.) Although the inspectors could find no evidence that this type of flooring was harming the dogs' feet, they expressed the hope that the grating could be replaced. In response to this inspection, the Army stated that it had requisitioned new grating of a different style to satisfy the inspectors.

Our observations at Edgewood Arsenal

In response to your concern about the humane treatment of the dogs, we are providing you with our observations from a layman's point of view on the facilities and condition of the dogs at the Biomedical Laboratory. The facilities used for housing the dogs consisted of four buildings, one of which is being renovated. When the new animal facility requested by the Army is completed, two of the four buildings are to be demolished (see exhibits B and C) and one building will be reassigned to the Aberdeen Proving Grounds. None of these buildings appeared to us to be entirely satisfactory for housing animals.

The cages and pens ranged in size from a rather small, plastic and metal cage for a single dog to large pens for

several dogs. The cages were used in the quarantine period of about 7 days. These cages in some cases appeared to be too small for the dog. (See exhibit D.) The larger pens held four dogs, and the smaller pens held one or two dogs. (See exhibits E and F.) The size of the pens seemed to be adequate.

The dogs appeared to be in good condition; i.e., none of them were lying listlessly in the pens. (See exhibit G.) Almost all of the dogs were active and only a few dogs were timid.

The dogs we observed were involved in various experiments (see exhibit H); however, there were no dogs in the test chambers at the time of our visit. (See exhibit I.)

USE OF DOGS BY THE U.S. ARMY
ENVIRONMENTAL HYGIENE AGENCY

Dogs are also used by the U.S. Army Environmental Hygiene Agency located at the Edgewood area of the Aberdeen Proving Grounds. The dogs used by the Agency are procured by the Biomedical Laboratory at Edgewood Arsenal. The work at the Agency does not fall within the scope of section 703 of Public Law 93-365, because it is not in the area of chemical and biological warfare.

The Agency's mission is to support worldwide health and environmental programs of the Army and other Federal agencies. A recent example of the Agency's use of dogs was in experiments designed for toxicological evaluations of insect repellent compounds proposed for use and standardization by the Army. The number of dogs received for each fiscal year follows.

<u>Fiscal year</u>	<u>Number of dogs</u>
1974	64
1975	0
1976	a/16

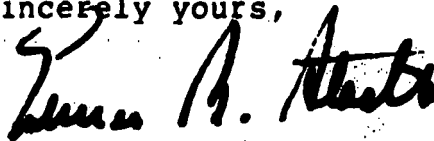
a/The Environmental Hygiene Agency will receive a total of 30 dogs during fiscal year 1976.

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We did not obtain formal comments on the matters discussed in this report. We did, however, informally discuss the factual content with Army officials at Edgewood Arsenal.

In view of their concerns regarding the matters discussed in this report, we believe it should be made available to the agencies and other interested parties. Therefore, we will be in touch with your office in the near future to discuss distribution.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Loren A. Atch".

Comptroller General
of the United States

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Congress of the United States
House of Representatives
Washington, D.C. 20515

July 15, 1975

Elmer B. Staats
Comptroller General of the U.S.
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C.

Dear Mr. Staats:

I am writing to you today to request that the General Accounting Office investigate the Army's compliance with section 703 of Public Law 93-365 which prohibits the use of dogs for research and development of any new chemical and biological weapon.

Section 703 of Public Law 93-365 states "notwithstanding any other provision of law, no funds authorized to be appropriated pursuant to this act may be used for materials, poisonous chemicals, or biological chemical warfare agents on dogs for the purpose of developing biological or chemical weapons."

On June 24th, 1975 Dr. Malcolm R. Currie, Director of Defense Research and Engineering wrote to the Chairmen of the House and Senate Armed Services Committee indicating that even after the expiration of P.L. 93-365 on June 30th, 1975, "DOD will, of course, adhere to the restrictions," contained in Section 703.

At present, the Army is conducting another series of experiments involving dogs to test the methods to detoxify chemical munitions and some experiments on new non-lethal riot gases. I believe that an independent inquiry into the Army's claims of conformity with the law is needed.

Recently, officials of the Humane Society visited the Edgewood Arsenal to inspect conditions. They were barred from viewing any of the experiments being conducted by the

Elmer B. Staats

July 15, 1975

Department of the Army.

I hope that your staff can investigate all of the experiments which have taken place on dogs since the passage of Public Law 93-365, inspect experiments currently under way, and study future experiments to determine whether the provisions of Section 703 are being adhered to or not.

My staff would be happy to meet with your staff at their earliest convenience to discuss this matter.

Thank you very much for your cooperation.

Sincerely,



Les Aspin
Member of Congress

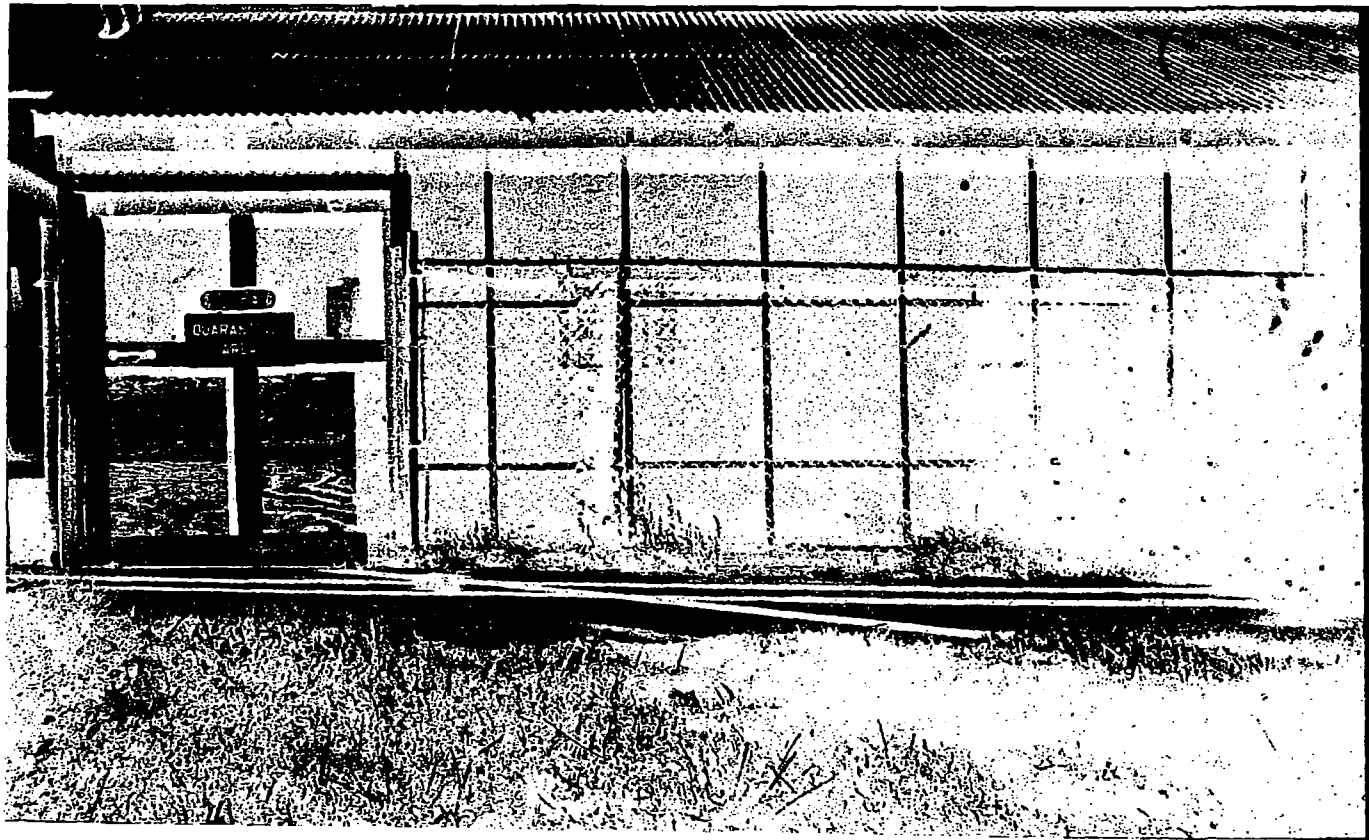
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GLOSSARY

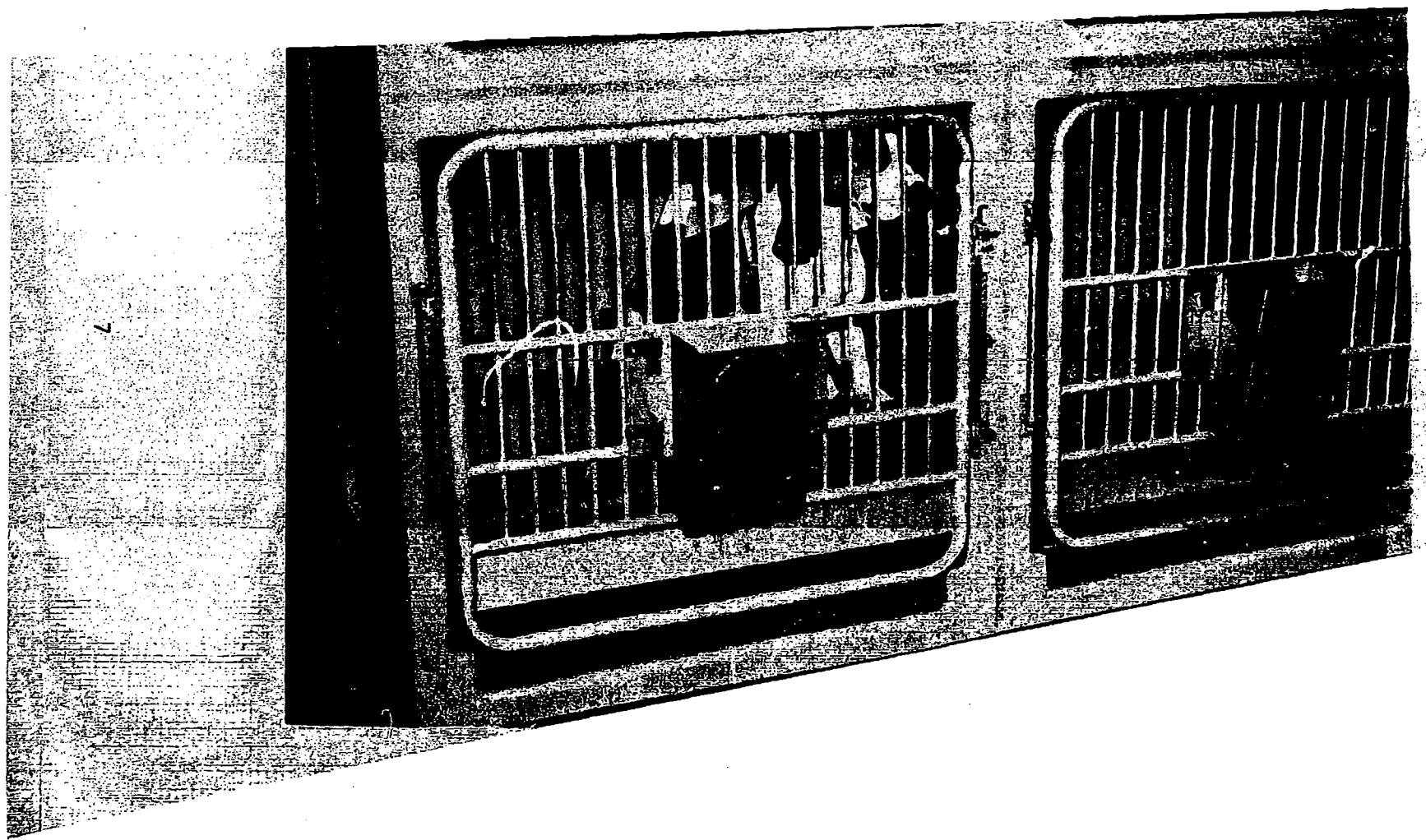
Detoxify	To remove a poison or toxin.
Mutagenic	Relating to a relatively permanent change in hereditary material.
Organophosphorus	Relating to or being a phosphorus-containing organic pesticide (such as parathion).
Prophylaxis	Measures designed to preserve health and to prevent the spread of disease.
Teratologic	Relating to developmental malformations and monstrosities.
Therapeutic	Of or relating to the treatment of disease or disorders by remedial agents or methods.
Toxicology	A science that deals with poisons and their effect and with the problems involved.

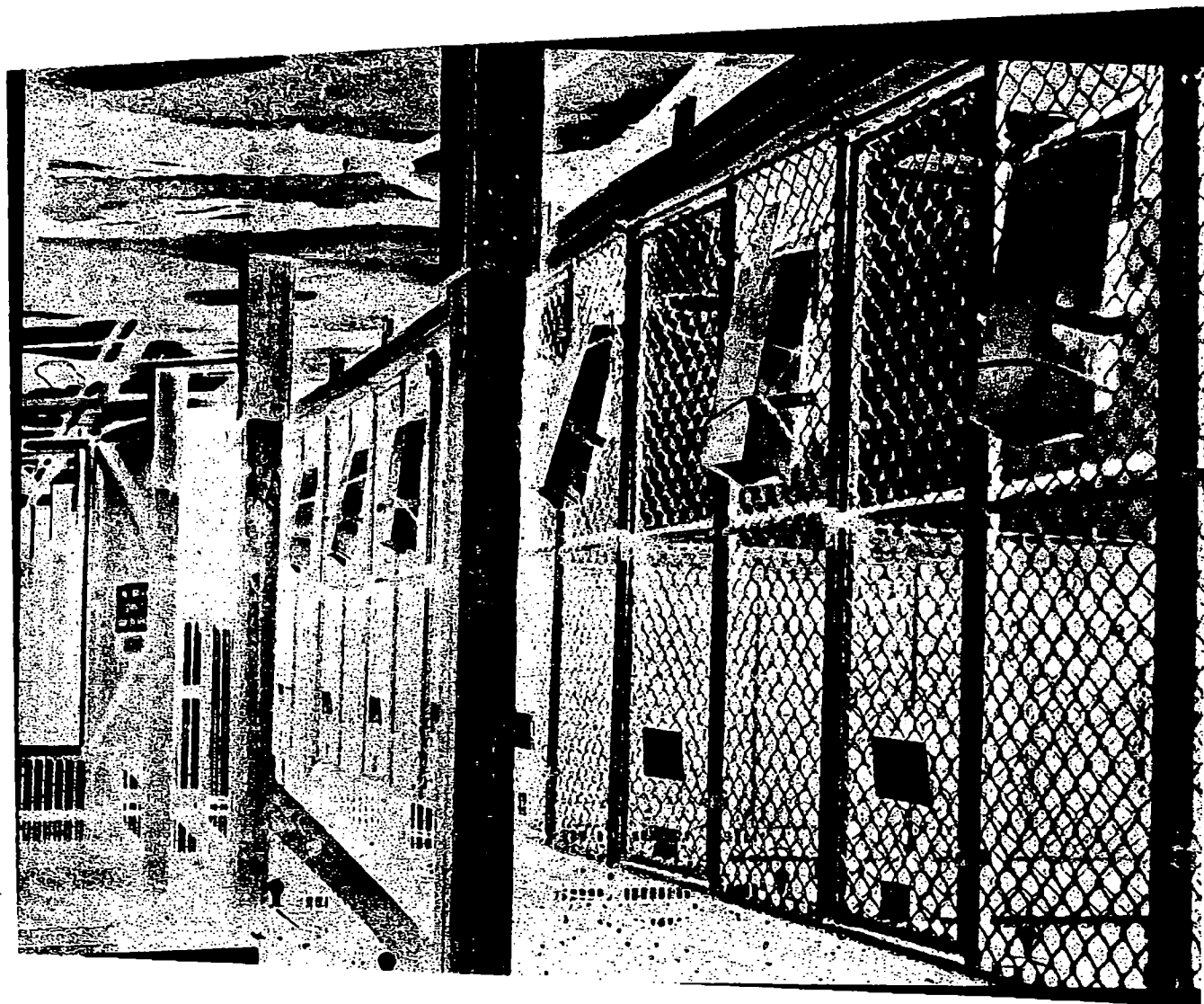
**METAL FLOOR GRATING
ALL PHOTOGRAPHS WERE FURNISHED BY
EDGEWOOD ARSENAL**

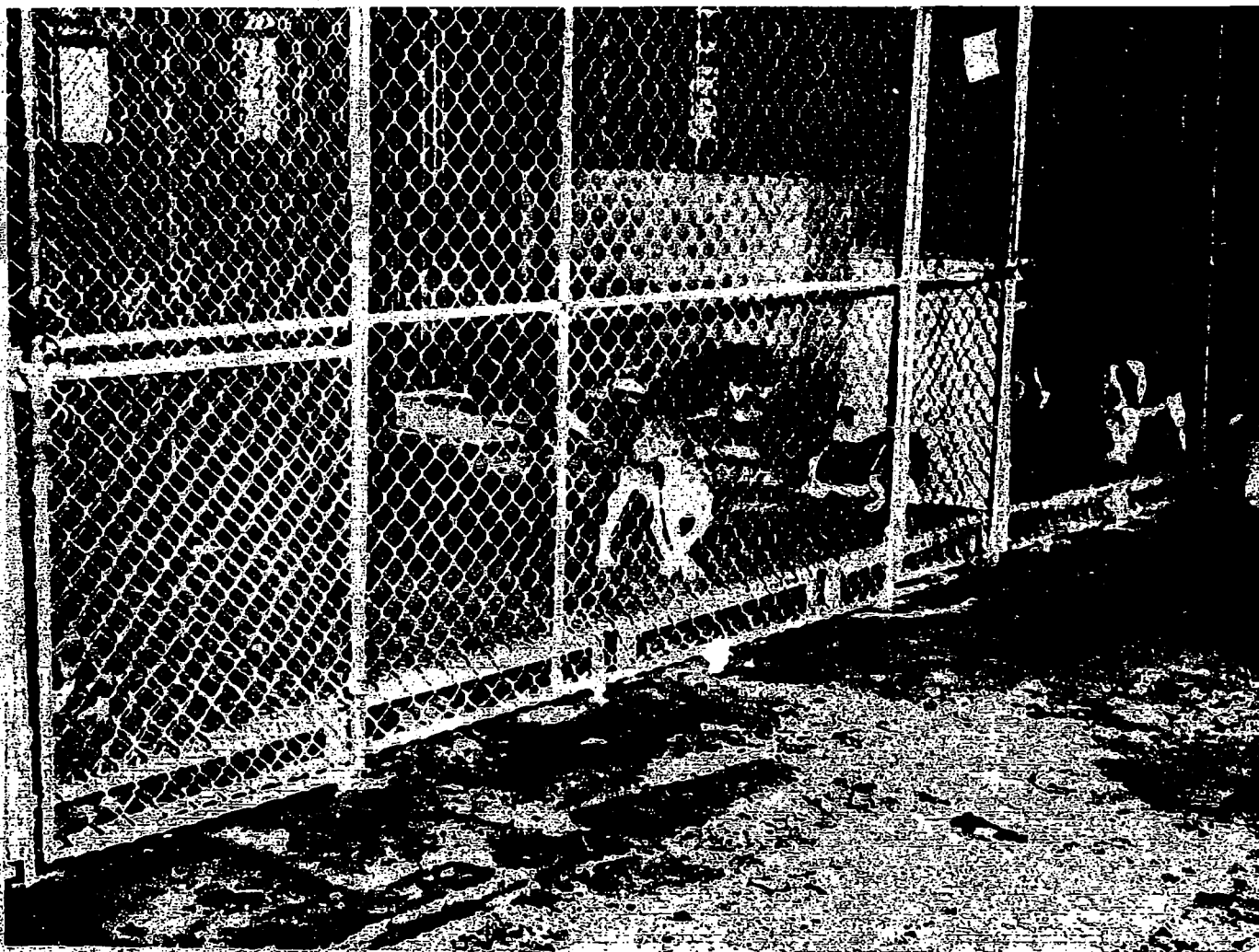
XHIBIT A



6







LARGER HOLDING PENS IN
BUILDING NO. 5428

EXHIBIT F

EXHIBIT F



EXHIBIT G

EXHIBIT G

A TYPICAL TEST ANIMAL

