

**Targeted Brownfields Assessment
Oklahoma Army National Guard
Atoka Armory (Readiness Center)
Atoka, Oklahoma**

**ASTM E 1527-05
Phase I Environmental Site Assessment
All Appropriate Inquiry**

February 5, 2007

Prepared by:

**Oklahoma Department of Environmental Quality
Land Protection Division
707 N. Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677
(405) 702-5100**

Prepared for:

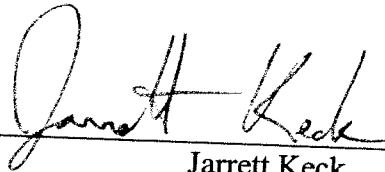
The City of Atoka
P.O. Box 900
Atoka, Oklahoma 74525

Prepared by:

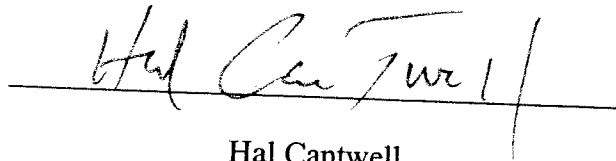
Oklahoma Department of Environmental Quality
Land Protection Division
707 N. Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

I declare that to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of this part. I have specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

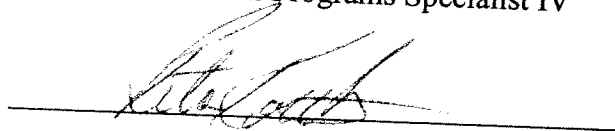
Environmental Professionals in charge of the project:



Jarrett Keck
Environmental Programs Specialist II



Hal Cantwell
Environmental Programs Specialist IV



Rita Kottke, PhD
Environmental Programs Manager

Background and Disclaimer: The purpose of an environmental site assessment is to identify actual or potential “recognized environmental conditions” that may result in liability or land use restrictions. The ASTM Phase I Environmental Site Assessment E 1527 – 05 is the minimum standard for environmental due diligence in the commercial real estate industry and currently meets the standard for All Appropriate Inquiry under the Small Business Liability Relief and Brownfields Revitalization Act of 2002. A diligent effort in accordance with generally accepted good commercial and customary standards and practices was undertaken to identify the “recognized environmental conditions” that might affect the redevelopment project. However, the identification of old hazardous waste sites is an evolving process; therefore, DEQ cannot state with absolute certainty that no other hazards are located in the area. In no event shall the DEQ or its employees be liable for any damages, injury, loss, cost or expense whatsoever arising in connection with the use or reliance on the information contained in this report, except as otherwise provided by law.

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1.0 Executive Summary

This Phase I Targeted Brownfield Assessment of the Atoka Readiness Center was performed in accordance with the ASTM E 1527-05, a guide for conducting Environmental Site Assessments. Jarrett Keck performed the site reconnaissance on January 9, 2007.

The site is located in the Northeast 1/4 of the Southeast 1/4 Section 9, Township 2 South, Range 11E, in Atoka County, Oklahoma. The site is located at 1002 West Liberty Road in Atoka, Oklahoma. The main entrance is located at latitude 34° 23' 37.49", longitude -96° 8' 46.75".

A cursory summary of findings is provided below. However, details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- An indoor firing range (IFR) and associated dust residue is assumed to have lead contamination based on past sampling of the IFR indicating elevated lead concentrations are present in the building. Lead dust may also have contaminated adjacent rooms and vents.
- Mercury may be present in thermostats, lighting, and other equipment in the facility. Mercury containing equipment can be used safely when it is in good working order. The equipment in the armory appeared to be in good condition during the site visit
- The original paint on in the armory remains in most areas of the building and has began chipping in some areas. Due to the timeframe the building was constructed, lead based paint may have been used.
- Soils below the windows may have been contaminated with lead based paint chips.
- While the facility was built in 1982, surplus Asbestos containing materials (ACM) purchased prior to 1978 may have been used during the construction of the facility. ACM is typically used in heating equipment, insulation, ceiling tiles, roofing materials, and flooring
- Polychlorinated Biphenyls (PCBS) may be present in electric equipment such as ballasts, transformers, and capacitors purchased prior to 1978. The facility was built in 1982. Surplus electrical equipment containing PCB's may have been installed in the facility. According to City representatives, the electrical equipment in the armory has been inspected by an electrician and is currently in good condition.
- One 5,000-gallon underground storage tank (UST) formerly used to contain gasoline is located on the premises of the armory. In 1989 the tank was filled with mud and closed in place under Oklahoma Corporation Commission (OCC) jurisdiction.

Recommendations

Based on the findings of this assessment, The DEQ recommends that additional investigation be conducted to evaluate areas of the property that may need future clean up and remediation.

- The indoor firing range (IFR), IFR floor drain, and adjacent interior areas need additional evaluation and remediation of the lead contamination
- While the facility was built in 1982, surplus Asbestos containing materials (ACM) may have been used during the construction of the facility. The heating equipment, insulation, surfacing materials and flooring should be evaluated for asbestos.
- Because surplus electrical equipment containing PCB's may have been installed in the facility.
- The original paint used in the building as well as soils around exterior painted areas should to be tested for lead.

2.0 Introduction

The State of Oklahoma Department of Environmental Quality (DEQ) under a Brownfield Assistance Agreement (No. VC98677601) (Ref. 1) with the U.S. Environmental Protection Agency (EPA) conducted a Targeted Brownfield Assessment of the Atoka Readiness Center.

2.1 Purpose

The purpose of this assessment is to look at the environmental conditions within the target area and provide this information to the City of Atoka to assist in its redevelopment planning as well as meet the All Appropriate Inquiry requirement of the landowner liability protections under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA, better known as Superfund – Ref. 2), as provided in the Small Business Liability Relief and Brownfields Revitalization Act of 2002 (Public Law 107-118, Subtitle B – Ref. 3). The purpose of a Phase I Environmental Site Assessment is to identify, to the extent feasible, recognized environmental conditions in connection with the target property through a systematic review of readily available information sources and a site reconnaissance.

The DEQ is providing technical assistance to the project by evaluating the environmental condition of the property prior to the City acquiring the property. Funding for this assessment has been provided by the U.S. Environmental Protection Agency (EPA).

2.2 *Detailed Scope-of-Services*

The DEQ examined the current use of the property and then identified the historical uses of the property to determine if recognized environmental conditions exist. The DEQ examined historical documents, governmental databases, deed records, aerial photographs, governmental environmental files, Sanborn Fire Insurance Maps, conducted interviews with past unit members, and a site reconnaissance of the area. A good faith effort was made to identify possible environmental conditions that might affect the development of the property.

2.3 *Significant Assumptions*

Significant assumptions and past studies of the Oklahoma Army National Guard Armories/Readiness centers suggest there is a possibility of lead and asbestos contamination at the Atoka Readiness Center. Most of the State armories, such as the Atoka Readiness Center, have indoor firing ranges. These ranges usually contain concentrations of lead from past target shooting activities. Since surplus equipment and materials were often used in new construction, there is a high potential of finding Polychlorinated Biphenyl's (PCB's), and Asbestos Containing Materials (ACMs) in the electrical equipment and building materials if purchased before 1978. The U.S. began banning the use of asbestos and PCB's in most building products in 1978. ACMs may be found in the insulation wrapping of the heating pipes and/or heaters and nine-inch floor tiles, which may have been installed during the time the Atoka Readiness Center was built. PCBs are commonly found in electrical transformers and ballasts. Mercury containing thermostats, and switches, are commonly found in building process equipment and may be present in the armory.

The Oklahoma Military Department verbally informed the DEQ that a significant asbestos abatement of the pipe was conducted in the 1990s, but that asbestos remains on the elbow joints. Visual inspection by the DEQ of the Atoka Armory indicated that ACM may still be present in the building.

2.4 *Limitations and Exceptions*

The purpose of an environmental site assessment is to identify actual or potential "recognized environmental conditions" that may result in liability, land use restrictions, or cause delays in redevelopment. The ASTM Phase I Environmental Site Assessment E 1527 - 05 (Ref. 4) is the minimum standard for environmental due diligence in the commercial real estate industry and meets the standard for All Appropriate Inquiry under the Small Business Liability Relief and Brownfields Revitalization Act of 2002. A diligent effort in accordance with generally accepted good commercial and customary standards and practices was undertaken to identify the "recognized environmental conditions" that might affect the redevelopment project. However, the identification of old hazardous waste sites is an evolving process; therefore, DEQ cannot state with absolute certainty that no other potential hazardous waste sites are located in the area. This

assessment was conducted under constraints of time, cost, and scope and reflects a limited investigation and evaluation. It reflects the normal degree of care and skill that is ordinarily exercised by environmental professionals conducting business in this or similar localities. In no event shall the DEQ or its employees be liable for any damages, injury, loss, cost or expense whatsoever arising in connection with the use or reliance on the information contained in this report, except as otherwise provided by law.

The information in this report is based on a review of governmental records, interviews with knowledgeable residents in the community, information provided by the City of Atoka, the Oklahoma Military Department and observations of the environmental professional. The result of this assessment, as written in this report, is valid as of the date of report. The assessment does not include sampling of soil, rock, groundwater, surface water, or air.

2.5 Special Terms and Conditions

This assessment report has been prepared for the City of Atoka by the DEQ using EPA funding. Information about this report will be provided to the EPA for its files. This report and the working file are public record and subject to the Oklahoma Open Records Act and the Federal Freedom of Information Act.

3.0 Site Description

3.1 Location and Legal Description

The site is located in the Northeast 1/4 of the Southeast 1/4 Section 9, Township 2 South, Range 11 East, in Atoka County, Oklahoma. The site is located at 1002 West Liberty Road in Atoka, Oklahoma. The main entrance is located at latitude 34° 23' 37.49", longitude -96° 8' 46.75". The property consists of 10.6 acres of land.

3.2 Site and Vicinity General Characteristics

Environmental Setting

The general topography of the area is shown in Figure 1 of Appendix C. The readiness center property is generally flat. A small pond located on the property contains surface water runoff from the property and drains north into Muddy Boggy Creek. Gently rolling hills surround the property. Adjacent properties to the north are the Oklahoma Department of Transportation Maintenance Facility and the Atoka airport. To the northwest is the Kiamichi Technology Center and Atoka Lake. Immediately west is open ranch land. To the south is the Oklahoma Department of Human Services building. Further south is open ranch land. To the immediate east is a funeral home. Further east and southeast is a mix of residential housing and open land.

Atoka County is in the southeastern part of Oklahoma. It is bounded on the north by Pittsburg County, on the south by Choctaw and Bryan Counties and on the west by

Johnston and Coal Counties. It has an area of about 992 square miles. Atoka is the county seat.

Atoka County is hot in summer but cool in winter when an occasional surge of cold air causes a sharp drop in otherwise mild temperatures. Rainfall is uniformly distributed through the year, reaching a slight peak in spring. Snowfalls are infrequent. In winter the average temperature is 43 degrees Fahrenheit (F) and the average daily minimum is 31 degrees F. In summer, the average temperature is 80 degrees F and the average daily maximum is 92 degrees.

Groundwater

The subject property overlies the Atoka formation consisting of dark gray shale and buff to white fine to coarse grained sandstone with some chert conglomerate sandstone. The total thickness of the formation is approximately 800 to 3000 feet (ft.). This formation is of the Middle Pennsylvanian series of the Pennsylvanian Age (Ref. 6).

The shale/sandstone formation underlying the property has low permeability which yields one or two gallons per minute making in suitable for minimal domestic use only (Ref. 6).

Chemical quality of water underlying the subject property can vary from fair to poor. The presence of an undesirable constituent or excessive hardness may make the water unsuitable for some purposes (Ref. 6).

Soils

The Parsons silt loam is the general soil located at the subject property. These soils are deep, somewhat poorly drained, nearly level soils on uplands in prairie areas. Slopes are broad and smooth with a few mounds that are 1 to 3 feet high and 10 to 20 feet wide (Ref. 5).

Typically the surface layer is a very dark grayish brown silt loam about 8 inches thick. The subsurface layer is mottled, grayish brown silt loam about 6 inches thick. The upper part of the subsoil, to a depth of about 32 inches, is dark gray clay with red and strong brown mottles. The middle part of the subsoil, to a depth of about 54 inches, is grayish brown clay with red and strong brown mottles. The lower part of the subsoil is coarsely mottled gray and strong brown clay that extends to a depth of about 74 inches (Ref. 5).

The surface layer is strongly acid to slightly acid. Permeability is very slow, and available water capacity is high. A water table is at a depth of ½ foot to 1-½ feet during winter and spring.

The erosion hazard is slight. High shrink-swell potential, wetness, and low strength are the main limitations for urban use. These limitations can be overcome by special design for foundations or septic tank fields. Very slow permeability is the main limitation for septic tank absorption fields. Sewage lagoons can be used.

Air

The prevailing wind is from the south. Average wind speed is highest, at 13 miles per hour, in March (Ref. 5). During the January 9, 2007 site visit, no odors were observed (Ref. 7). Based on a report provided by the military department (Appendix F), Lead dust residue is assumed to be present in the IFR and may have affected adjacent rooms in the armory. An exhaust vent is located in the east ceiling of the IFR and exits outside to the roof. Based on information from a Oklahoma National Guard Representative, the vent was shut when the IFR ceased operation in the mid 1990's. The IFR and adjacent rooms should be evaluated for lead dust contamination. Due to the age of the building, friable ACM may be present. The heating unit and associated ducting/piping insulation, roofing, and flooring should be evaluated for asbestos.

Surface water

Atoka County is mainly in the Ouachita Mountains and Southern Coastal Plains physiographic regions. Topographic differences in the county range from the level flood plains of the Muddy Boggy and Clear Boggy Creeks, to the steep mountainous areas of the Pine and Jackfork Mountains in the northern part of the county. The general slope in the county is toward the south and east. All drainage in the county ultimately flows into the Red River.

The average elevation is approximately 870 feet above sea level. Pine Mountain at the northern part of the county reaches a height of 1,280 feet. The lowest point in the county is about 460 feet above sea level along Muddy Boggy Creek at the southern boundary

The city of Atoka obtains drinking water from a surface water intake located at Atoka Lake approximately four miles north of the city (Ref. 7).

Of the total annual precipitation, 25 inches, or 61 percent, usually falls between April and September. Average snowfall is 3 inches (Ref. 5).

Tornadoes and severe thunderstorms occur occasionally. These storms are local and of short duration, and the pattern of damage is variable and spotty (Ref. 5).

Surface water runoff at the property flows into a small pond located west of the facility which then drains via drainage ditches and culverts under Highway 75 to the north and east into Muddy Boggy Creek where it then flows south into the Red River.

During the site reconnaissance, a representative from the Oklahoma National Guard, Sergeant Major Michael Scott, indicated military personnel vehicle washing occurred at the readiness center from its construction in the late 1970's to the early 1990's when this activity ceased. No indication of remaining spills or surface contamination such as staining or stressed vegetation was observed during the site visit

Based on visual observation of the Site, there are no surface water issues impacted by or affecting the Site.

Utilities

Utility information was obtained from the Oklahoma Corporation Commission Utility Directory. Natural gas is supplied by Center Point Energy and electricity is supplied by Public Service Organization. Telephone service is supplied by AT&T (Ref. 9). The city supplies the water and sanitary sewer for the property (Ref. 7). All electric utility transformers on or around the property are labeled "Non PCB" containing. Underground gas and electric lines are located on the north and east sides of the property. Water and sewer lines are located along the east side of the property.

Underground features

A 5,000-gallon underground storage tank (UST), used to store gasoline, is located on the property. There is no indication the tank leaked. The tank was filled with mud and closed in place under Oklahoma Corporation Commission jurisdiction in 1989. Underground utility lines run along the north and east perimeter of the facility. No evidence of oil or gas exploration or production was observed during the site visit. No oil or gas leases associated with the property were found during the property record search. Floor drains are located in the facility restrooms, kitchen, vault room, and indoor firing range. Wastewater from the readiness center is directed to the City sanitary sewer system. The vault room drain was used to drain condensation from a dehumidifier. The dehumidifier was removed from the vault room by the National Guard. The indoor firing range drain also leads into the city sanitary sewer. According to an interview with the Oklahoma National Guard representative, Sergeant Major Michael Scott, the drain was never used. According to representatives from the City and the National Guard, no septic tanks or cisterns were used at this property. No evidence of septic tanks or cisterns was observed during the site visit. An open four-inch pipe is located in the grass southeast of the drill floor. The pipe was used as a sewer vent pipe but is now sheared off to ground level. Open electrical conduit pipes are found east of the kitchen area outside the facility adjacent to a transformer box. The remains of a gasoline pump island are located near the closed UST on the northwest side of the vehicle compound. The piping and electrical conduits are capped. An in-ground valve box is located in the southeast area of the vehicle compound area. Two valves in the box control the water supply to two spigots near the fence line. The valves are in the closed position (Ref. 7). The open pipe and transformer conduit should be capped or plugged to prevent any potential migration of contaminants.

Structures

In 1982, the Atoka Armory building is constructed of concrete, brick, and steel. The northwest side of the building is used for the Atoka Emergency Management center. Currently, the Atoka police department is in the process of converting rooms on the north and northwest sides of the facility into office space. Additionally, the former dining room and training room are currently being converted to courtroom space. New carpet and paint have been installed as part of the renovation. Missing and damaged ceiling tiles have been replaced by the City with Styrofoam tiles. A few tiles from a second, older layer of ceiling panels above the existing ceiling tiles was observed in the room opposite

the dining room described as the “commo” room.. The original, central heating systems are located on the center northeast and northwest maintenance rooms. Asbestos insulation is suspected to be present in these areas. A central air conditioning unit is located on the roof. The supply room in the center west part of the building and the drill floor area are vacant. Some National Guard property remains in these rooms such as desks and chairs. The kitchen is located in the center west part of the building. Stoves and other kitchen equipment remain in this area. The indoor firing range (IFR) located at the south end of the facility is kept locked at all times. Miscellaneous National Guard equipment such as fire extinguishers desks, a can of roofing cement, and a “sand board” (used to plan military operations) remains in this room. The IFR is vented through a ceiling vent which exhausts to the roof. A vehicle compound is located west of the facility and is enclosed with a gated and locked, six-foot high chain link fence topped with barbed wire. A metal storage bin formerly used by the National Guard to store small parts and flammable liquids is located outside the drill floor area in the vehicle compound. No hazardous materials remain in the storage bin.

Aboveground Storage Tanks (ASTs)

No ASTs were observed during the site visit. Interviews with City and National Guard representatives during the site visit indicate no ASTs were used at the Facility. No evidence of staining or support structures that would indicate the past presence of an AST was observed during the site visit (Ref. 7).

Landfills, Dumping, Disturbed Soil

There are no landfills, dumping, or disturbed soil at the subject property or adjoining properties (Ref. 7). The City of Atoka currently uses the Clinton Lewis Construction Company Landfill in Antlers, Pushmataha County, Oklahoma, which is the nearest landfill to the facility, approximately 30 miles east southeast from Atoka.

Impoundments

A small pond is located west of the Facility outside the fenced vehicle compound area. According to the City Manager, Don Walker, the pond is natural and has always been located there. The pond receives surface water runoff from the facility. When full, the pond spills over into a series of ditches and culverts to the east and north toward Muddy Boggy Creek. Vegetation around the pond appears dense. The down gradient ditches do not appear to be impacted by contaminants. No evidence of stress due to contaminants was observed during the site visit (Ref. 4). No impact from surface water at the site affects the impoundment. Adequate drainage from the pond prevents flooding impact from the impoundment affecting the facility.

Air Emissions, Wastewater Discharge

Lead dust from the IFR may have been exhausted through the roof vent during its operations. According to a representative from the National Guard, the IFR ceased operations in the mid 1980's. The vent was shut and the IFR locked. There is a potential for lead dust in the IFR to migrate into adjacent rooms. Lead contamination from the IFR may be present in the IFR floor drain and migrate into the sanitary sewer system. The

facility's wastewater is discharged to the city sanitary sewer system. Because surplus ACM may have been used in the facility, there is a potential for asbestos to be present. No wastewater discharge or air emissions from adjacent facilities affect the property (Ref. 7). An asbestos and lead survey should be conducted at the facility to evaluate the potential for migration of contaminants.

Industrial Activities

Currently, there are no industrial activities on the subject property. According to a representative from the National Guard, light vehicle maintenance such as oil and tire changes and vehicle washing occurred from the early 1980's through the mid 1990's. No other historic industrial activities occurred at this facility. Currently, there are no industrial activities occurring at the facility.

There are nine facilities within a one-mile radius of the facility that have or have had UST's on their property. One of these USTs is a 5000 gallon underground storage tank, which stored gasoline, was in use from the early 1980's until it was filled with mud and closed by the Oklahoma Corporation Commission in 1989. Information of these industrial activities was obtained from the site visits and the Oklahoma Corporation Commission UST Notification Database.

Monitoring Wells

No monitoring wells were present on the property. The Oklahoma Water Resources Board well record database of recorded wells indicates two local gas stations have three monitoring wells each installed as part of a leak detection system. The six (6) groundwater monitoring wells within a ½ mile radius of the property are both east and southeast of the property respectively. The wells are installed at depths ranging from 13 to 15 feet. No information is available on the yield (Ref. 11).

Stained Soils

No stained soils were observed on the facility property (Ref.7).

Seeps

The facility formerly had earthen embankments mounded on the outside walls of the armory. Some water damage occurred at that time due to soil moisture seeping through the external walls of the facility. According to City and National Guard representatives, the soil was removed in the 1990's due to security and water damage issues. No seeps were observed during the site visit (Ref.7).

Chemical Spills

No chemical spills were observed at the facility. No spills were reported on the property from the Emergency Response Notification System (ERNS) database (Ref. 12).

Oil and Gas Exploration

No evidence of oil and gas exploration was observed on the facility property. The city manager, Don Walker, indicated future drilling operations are planned for the property north of the facility across Highway 75.

Known Groundwater or Surface Water contamination

No up gradient properties are known to have groundwater contamination. Historic activities at the facility have not affected groundwater. Surface water is contained in a small pond on the property and overflows north via earthen ditches and culverts to Muddy Boggy Creek. No evidence (such as stressed vegetation, sheen, or stains) of surface water contamination affecting the property or affected by the property was observed during the site visit.

Farm Waste

No farm waste was observed during the site visit.

Known Pesticide Misapplication

Evidence of rodenticide application was observed during the site visit. Interviews with National Guard representatives indicate rodenticides have been used in the past to control a persistent burrowing rodent population at the property and were applied as per manufacturer's specifications. No misapplication was observed during the site visit or known to have occurred at the property.

Discharges and Runoff from Adjacent Property Affecting the Site

No discharges and/or runoff were observed from any of the adjacent properties that would affect the subject property.

Pipelines

No oil or gas production pipelines are located near the property (Ref 4). A 5,000-gallon underground storage tank (UST), used to store gasoline, is located on the premises of the building. The tank was filled with mud and closed in place under Oklahoma Corporation Commission jurisdiction in 1989. Underground water, sewer, and natural gas utility lines run along the north and east perimeters of the facility. No evidence of oil or gas exploration or production was observed during the site visit. No oil or gas leases associated with the property were found during the property record search. Floor drains are located in the facility restrooms, kitchen, vault room, and indoor firing range. Wastewater from the readiness center is directed to the City sanitary sewer system. The vault room drain was used to drain condensation from a dehumidifier. The dehumidifier was removed from the vault room by the National Guard. The indoor firing range drain also leads into the city sanitary sewer. According to an interview with the Oklahoma National Guard representative, Sergeant Major Michael Scott, the drain was never used. The drain is currently dry. Lead dust may be present in the pipe and may potentially migrate into the sanitary sewer. According to representatives from the City and the National Guard, no septic tanks or cisterns were used at this property. No evidence of septic tanks or cisterns was observed during the site visit. An open four-inch pipe is

located in the grass southeast of the drill floor. The pipe was used as a sewer vent pipe but is now sheared off to ground level. Open electrical conduit pipes are found east of the kitchen area outside the facility adjacent to a transformer box. The remains of a gasoline pump island are located near the closed UST on the northwest side of the vehicle compound. The piping and electrical conduits are capped. An in-ground valve box is located in the southeast quadrant of the vehicle compound area. Two valves in the box control the water supply to two spigots near the fence line. The valves are in the closed position (Ref. 7). The open pipe and transformer conduit should be capped or plugged to prevent any potential migration of contaminants.

Transformers/PCB Equipment

PCBs were used in electrical equipment prior to 1978. The pole mounted transformers around the perimeter of the property are marked "non-PCB". The transformer box on the east side of the building is also marked "non-PCB". Because surplus PCB containing electrical equipment purchased prior to 1978 may have been used at the facility, Polychlorinated Biphenyls (PCBS) may also be present in electric equipment such as lighting ballasts, transformers, and capacitors installed prior to 1978. According to City representatives, the electrical equipment in the armory has been inspected by an electrician and is currently in good condition. No leaks or stains were observed during the site visit. Evidence indicated that PCB's are not present on the property.

Other known or Suspected Environmental Concerns On the Site

The indoor firing range dust residue is contaminated by lead. Past sampling has been conducted to characterize the lead concentration of this room. A statewide sampling event for lead was conducted by C.H. Guernsey & Company for the Oklahoma Army National Guard on all armories containing indoor firing ranges. This report is called the "Indoor Firing Range Lead Issues Report" (Ref. 13). Two samples were collected inside the firing range room and one sample was collected on the drill floor. The following are the locations and concentrations of lead found in the room.

- 1983.0 ug/ft² of lead was found at the east end of the IFR near the fan.
- <16.00 ug/ft² of lead was found on the drill floor outside the IFR.
- 101.55 ug/ft² of lead was found at the north central wall IFR.

A copy of the Atoka Armory section of the Indoor Firing Range Lead Issues Report can be found in Appendix F.

Floor drains located in the IFR may also have associated lead contamination.

Lead based paint on windows and walls of the facility, may be of environmental concern. Surplus lead paint purchased prior to 1978 may have been used at the facility. Paint chips from cracked or peeling paint may have caused elevated lead concentrations in soils beneath the windows.

Surplus Asbestos containing materials (ACMs) purchased prior to 1978 including floor tiles, roofing products, insulation in the space heaters and wrapping around the elbow connections may have been used in the facility.

Surplus polychlorinated biphenyls containing equipment purchased prior to 1978 may have been used in electrical equipment such as lighting ballasts and capacitors. Damaged PCB containing equipment may be a hazard to occupants. According to City representatives, the electrical equipment in the armory has been inspected by an electrician and is currently in good condition. No leaks or stains were observed during the site visit. Evidence indicated that PCB contamination does not affect the property.

Mercury containing switches, thermostats and other building process equipment may be present in the building. Damaged mercury containing equipment may be a hazard to occupants. No damaged equipment was observed during the site visit.

Historical Recognized Environmental Conditions on the Site

The use of surplus lead based paint, mercury, PCBs, and asbestos purchased prior to 1978 may have been used at the facility. There is known lead contamination in the IFR. A 5000 gallon UST used for gasoline is located at the armory was filled with mud and has been closed in place by the Oklahoma Corporation Commission (Appendix C).

3.3 Operational History

The Atoka Readiness Center was built in 1982 and was managed and maintained by the Oklahoma Military Department to support the military mission of the Oklahoma Army National Guard (OKARNG). The Atoka Readiness Center served as a training facility, stored military training materials, and military equipment. The OKARNG is a component of the United States Army and fulfills the military mission of national security (Ref. 14).

Prior to the construction of the Atoka Readiness center, the land was known as "The old rodeo arena" where rodeo activities occurred. Prior to that, the land was open pasture land.

3.4 Current Use of the Property

The Atoka City Manager, Don Walker, noted that the City of Atoka occupied the building in June 2006 when the City signed a lease agreement with OKARNG. The City Emergency Management Center is currently located in a room on the northwest side of the facility. The City of Atoka is currently remodeling rooms on the north side of the facility for City police and courtroom office space. Ceiling panels and carpeting has been installed and new paint applied in several of these rooms (Ref. 7).

3.5 Adjacent Properties

Adjacent properties to the north are the Oklahoma Department of Transportation Maintenance Facility and the Atoka airport. To the northwest is the Kiamichi Technology Center and Atoka Lake. Immediately west is open ranch land. To the south is the Oklahoma Department of Human Services building. Further south is open ranch land. To the immediate east is a funeral home. Further east and southeast is a mix of residential housing and open land.

3.6 Site Inspection

Site reconnaissance was performed on January 9, 2007 by DEQ representative, Jarrett Keck. The site visit is explained in detail in Section 6.0.

4.0 User Provided Information

4.1 Title and Judicial Records

Title and judicial records were researched and reviewed on January 9, 2007. The land originally was owned by the Chickasaw/Choctaw Tribe. In 1911 the land was deeded to a private individual. The City of Atoka purchased the land in 1936. In 1971, the City of Atoka sold the land to the National Guard. Since then, the State of Oklahoma has owned the property. The City of Atoka currently leases the facility from the Oklahoma Military Department.

4.2 Environmental Liens or Activity and Use Limitations (AULs)

There are no environmental liens or activity and use limitations that are known on the subject property.

4.3 Specialized Knowledge or Experience of User

The Atoka Readiness Center supported the military mission of the Oklahoma Army National Guard (OKARNG) since the construction of the armory in the early 1982 through June 2006 when the facility was leased to the City of Atoka. The OKARNG is a component of the United States Army and fulfills the military mission of national security (Ref. 14).

The City of Atoka currently utilizes the building to house the city Emergency Management Service, and is renovating office space for City police and judicial office space (Ref 4).

4.4 Actual Knowledge of User

The City of Atoka currently utilizes the armory for Emergency Management Services and is remodeling several rooms for City Police and judicial office space. The City would like to take ownership of the property as soon as possible. However according to established armory disposal procedure, this Phase I Targeted Brownfield Assessment and remedial activities must occur before this can happen. Currently, the Oklahoma Military Department owns the property. The property will be transferred to the City of Atoka once environmental cleanup is completed.

4.5 Commonly Known or Reasonably Ascertainable Information

The subject property is owned by the State of Oklahoma. The property is currently used by the City of Atoka. The armory has undergone some remodeling of the armory since the City first occupied the building in June 2006. Due to elevated lead concentrations found in the IFR, the IFR currently remains locked with access limited to military personnel. Remedial activities will have to be performed before the title of the property will be transferred.

4.6 Valuation Reduction for Environmental Issues

This section is out of scope of this assessment.

4.7 Owner, Property Manager, and Occupant Information

The subject property is occupied by the City of Atoka and is leased from the Oklahoma Military Department which owns the property.

4.8 Reason for Performing Phase I

The DEQ performed this Phase I Targeted Brownfield Assessment (TBA) to analyze if there are any recognized environmental conditions that need to be addressed prior to transfer of ownership and to provide the city the prior purchase requirement of the Bona Fide Prospective Purchaser Protection from Superfund. The City of Atoka would like to continue the use the Atoka Armory property for future City operations. Before this can occur, a Phase I TBA must be conducted along with any remedial actions necessary for occupancy of the property.

5.0 *Records Review*

5.1 *Standard Environmental Record Sources*

A regulatory database search was conducted by the DEQ. This search included, at a minimum, those records and distances from the site dictated as appropriate in the ASTM standard. The DEQ performed a review of available federal and state databases to assess whether the subject property or proximate properties were listed as having environmental concerns, which could have an adverse impact on the subject property. The following provides a summary of the databases reviewed.

Federal National Priorities List (NPL) Sites within one Mile

The property is not listed on the NPL. There are no NPL sites reported within a one-mile radius of the subject property (Ref. 15).

Federal Delisted NPL site list within one-half mile

There are no Delisted NPL sites within one-half mile (Ref. 16).

Federal Active Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Sites within one-half mile

The property is not listed on CERCLIS. There are no CERCLIS sites reported within a 0.50-mile radius of the subject property (Ref. 16).

Federal Archived CERCLIS (NFRAP) Sites within one-half mile

The property is not an archived CERCLIS site. There are no archived CERCLIS sites reported within a 0.50-mile radius of the subject property (Ref. 16).

Federal RCRA CORRACTS Facilities List within one mile

The property does not have any federal RCRA CORRACTS facilities within a one mile radius (Ref. 17).

RCRA non-CORRACTS TSD Facilities List within one-half mile

The property does not have any RCRA non-CORRACTS TSD facilities within a one-half mile radius (Ref. 17).

Federal RCRA Generators List (property and adjoining properties)

The property does not have any listed RCRIS-Large Quantity Generator (LQG) or RCRIS-Small Quantity Generator (SQG) sites. There are no RCRIS LQG or SQG sites reported at the adjoining properties either (Ref. 18).

Federal Institutional Control/Engineering control registries (property only)

There are no Institutional Control/Engineering controls on the property (Ref. 7); therefore, it is not listed on a Federal registry.

Federal Emergency Response Notification System (ERNS) list (property only)

The subject property and adjoining properties are not listed as ERNS sites (Ref. 12).

State lists of hazardous waste sites identified for investigation or Remediation (property only)

The site is on the Oklahoma Department of Environmental Quality's Site Cleanup Assistance Program for remediation of hazardous substances (Ref. 19). The cleanup will be performed to assist the city in acquiring the property.

State Landfill and/or Solid Waste Disposal Sites within one-half mile

The subject property does not have any listed state landfills within a one-half mile radius (Ref. 20).

State Leaking Underground Storage Tank (LUST) List within one-half Mile

There are no active LUST sites within one-half mile of the subject site. The UST Notification Database maintained by the Oklahoma Corporation Commission (OCC) has no LUST sites listed within one-half mile of the Atoka Armory (App C).

State Registered Storage Tank Lists (property and adjoining properties)

There are nine facilities within a one-mile radius of the facility that have or have had UST's on their property. One of these is the 5000 gallon gasoline underground storage tank located on Atoka Readiness Center property. It was in use from the early 1980's until it was filled with mud and closed in place by the Oklahoma Corporation Commission in 1989. Information of these industrial activities was obtained from the site visits and the Oklahoma Corporation Commission UST Notification Database (App. C).

State Institutional Control/Engineering control Registries (property only)

The subject property is not listed in any State Institutional/Engineering Control Registries (Ref. 7).

State Voluntary Cleanup Sites and Brownfield Sites within one-half mile

No State Voluntary Cleanup Sites or Brownfield Sites listed in the DEQ database are within one-half mile of the facility. One voluntary cleanup site, The Whistler-Atoka Lake site, is approximately 0.75 miles northwest of the property on the northwest shore of Atoka Lake where a gasoline truck spilled a small quantity of gasoline near Atoka Lake. The Spill was cleaned up and a "no further action" letter issued after sample results confirmed complete removal of contaminants. The site is side gradient to the subject property and did not impact the facility (Ref. 20).

5.2 *Additional Environmental Record Sources*

The City of Atoka Building Department records were not readily available but interviews with City representatives were conducted. The records are maintained by the City Clerk, Joye Angel. The City Clerk stated to her knowledge, no city permit violations were issued to the facility.

Tribal records were not searched in a reasonable timeframe and therefore are not included in this report.

5.3 *Physical Setting Sources*

Physical Setting sources were obtained from the U.S. Geological Survey, Federal Emergency Management Association, the United States Department of Agriculture Soil Conservation Service Soil Survey of Atoka County, and a site visit conducted on January 9, 2007.

5.4 *Historical Use Information on the Property*

The subject property is currently used by the City of Atoka Emergency Management Services and police departments. The Atoka Readiness Center was built in 1982 and the military occupied the building until 2006 when the city took over operation of the building. Prior to the construction of the Readiness Center; the land was used as a rodeo arena. County documents prior to that indicate the land was owned by the Choctaw/Chickasaw tribe and used as pasture land (Ref. 7).

5.5 *Historical Use Information on Adjoining Properties*

Aerial Photo Review

Archived aerial photographs of the subject property were reviewed at the Oklahoma Department of Libraries.

The earliest aerial photograph reviewed was taken on December 22, 1939. The subject property is seen between Highway 75 and a parallel frontage road the leads into Atoka south of Highway 75. A circular open area likely to be the rodeo grounds adjacent to a group of small buildings which are likely stalls can be seen. A barn structure is seen north of the facility property across Highway 75 which likely served the agriculturally developed, open pasture and crop land surrounding the facility until reaching the city approximately one-mile east of the property.

A second photograph, taken in 1962, shows the property bounded on the west and south by farms and pastureland. Residential development increases to the east but the southeast of the property remains pastureland. The frontage road seen in the 1939 photo is no longer clearly visible. The Atoka Airport landing strip is clearly visible at this time north of the facility in addition to the barn seen in 1939, a second building is now present north of the property. The two buildings near the airport are surrounded by pasture land to the east, north, and west.

In a 1995 aerial photograph, increased residential properties are seen to the east. Additional improvements and buildings to the Atoka Airport can also be seen. The Kiamichi Technology center is now present west of the airport. The properties to the west, south, and east remain agricultural/pasture land with the exception of an office

building immediately south of the property currently occupied by the Department of Health and Human Services.

No significant changes from 1995 can be seen in the 2003 aerial photograph.

These aerial photographs can be found in Appendix C.

Zoning/Land Use Records Review

No zoning/land use records were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Atoka Readiness Center.

Fire Insurance Maps

The Atoka Readiness Center is located on the west side of the City of Atoka. No fire insurance maps were made for this area (Ref. 7).

Property Tax files

No property tax files were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Atoka Readiness Center.

City Directories

No city directories were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Atoka Readiness Center.

Building Department Records

The City of Atoka Building Department records were not readily available but interviews with City representatives were conducted. The records are maintained by the City Clerk, Joye Angel. The City Clerk stated to her knowledge, no city permit violations were issued to the facility.

Interviews

The Atoka, Police Chief, John Smithart, and Atoka City Manager, Don Walker, and Sergeant Major Michael Scott from the Oklahoma National Guard were interviewed during this investigation. Information on the interviews is located in Section 7.3, "Interviews with Operators and Occupants of the property."

6.0 Site Reconnaissance

6.1 Methodology and Limiting Conditions

A site visit at the Atoka Armory was performed on January 9, 2007 by DEQ representative, Jarrett Keck. The site reconnaissance consisted of an inspection of the armory building and its surrounding property. All rooms in the facility were inspected. Newly constructed evidence lockers located in the adjacent offices at the north end of the facility were locked and not accessible during the investigation. Atoka Police Chief,

John Smithart, was present during the site visit and stated case evidence was stored in the locked closet rooms and verbally confirmed no chemicals or hazardous substances are or have been stored in these lockers.

6.2 General Site conditions

The main entrance is on the north side of the building. Vehicles enter from the northeast into a gated and locked six-foot chain link fence topped with barbed wire. The city has remodeled or is in the process of remodeling several rooms in the facility after having leased the vacated National Guard property. No wells were observed on the site. All water comes directly from the City of Atoka water supply. Drainage at the site is towards the northeast. The building is in good condition. Some remediation is required prior to the National Guard transferring ownership of the property (Ref. 7).

6.3 Exterior observations

Underground natural gas, water, and sewer utility lines run along the north and east perimeter of the property. Electric power lines are also located along the north and east perimeter above ground on utility poles. Pole mounted transformers are all clearly labeled "Non-PCB". No visible spills or stains were observed during the site visit. The building has no visible cracks or structural repairs. Roof drains are located on all four sides of the facility. No indication of septic tanks, leach fields, or wells were observed during the site visit. An open four-inch pipe is located in the grass southeast of the drill floor. The pipe was used as a sewer vent pipe but is now sheared off to ground level. Open electrical conduit pipes are found east of the kitchen area outside the facility adjacent to a transformer box (labeled "Non-PCB"). The remains of a gasoline pump island are located near the closed UST on the northwest side of the vehicle compound. The piping and electrical conduits are capped. An in-ground valve box is located in the southeast area of the vehicle compound area. Two valves in the box control the water supply to two spigots near the fence line. The valves are in the closed position (Ref. 7). The open pipe and transformer conduit should be capped or plugged to prevent any potential migration of contaminants.

6.4 Interior observations

The northwest side of the building is used for the Atoka Emergency Management center. Currently, the Atoka police department is in the process of converting rooms on the north and northwest sides of the facility into office space. Additionally, the former dining room and training room are currently being converted to courtroom space. New carpet and paint has been installed as part of the renovation. Missing and damaged ceiling tiles have been replaced by the City with styrofoam tiles. A few tiles from a second, older layer of ceiling panels was observed above the existing ceiling tiles in the room opposite the dining room described as the "commo" room. Central heating systems are located on the center northeast and northwest maintenance rooms. Asbestos insulation is suspected to be present in these areas. A central air conditioning unit is located on the roof. The

supply room in the center west part of the building and the drill floor area is vacant. Some National Guard property remains in these rooms such as desks and chairs. The kitchen is located in the center west part of the building. Stoves and other kitchen equipment remain in this area. The indoor firing range (IFR) located at the south end of the facility is kept locked at all times. Miscellaneous National Guard equipment such as fire extinguishers, desks, a can of roofing cement, and a "sand board" (used to plan military operations) remains in this room. The IFR is vented through a ceiling vent which exhausts to the roof. A vehicle compound is located west of the facility and is enclosed with a gated and locked, six-foot high chain link fence, and topped with barbed wire. A metal storage bin formerly used by the National Guard to store flammable liquids is located outside the drill floor area in the vehicle compound. No hazardous materials remain in the storage bin.

7.0 Interviews

7.1 Interviews with Past and Present Owners of the property

A Oklahoma National Guard Representative, Sergeant Major Michael Scott, who was stationed at the Atoka Readiness Center at various times in his career, was present during the site visit for interview. Representatives from the city of Atoka that were interviewed were: City Manager, Don Walker; City Clerk, Joye Angel; and City Police Chief, John Smithard. The DEQ has had several conversations regarding environmental and safety issues at the armories, with various employees of the military department. Major Merkle, Colonel Peck, and Richard Brooks were among the individuals that the DEQ has spoken with. A meeting was held with DEQ, the Oklahoma Military Department (OMD), and Department of Central Services (DCS) on September 20, 2006, to discuss the environmental issues at the armories in the state. The Oklahoma Military Department (OMD) provided a Baseline Assessment of the property to the DEQ, and the DEQ was able to review the OMD files on the indoor firing range.

Interviews with City officials are discussed in section 7.3

7.2 Interviews with Key Site Manager

The City of Atoka is the current site manager for the facility. See section 7.3.

7.3 Interviews with Operators and Occupants of the property

City representatives interviewed include the Atoka City Manager, Don Walker, City Police Chief, John Smithard, and City Clerk Joye Angel. Don stated the City leased the facility in June 2006. the City was renovating several of the rooms for use as office space for the City police and judicial departments. Renovation includes painting, laying carpet over bare floors, and replacing missing or broken ceiling tiles. The City Emergency Management Center is currently operating from the facility. Don has lived in Atoka all

his life and states he recalls a rodeo arena being located on the property. He did not recall what was located on the property prior to the rodeo arena.

Police Chief John Smithard added that several rooms were currently being renovated for police department offices. Two rooms located on the north side of the facility contained recently constructed evidence storage lockers. The lockers were in use during the site visit and were kept locked. He stated the lockers held case evidence and did not contain hazardous materials.

City Clerk, Joye Angel, was interviewed regarding building department records. She stated the records were not readily available but to her knowledge, there were no City permit violations on the property.

7.4 Interviews with State and/or Local Government Officials

See section 7.3

7.5 Interviews with Others

Sergeant Major Michael Scott, representing the Oklahoma National Guard was present during the site visit. Mr. Scott stated he worked at the facility intermittently since 1983. He stated former activities at the facility included vehicle washing and maintenance. These activities ceased in the early 1990s. He was not sure if lead paint was used at the armory. The IFR was used from the early 1980s to the early 1990s when the environmental conditions in the IFR were examined by the Military and determined to be a potential health risk. He added that the facility formerly had earthen embankments mounded on the outside walls of the armory. Some water damage occurred at that time due to soil moisture seeping through the external walls of the facility. According to City and National Guard representatives, the soil was removed in the 1990s due to security and water damage issues. He confirmed there was no septic tank or cistern used at the armory. Wastewater is discharged to the sanitary sewer. The open pipe in the grass southeast of the drill floor door was a sewer vent pipe and is typically capped. Gophers or moles have always been an issue on the facility property and rodenticides were commonly used as per manufacturer's specifications.

8.0 Findings

This Phase I Targeted Brownfield Assessment of the Atoka Readiness Center was performed in accordance with the ASTM E 1527-05, a guide for conducting Environmental Site Assessments. DEQ representative, Jarrett Keck performed the site reconnaissance on January 9, 2007.

The site is located in the Northeast 1/4 of the Southeast 1/4 Section 9, Township 2 South, Range 11E, in Atoka County, Oklahoma. The site is located at 1002 West Liberty Road in Atoka, Oklahoma.

A cursory summary of findings is provided below. However, details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- An indoor firing range (IFR) and dust associated residue is assumed to have lead contamination based on past sampling of the IFR indicating elevated lead concentrations are present in the building. Lead dust may also have contaminated adjacent rooms and vents.
- Mercury may be present in thermostats, lighting, and other equipment in the facility. Mercury containing equipment can be used safely when it is in good working order. The equipment in the armory appeared to be in good condition during the site visit
- The original paint on in the armory remains in most areas of the building and has began chipping in some areas. Due to the timeframe the building was constructed, lead based paint may have been used.
- Soils below the windows may have been contaminated with lead based paint chips.
- While the facility was built in 1982, surplus Asbestos containing materials (ACM) purchased prior to 1978 may have been used during the construction of the facility. ACM is typically used in heating equipment, insulation, ceiling tiles, roofing materials, and flooring
- Polychlorinated Biphenyls (PCBS) may be present in electric equipment such as ballasts, transformers, and capacitors purchased prior to 1978. The facility was built in 1982. Surplus electrical equipment containing PCB's may have been installed in the facility. According to City representatives, the electrical equipment in the armory has been inspected by an electrician and is currently in good condition.
- One 5,000-gallon underground storage tank (UST) formerly used to contain gasoline is located on the premises of the armory. In 1989 the tank was filled with mud and closed in place under Oklahoma Corporation Commission (OCC) jurisdiction.

9.0 Opinion

Based on the findings of this assessment, The DEQ recommends that additional investigation be conducted to evaluate areas of the property that may need future clean up and remediation.

Areas of additional evaluation consist of the following:

- The indoor firing range (IFR), IFR floor drain, and adjacent interior areas, need additional evaluation and remediation of the lead contamination

- While the facility was built in 1982, surplus Asbestos containing materials (ACM) may have been used during the construction of the facility. The heating equipment, insulation, surfacing materials and flooring should be evaluated for asbestos.
- Because surplus electrical equipment containing PCB's may have been installed in the facility. The original paint used in the building as well as soils around exterior painted areas should be tested for lead.

10.0 Data Gaps

No samples were collected during this phase of the investigation. Due to the age of the building, some equipment and building materials are assumed to contain hazardous materials until sampled and analyzed.

11.0 Conclusions

A Phase I Targeted Brownfield Assessment in conformance with the scope of work and ASTM Practice E 1527-2005 was performed on the subject property. This assessment revealed recognized environmental conditions that may need additional investigation and remediation of the subject property before future a transfer of ownership can take place. The information provided in this assessment is to assist the City of Atoka in its redevelopment planning as well as meet the All Appropriate Inquiry requirement of the Landowner liability protections under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, better known as Superfund – Ref. 2), as provided in the Small Business Relief and Brownfields Revitalization Act of 2002 (Public Law 107-118, Subtitle B – Ref. 3).

12.0 Additional Services

No additional services were provided during this Phase I Targeted Brownfield Assessment other than the lead results of the IFR and tile given in Section 3.2, "Other known or Suspected Environmental Concerns on the Site." In addition to the Phase I Targeted Brownfield Assessment, the DEQ will assist the city with removal of the environmental contaminants and ensure that the property is ready for redevelopment.

13.0 Deviations

No deviations and deletions from E 1527-05 were made for this Phase I site investigation.

14.0 References

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2. U.S. Environmental Protection Agency. (1980). *Comprehensive Environmental Response, Compensation, and Liability Act*. (Public Law 96-510). Washington, DC: U.S. Government Printing Office.
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8. Federal Emergency Management Association (FEMA). <https://msc.fema.gov>.
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10. State Landfill site list: <http://www.deq.state.ok.us/LpDnew/swindex.html>.
11. Oklahoma Water Resources Board. <http://www.owrb.state.ok.us/wd/search/search.php>.
12. Emergency Response Notification System: <http://www.nrc.uscg.mil/foia.html>.
13. Oklahoma Army National Guard. *Indoor Firing Range Lead Issues Report*. C.H. Guernsey & Company. (2005).
14. Oklahoma Military Department Environmental Office (OKDE-ENV). *Limited Environmental Baseline Assessment, Atoka Armory*. September 21, 2006.

15. EPA NPL list: <http://www.epa.gov/superfund/sites/npl/ok.htm>.
16. CERCLIS current and archived sites: <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>.
17. RCRA database: http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.
18. RCRA NOTIFIERS sorted by county and then city:
<http://www.deq.state.ok.us/LPDnew/HW/Notifiers/notifiersbycountycity.pdf>.
19. State Hazardous Waste Sites: <http://www.deq.state.ok.us/LPDnew/hwindex.html>.
20. DEQ Dataviewer: <http://maps.scigis.com/deq%5Fwq/>.

15.0 Signature(s) of Environmental Professional(s)

See page two for signatures of environmental professionals.

16.0 Environmental Professional(s) Statement

See page two for Environmental Professional(s) Statement.

17.0 Appendices

- Appendix A - Site (Vicinity) Map
- Appendix B - Site Photographs
- Appendix C - Historical Research Documentations
 - Aerial Photographs
 - Topographical Map
- Appendix D - Interview Documentation
- Appendix E - Qualification(s) of Environmental Professionals
- Appendix F - Analytical Results of Indoor Firing Range and Tile

Appendix A - Site (Vicinity) Map

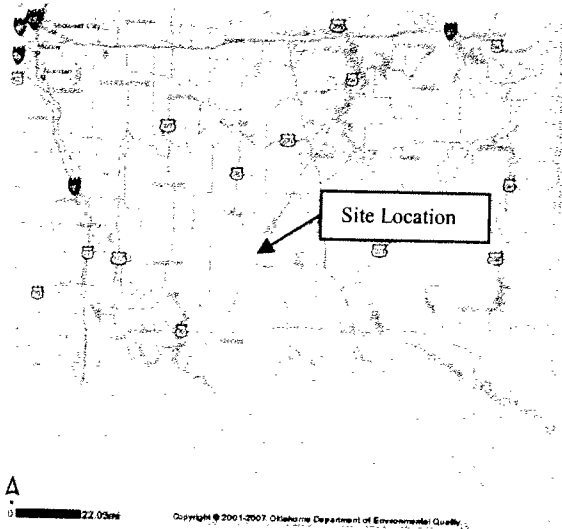
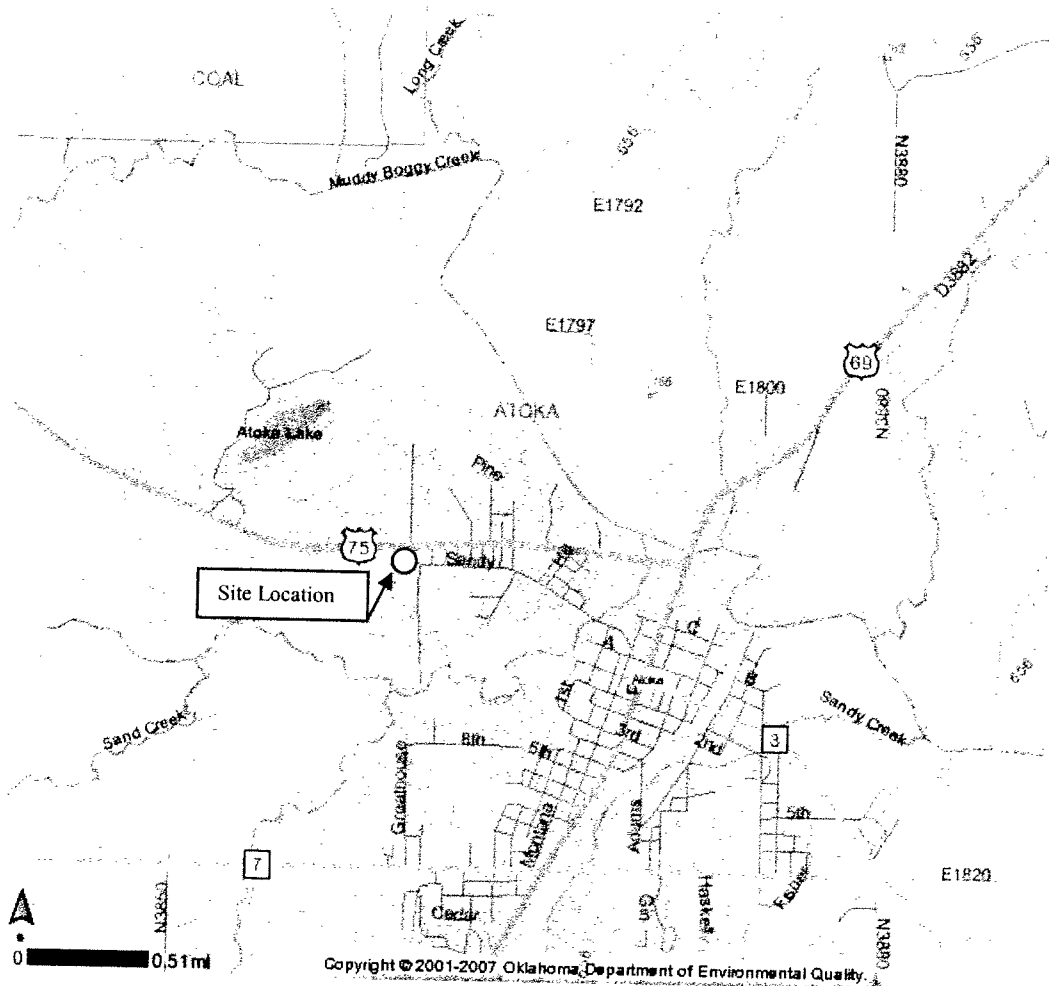


Figure 1. Site Vicinity Map

Appendix B - Site Photographs

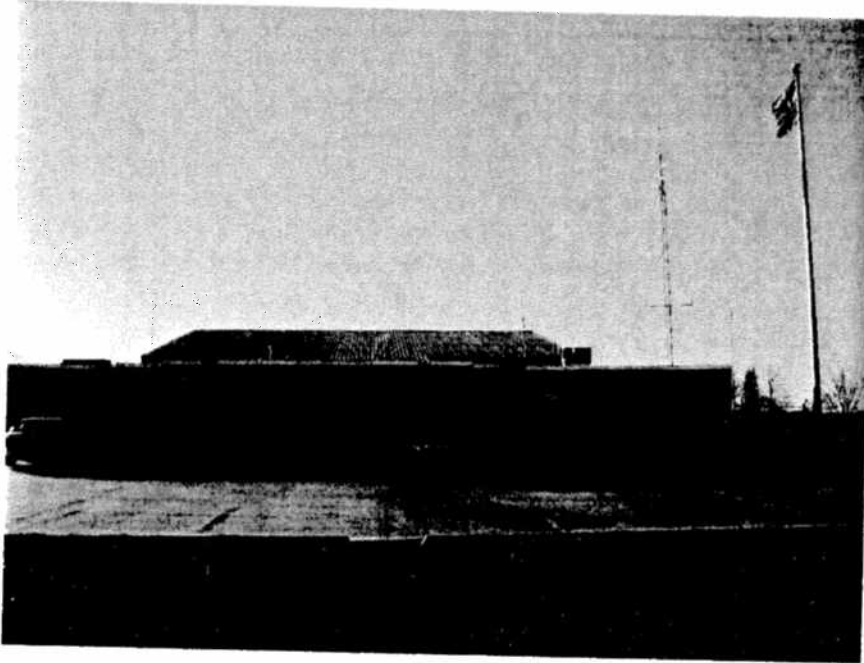


Figure 1. Atoka Readiness Center – facing south.



Figure 2. Atoka Readiness Center – facing south east.

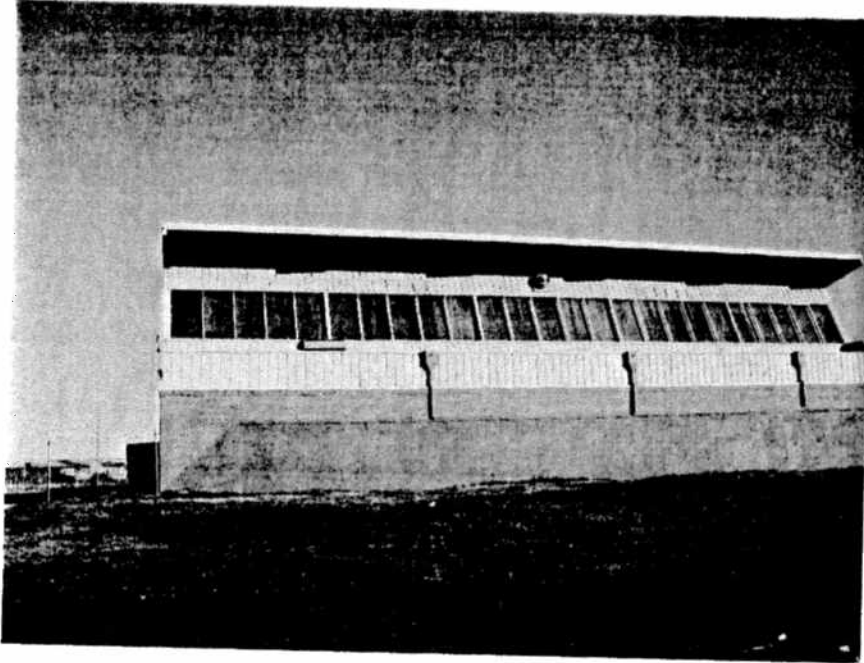


Figure 3. Atoka Readiness Center – facing north.

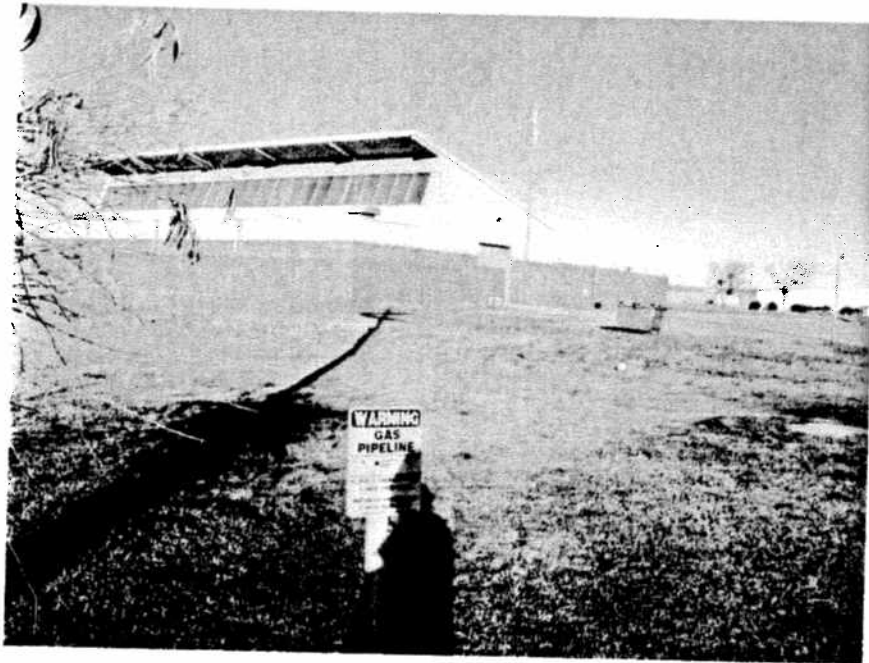


Figure 4. Atoka Readiness Center – facing northwest.

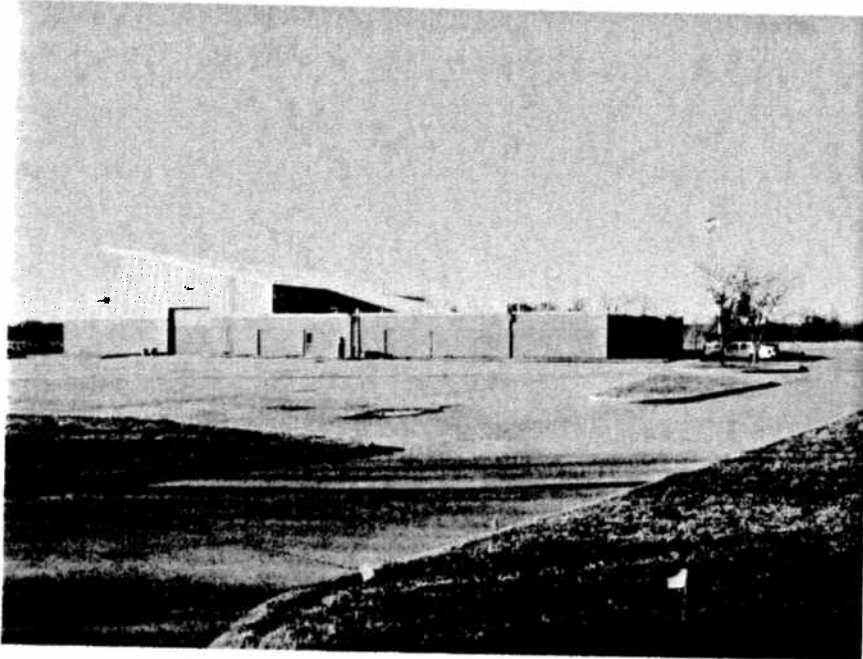


Figure 5. Atoka Readiness Center – facing west.

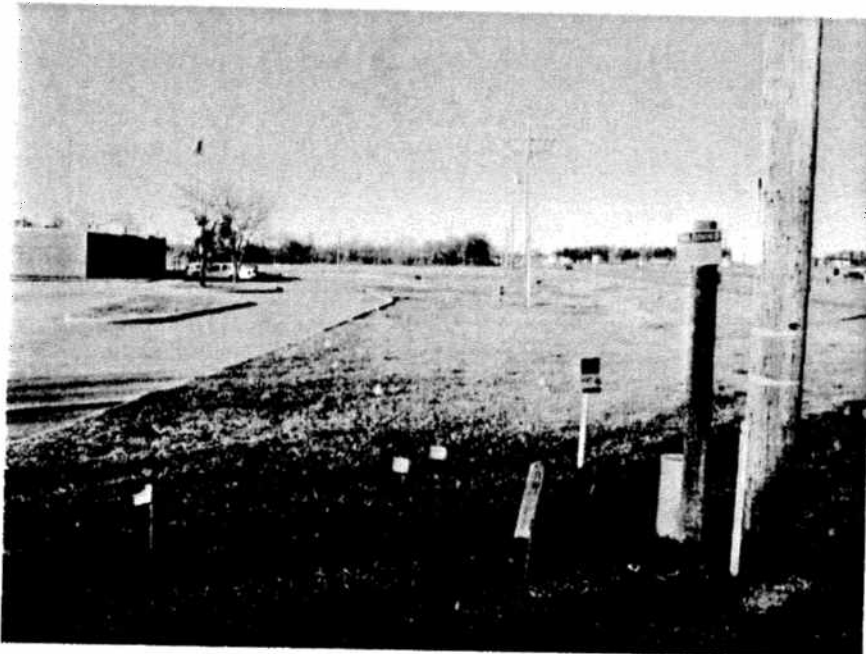


Figure 6. North perimeter of property facing west. Note utility flags.

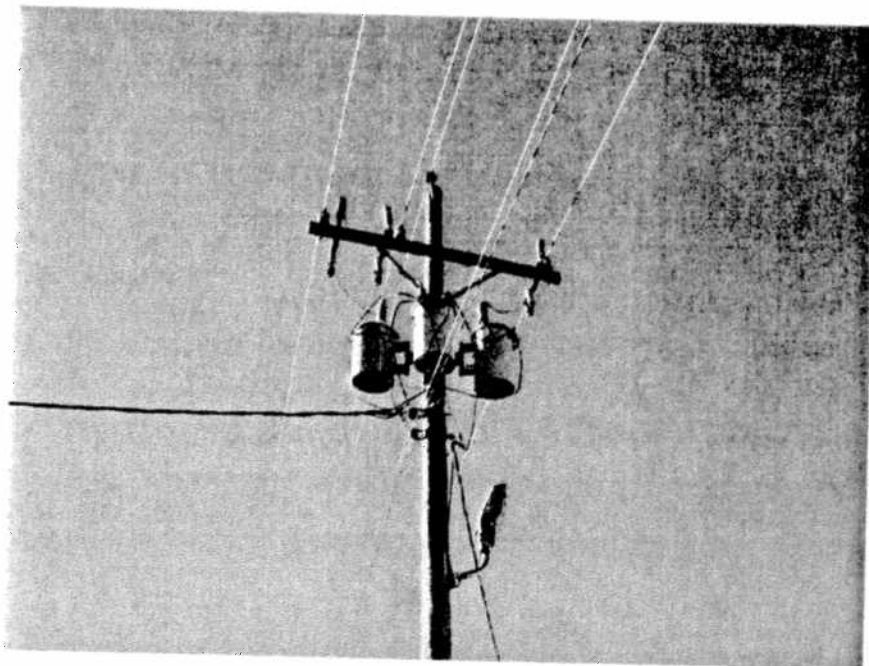


Figure 7. Pole mounted transformers marked “Non-PCB” (not visible in photo).



Figure 8. Small pond west of vehicle impoundment - facing west.



Figure 9. Overflow ditch from small pond leading northeast – facing southwest.

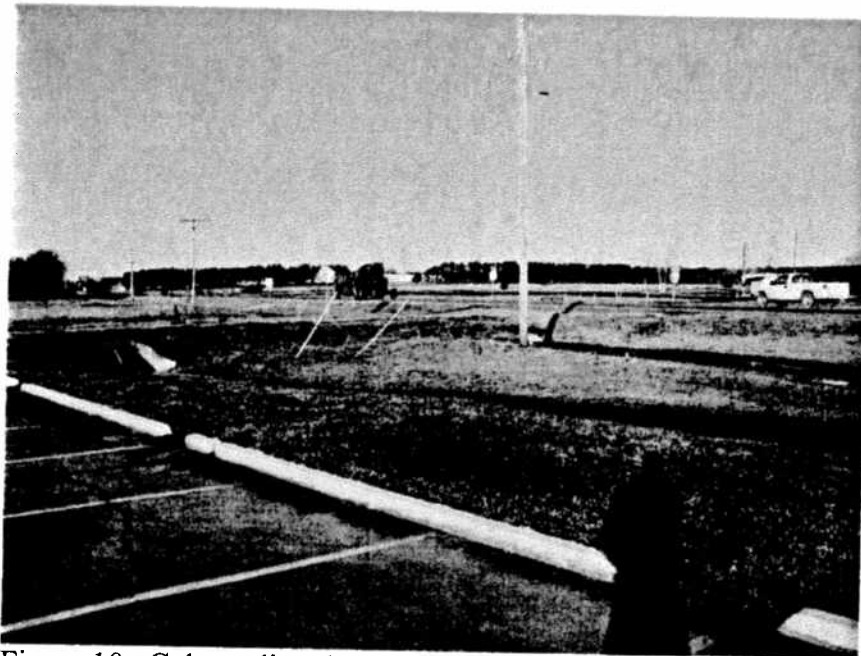


Figure 10. Culvert directing overflow from pond east along north property line – facing west-northwest.

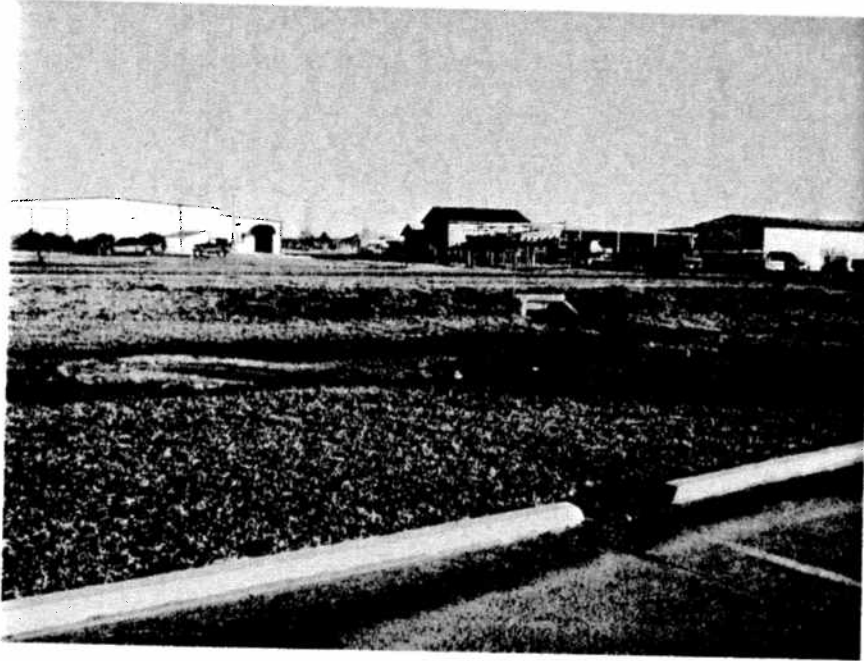


Figure 11. Culvert directing pond overflow north under Highway 77

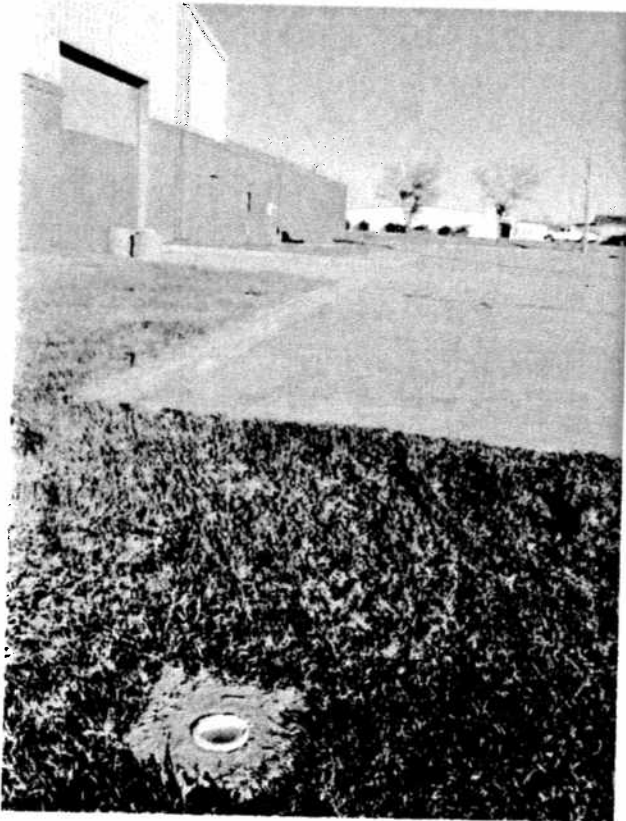


Figure 12. Open sewer vent pipe south east of east drill floor door –facing northwest.

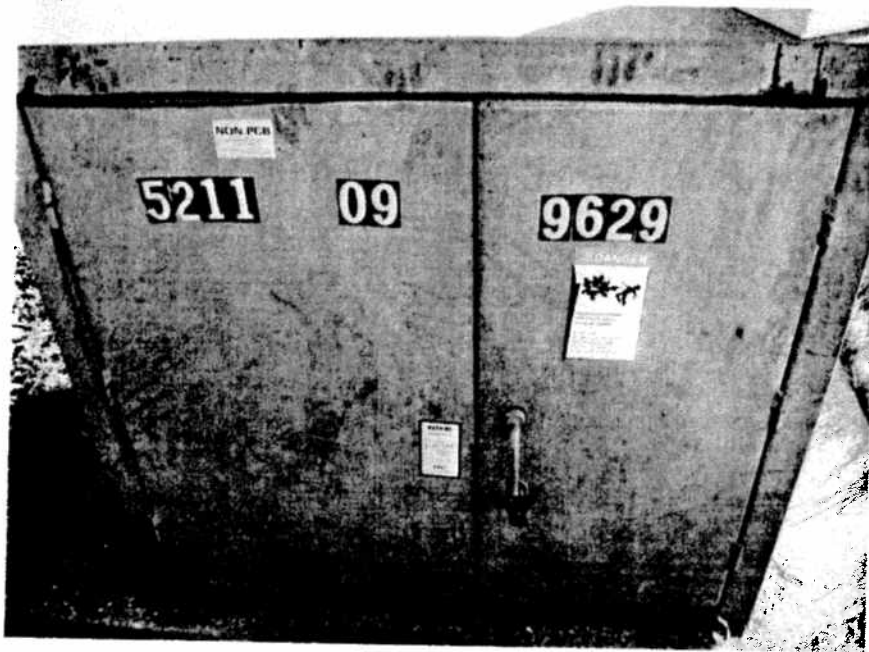


Figure 13. Transformer box on east side of building marked 'Non-PCB'.



Figure 13 Concrete pad south of transformer box on east side of building. Note open conduit piping - facing north.



Figure 14. Rodenticide bait-station on east side of building – facing north.



Figure 15. Utility lines on east perimeter of property – facing northwest.



Figure 15. Utility lines on east perimeter of property – facing north.

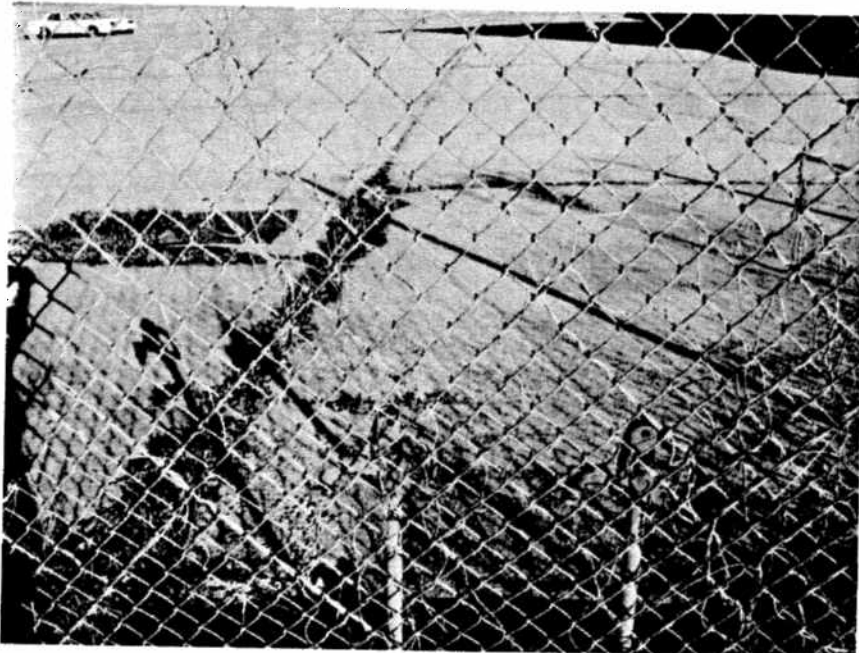


Figure 16. Two spigots on south side of vehicle impoundment.

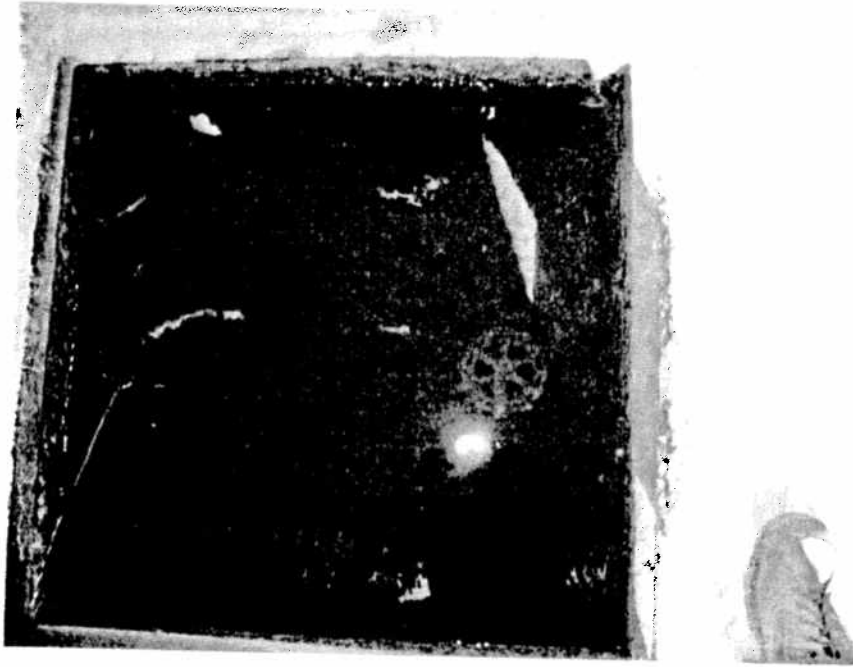


Figure 17. Inside control box for water spigots in south side of vehicle impoundment.

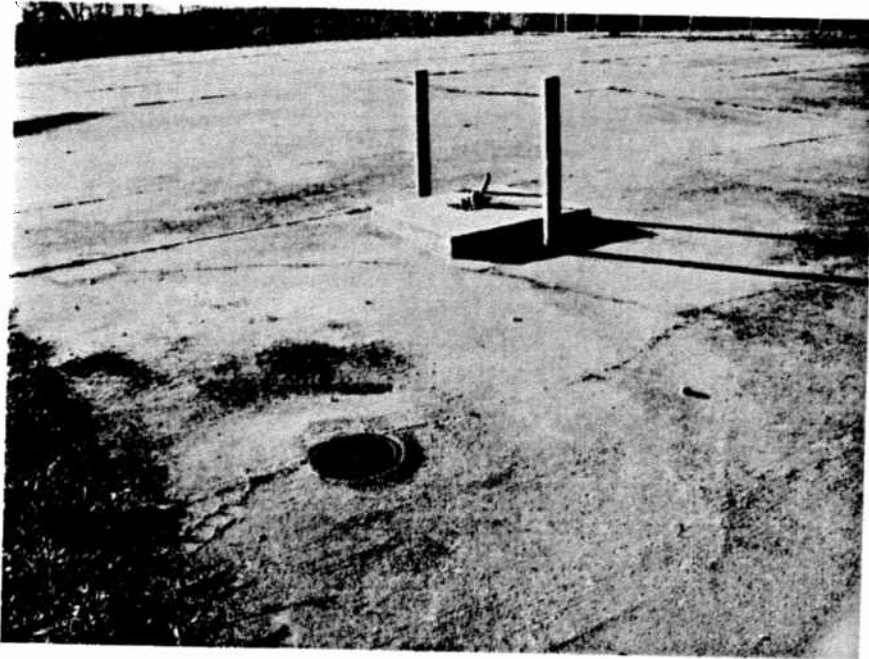


Figure 18. Former pump island and fill port for UST in north side of vehicle impoundment.



Figure 19. Flammable liquid storage box in the southwest side of vehicle impoundment near IFR bay door.



Figure 20. View from northwest entrance facing south.

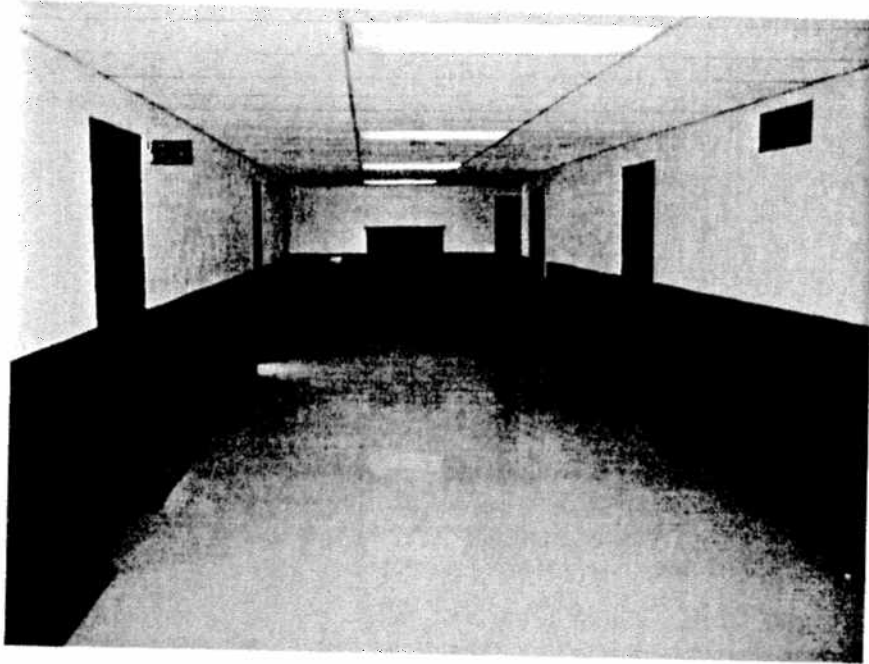


Figure 21. View of north hallway facing west.

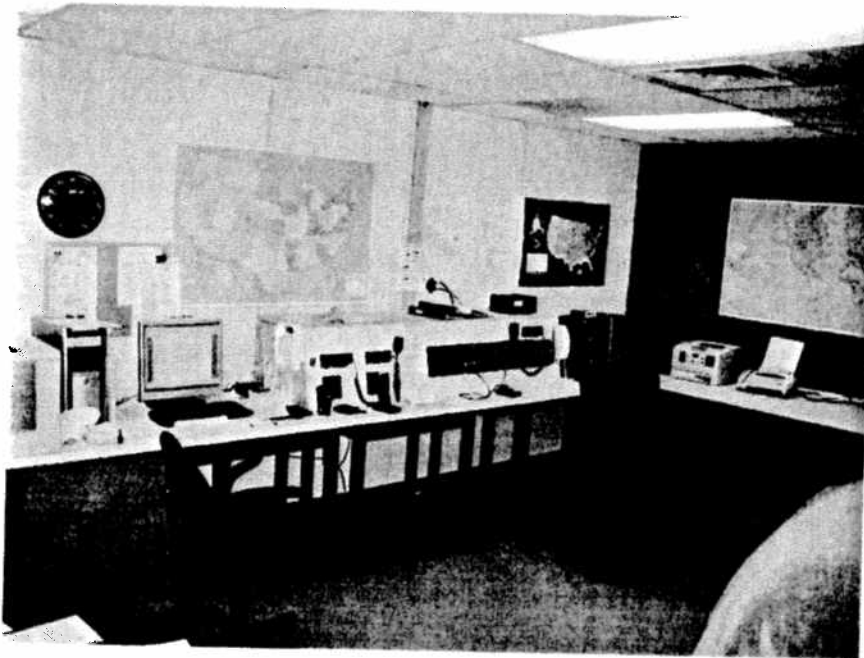


Figure 22. View of Emergency Management System (EMS) Center in northwest office.



Figure 23. Call center room attached north of EMS office.

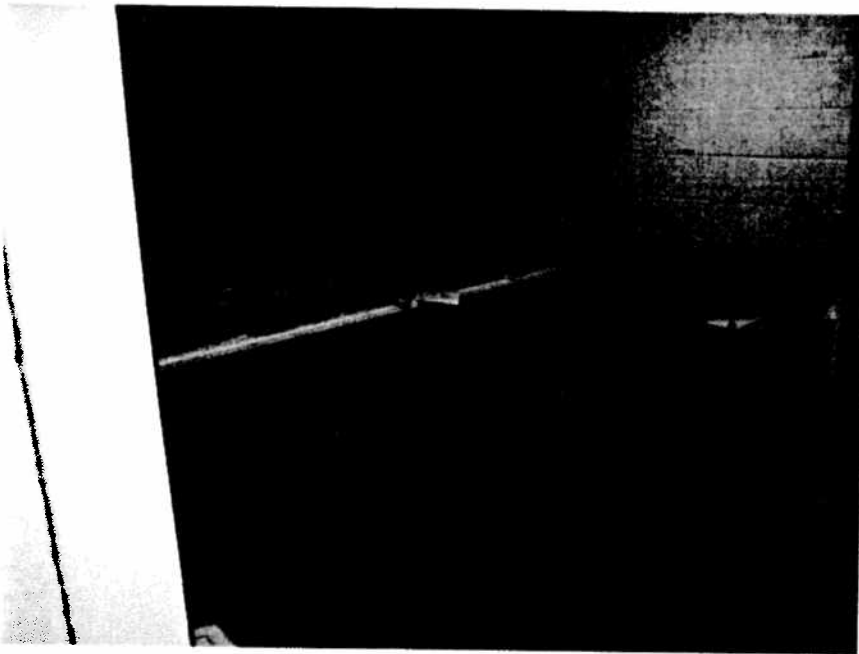


Figure 24. Office room attached northwest of EMS office.

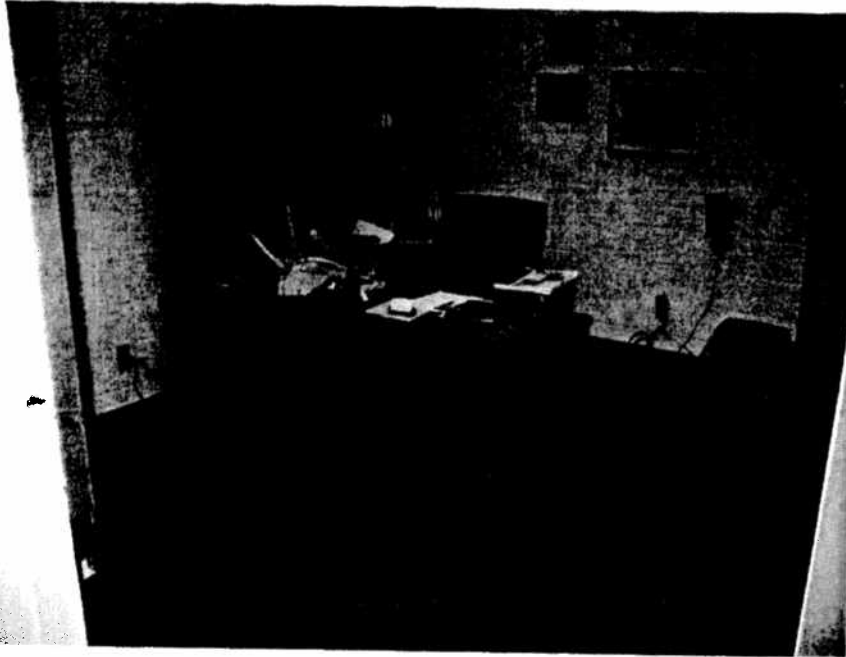


Figure 24. EMS managers office attached west of EMS office.

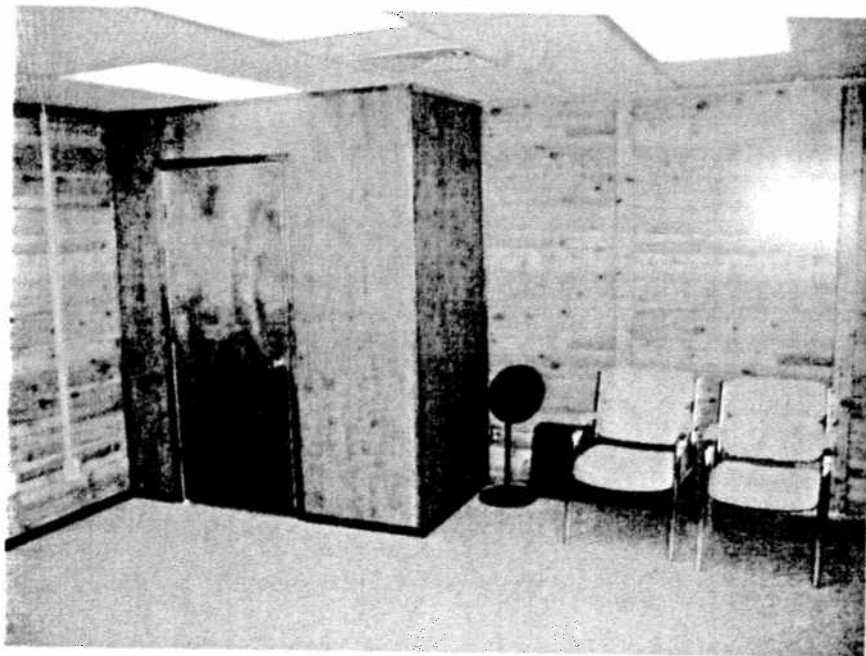


Figure 25. Evidence storage locker in northeast office.

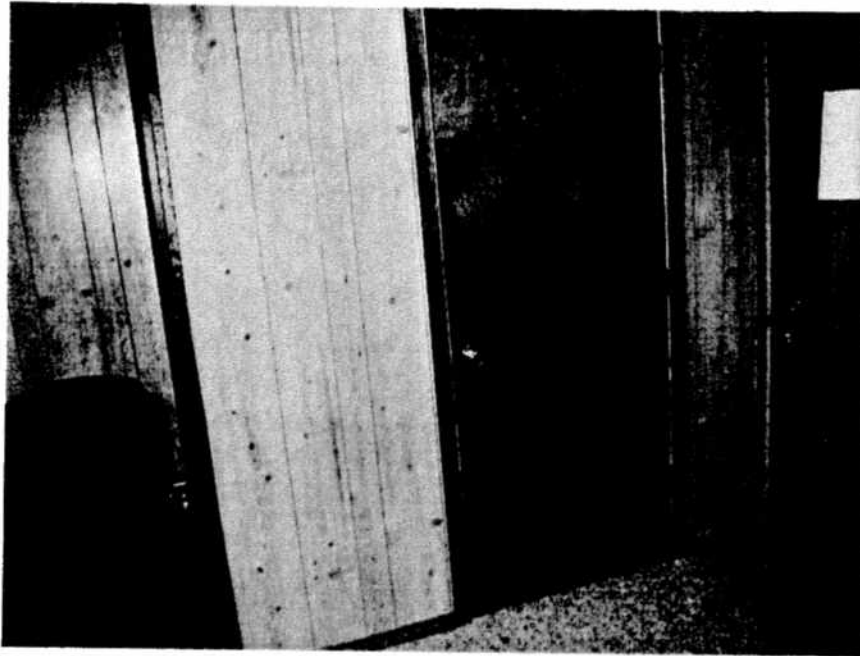


Figure 26. Evidence storage locker in northeast office

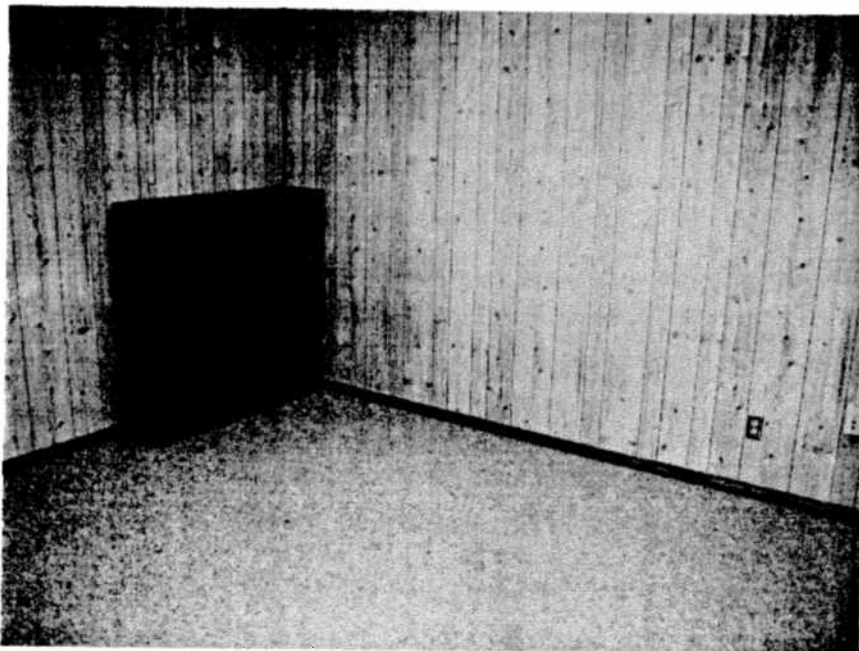


Figure 27. New carpeting in northeast office.

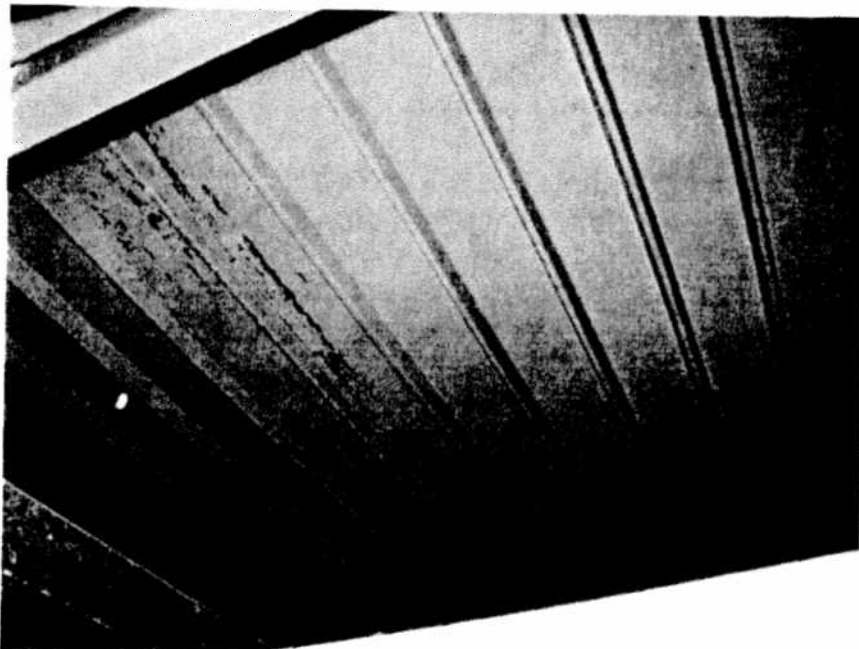


Figure 28. View of plenum above drop ceiling typical throughout the facility. Note minor paint chipping exposing steel primer coating observed in less than 5% of total observed surface area.

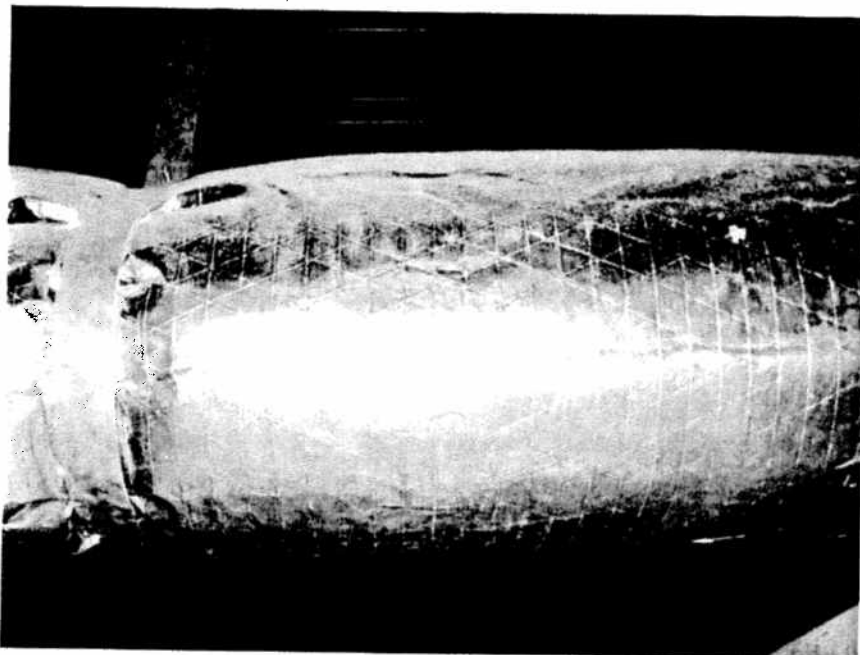


Figure 29. View of wrapped ducting typical throughout the facility.

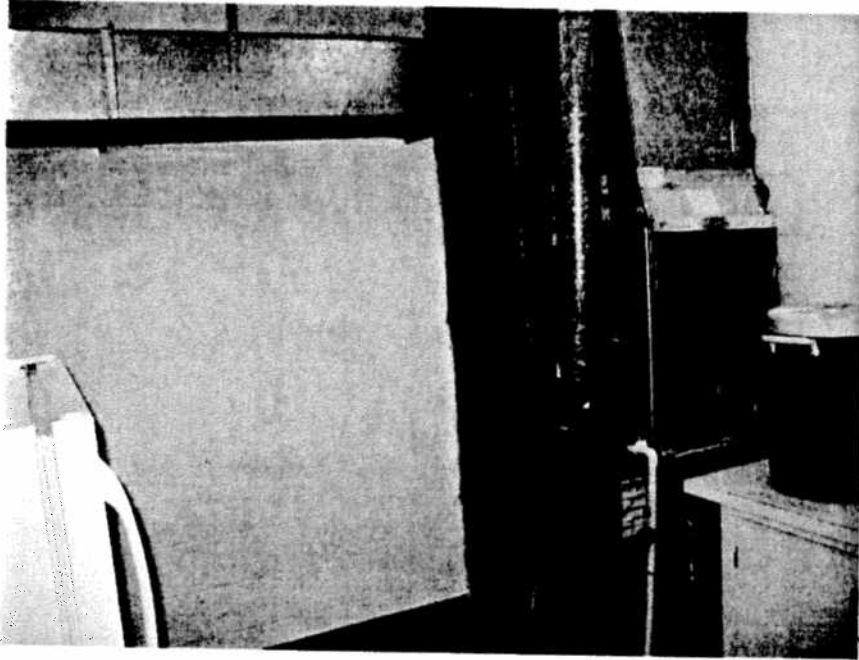


Figure 30. View of heating system in west wing of building.

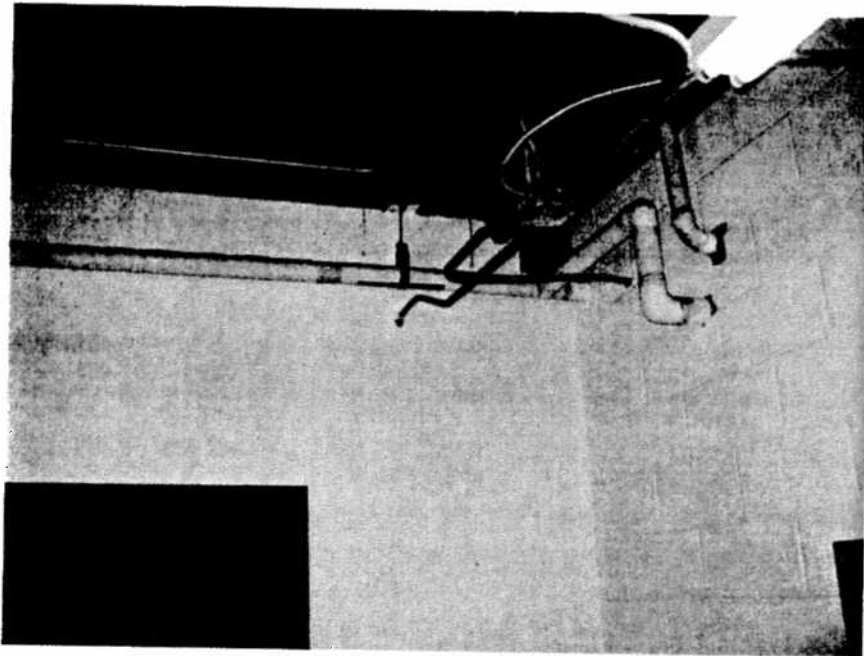


Figure 31. Suspect ACM seen in pipe wrap insulation in heating system room in west wing of the building.

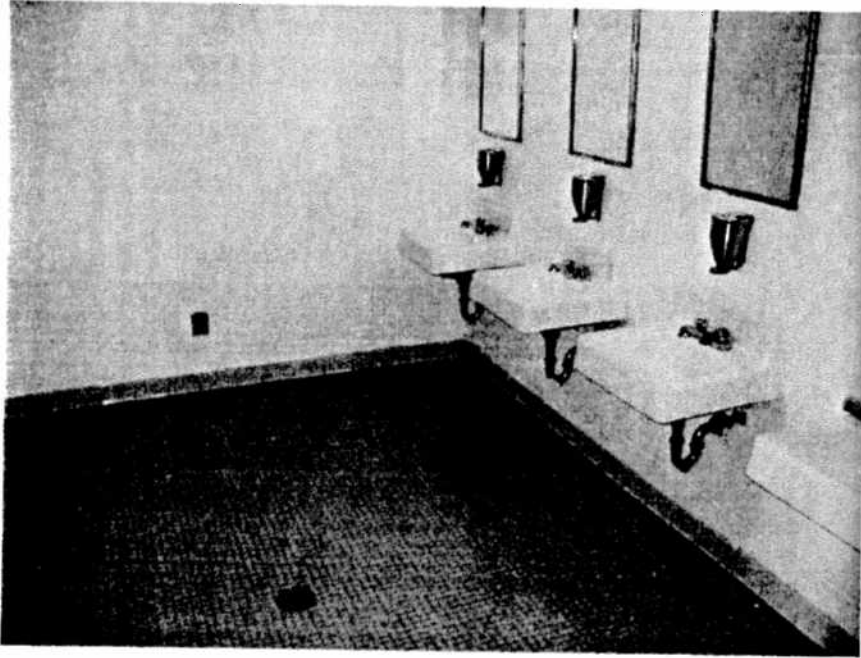


Figure 32. Restroom facilities in west wing of building. Note floor drain typical in restrooms found in the facility.

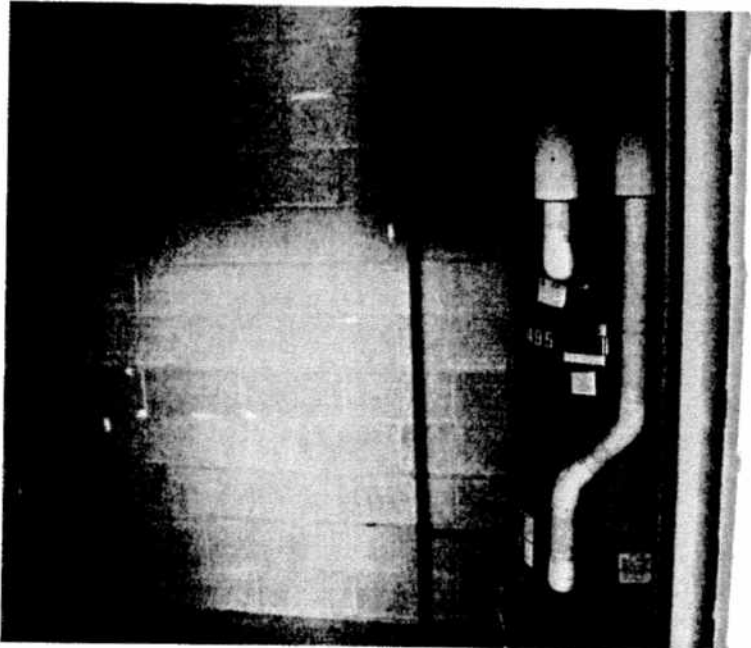


Figure 33. Water heating system in east wing of facility.

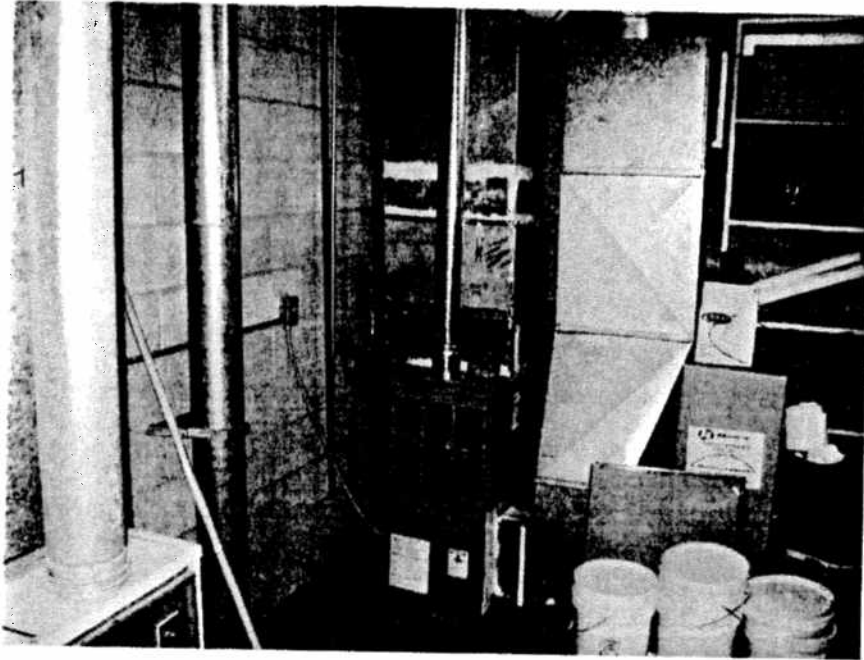


Figure 34. Heating system in the east wing of the facility. Latex paint in buckets.

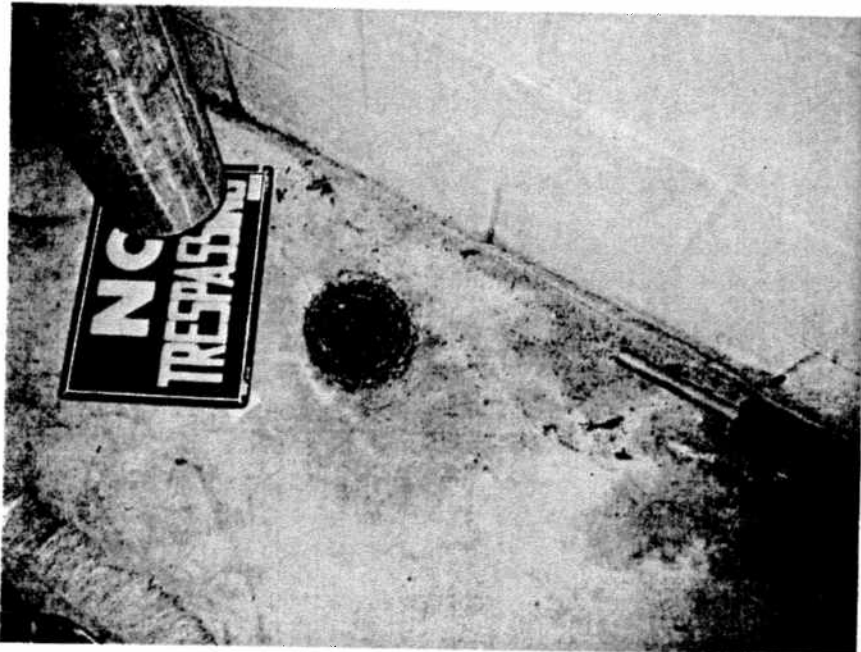


Figure 35. Floor drain in east wing heating room.

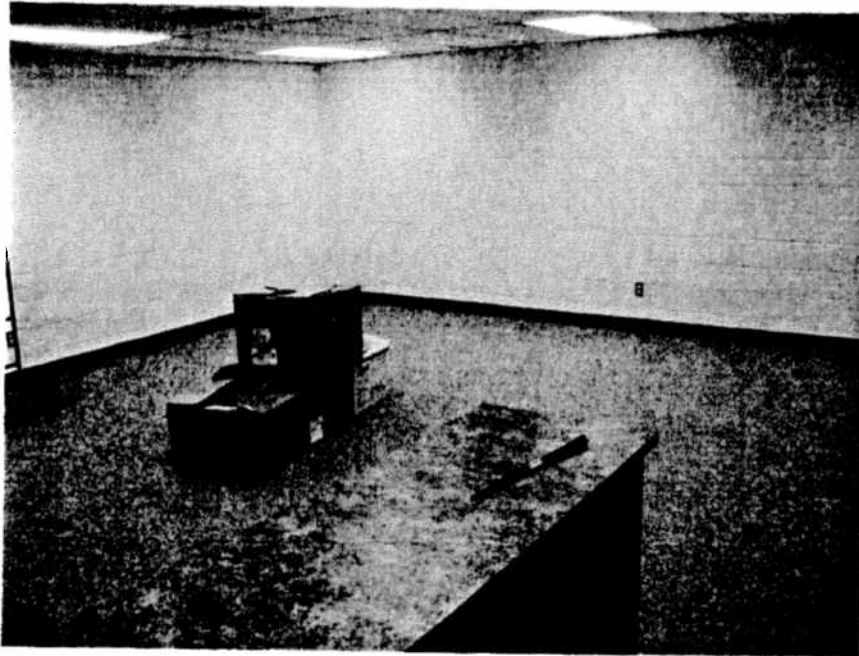


Figure 36. Office room on northeast side of building. Note new carpet, paint and ceiling panels.

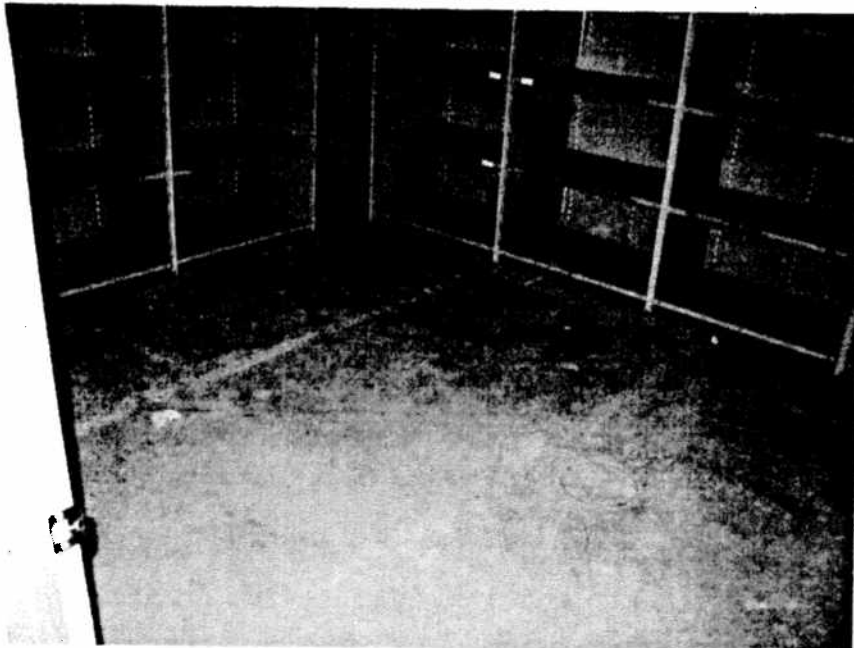


Figure 37. Shelves found in the “equipment room” in the west wing of the facility.

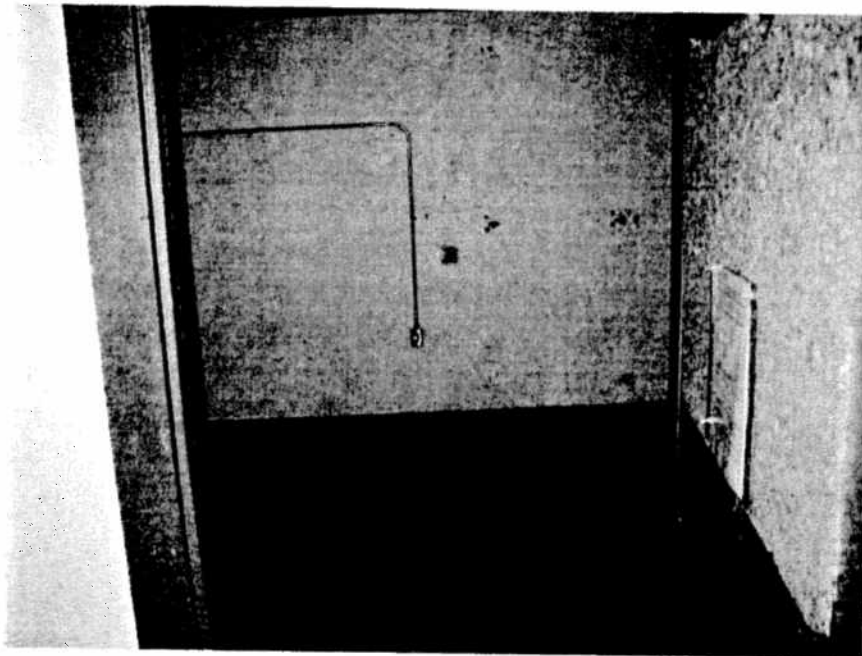


Figure 38. Vault room in east wing of the facility.

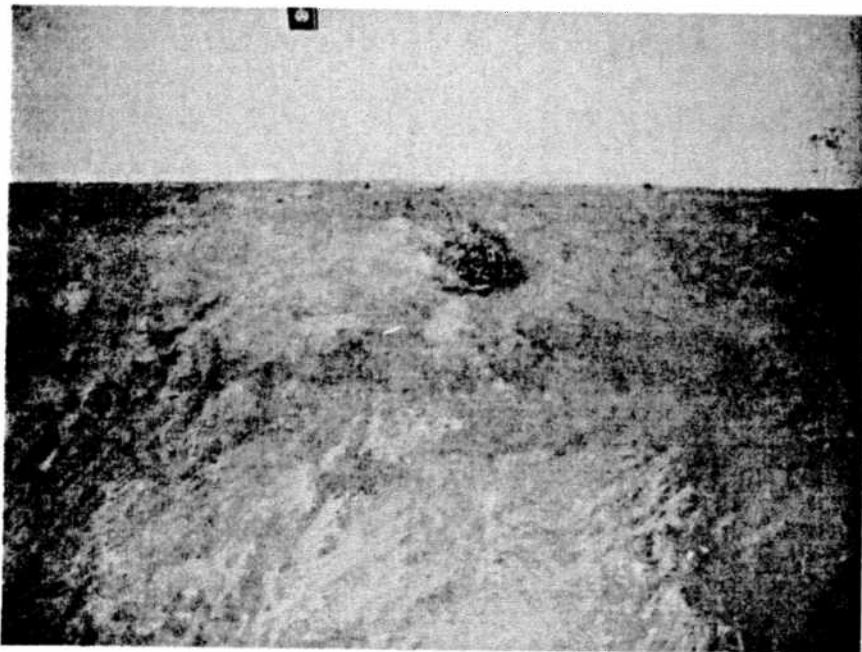


Figure 39. Floor drain in the vault room.

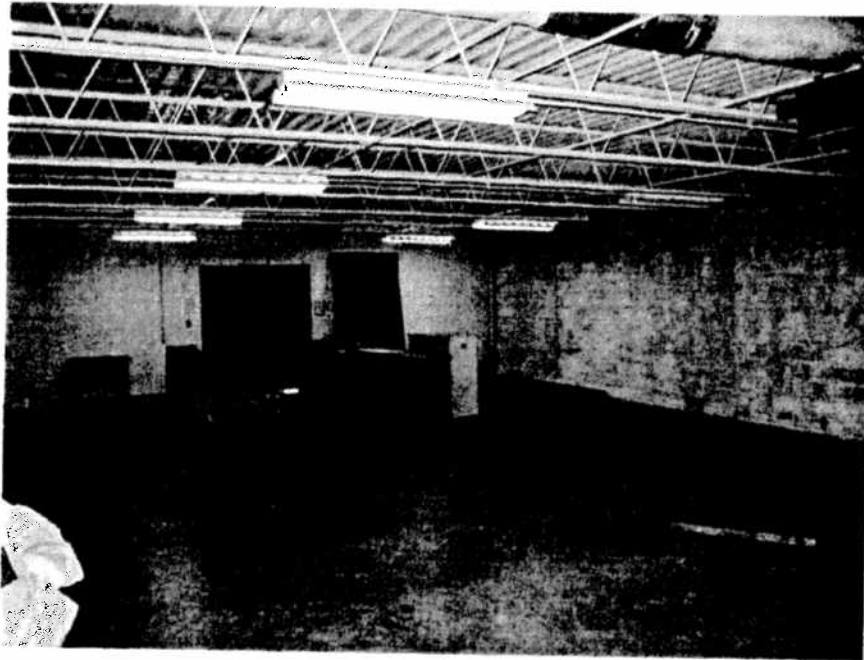


Figure 40. View of the supply room looking south. Note National Guard property in Foreground.

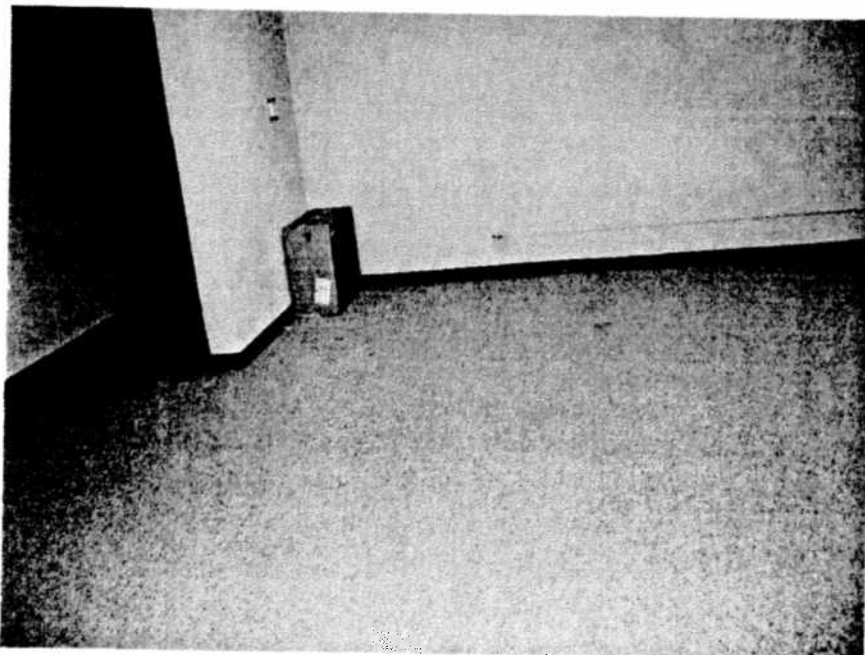


Figure 41. View from former dining room facing east door.

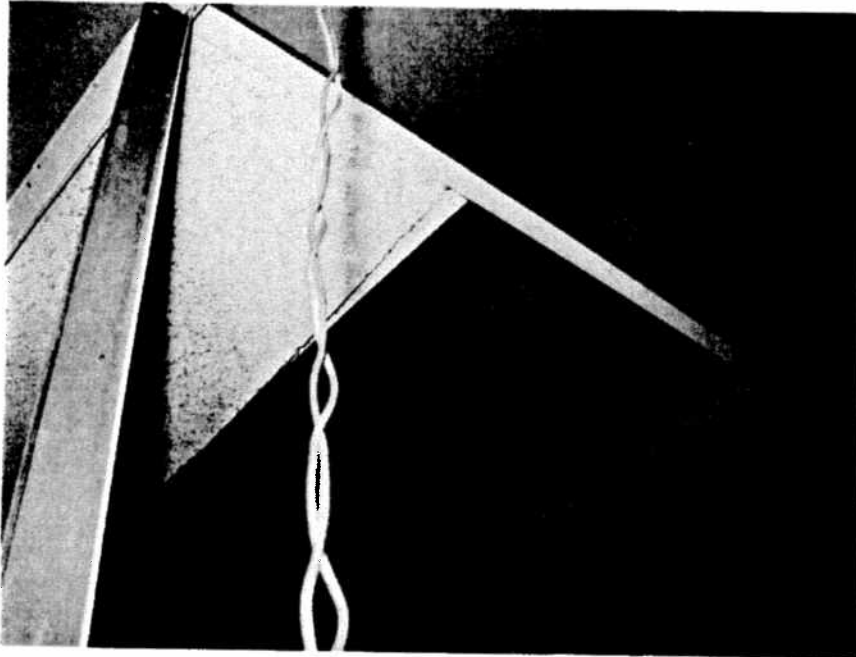


Figure 42. Second drop ceiling above current ceiling seen in “commo room” north of the kitchen.



Figure 43. Recently remodeled courtroom space located in former “dining room”.

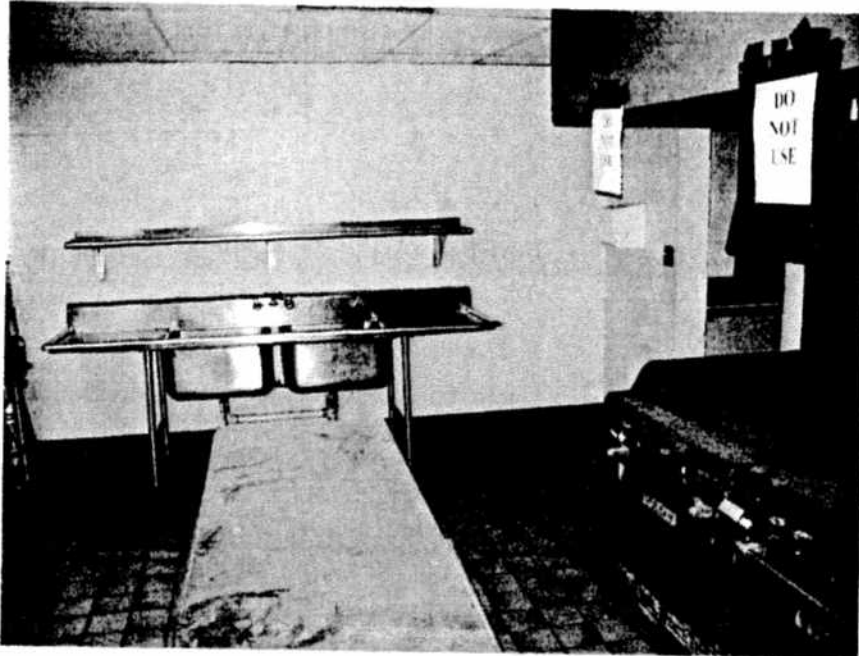


Figure 44. View of Kitchen looking west.

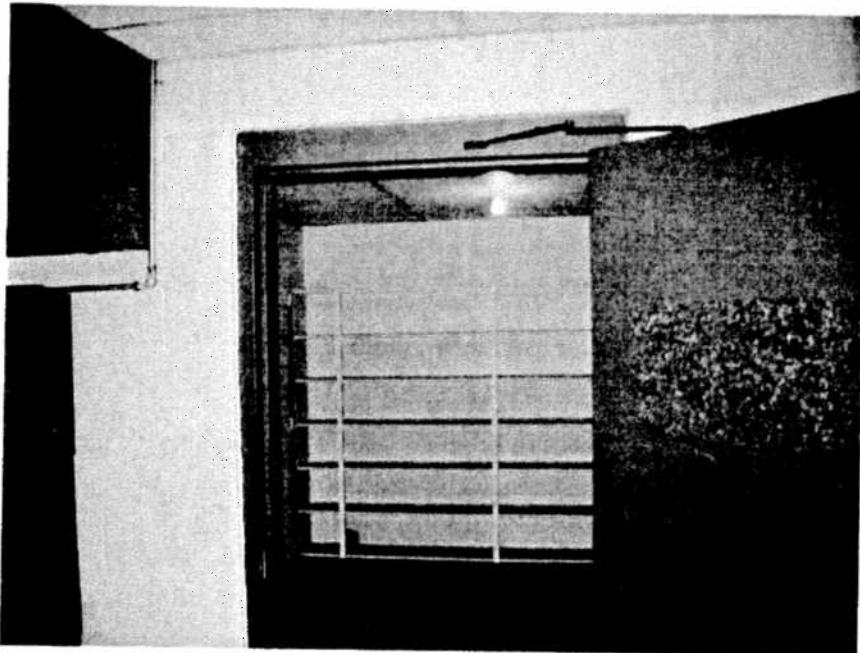


Figure 45. Mess supply room looking north.

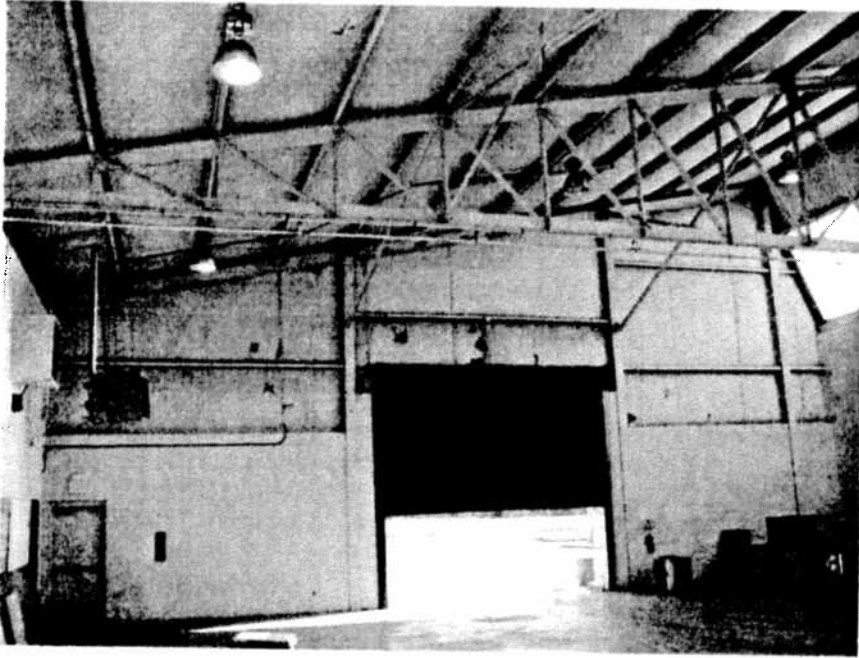


Figure 46. Drill floor looking west.



Figure 47. Drill floor looking southwest. Note IFR entrance door left of bay door.

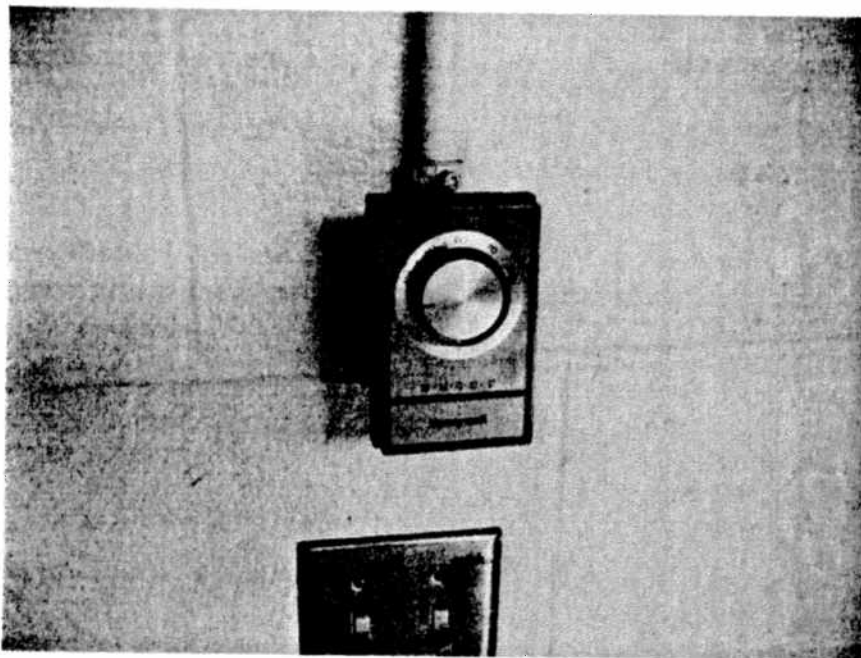


Figure 48. Thermostat on the northwest wall in the drill floor area.

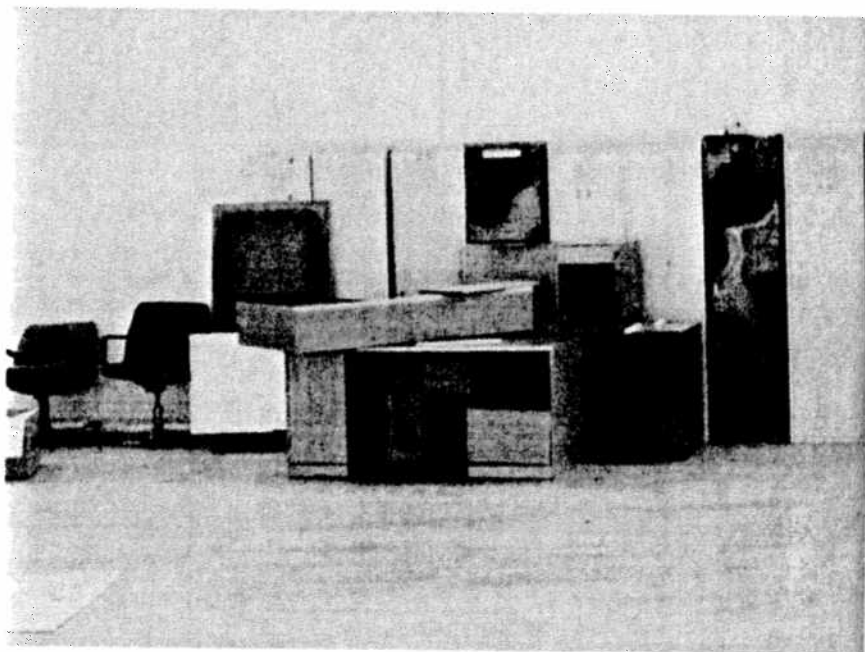


Figure 49. National Guard property in the southeast drill floor area.

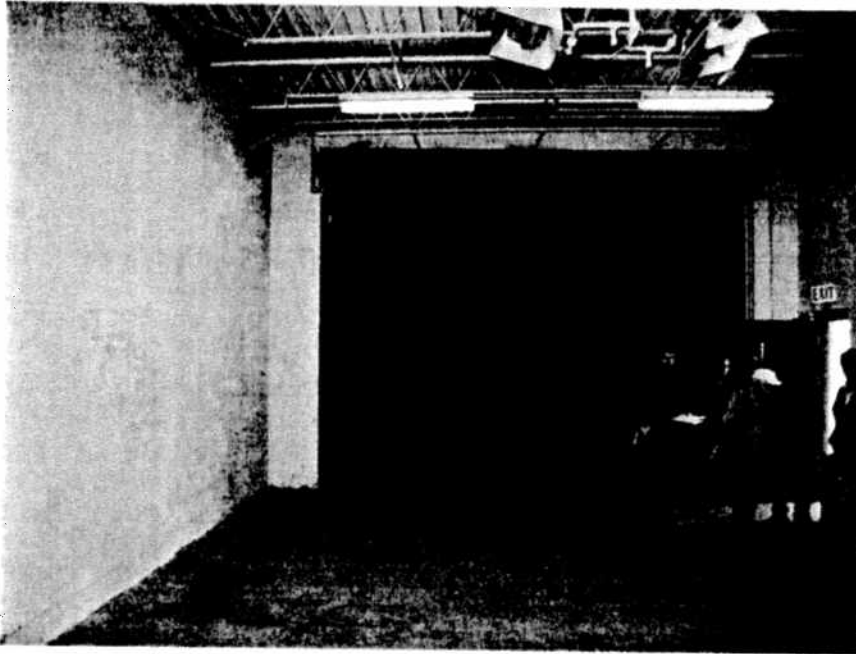


Figure 50. Inside the IFR looking west at bay door.

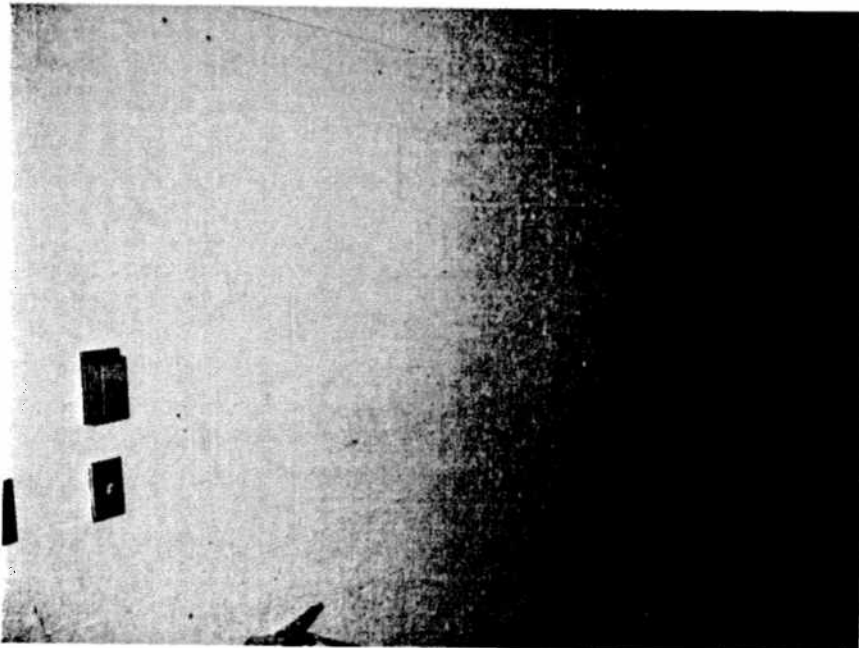


Figure 51. IFR thermostat control on northwest wall.

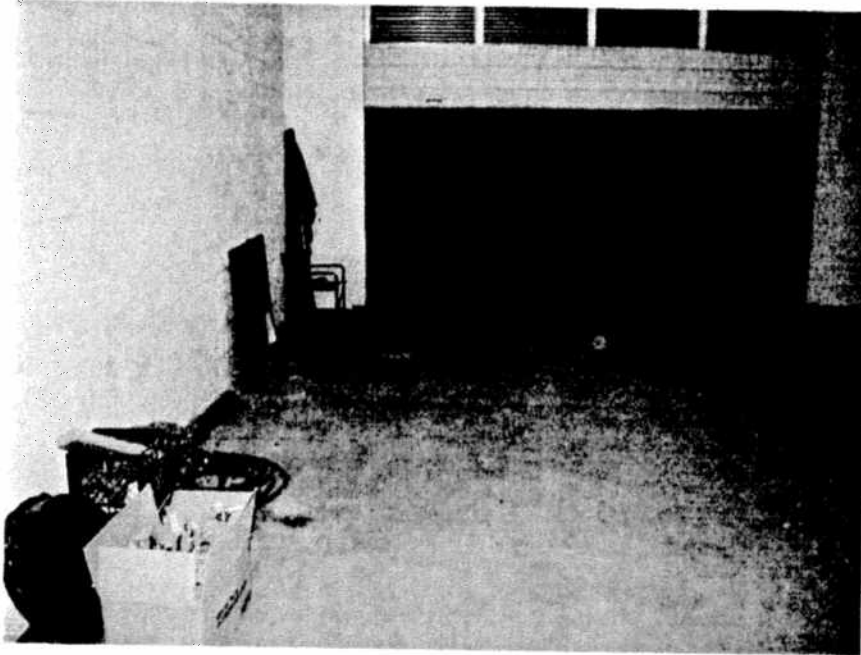


Figure 52. View of IFR looking east. National Guard equipment seen on left.

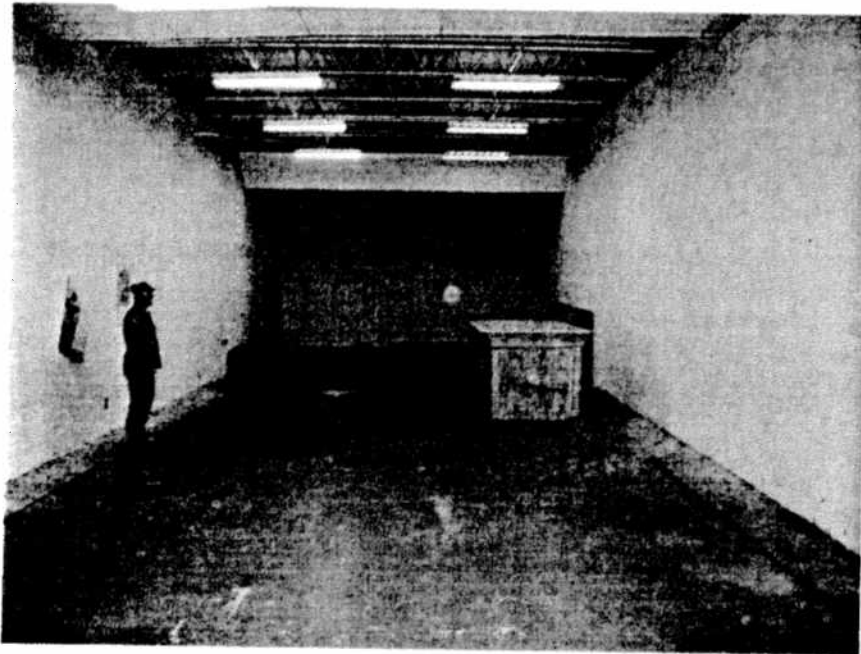


Figure 53. View from mid point of IFR viewing east half of IFR. Note National Guard property.

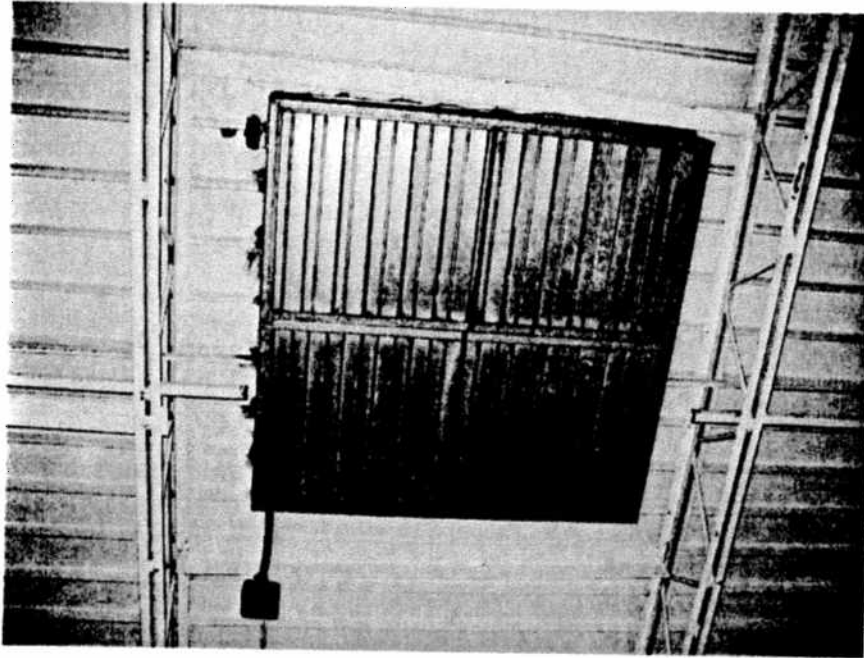


Figure 54. IFR vent on ceiling in the east half of the IFR room

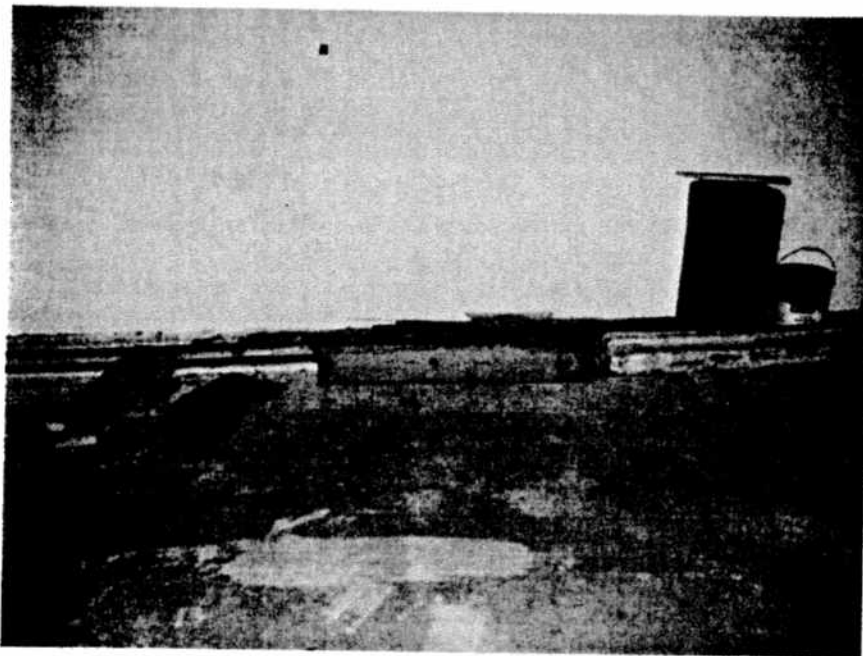


Figure 55. National Guard roofing supplies in east half of IFR.

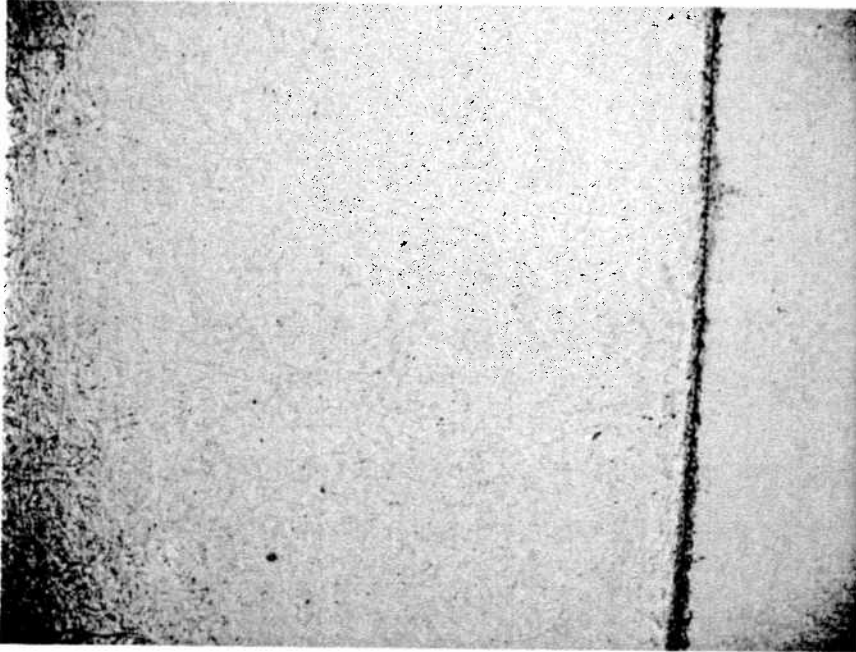


Figure56. IFR sound proofing material on northeast wall of IFR.

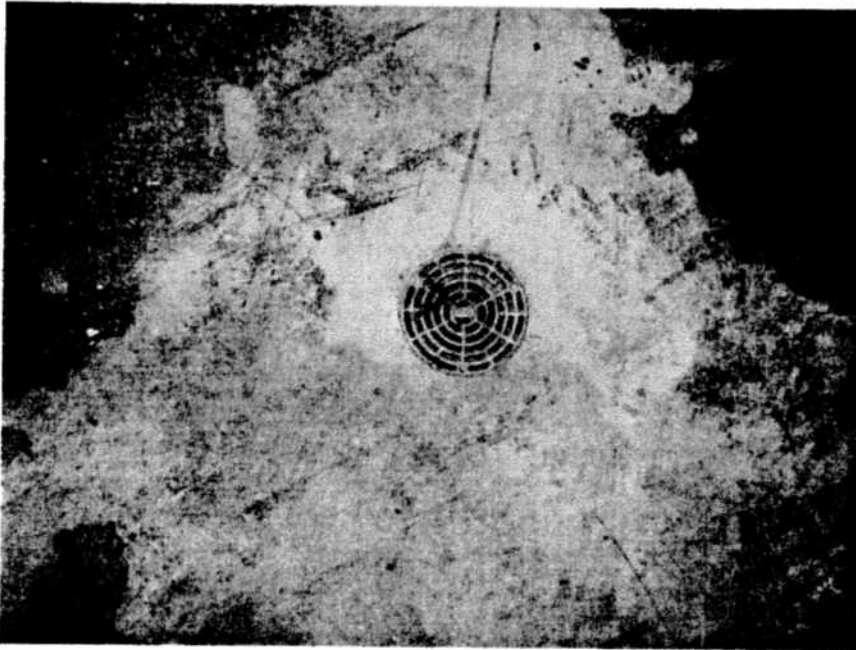


Figure 57. IFR floor drain near mid section of IFR.

Appendix C - Historical Research Documentations
Aerial Photographs
Topographical Map

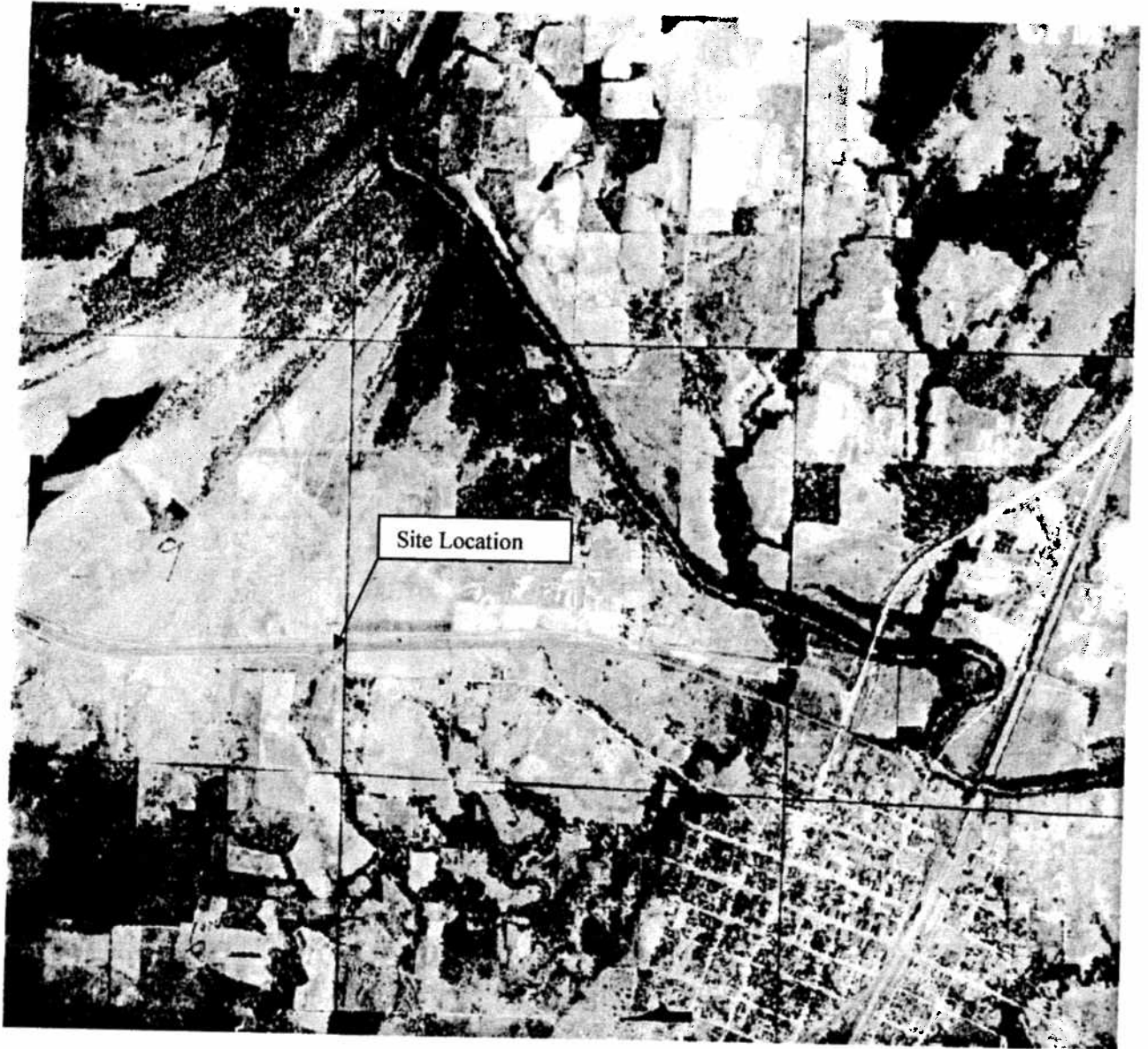


Figure 1. Aerial Photo – September 22, 1939

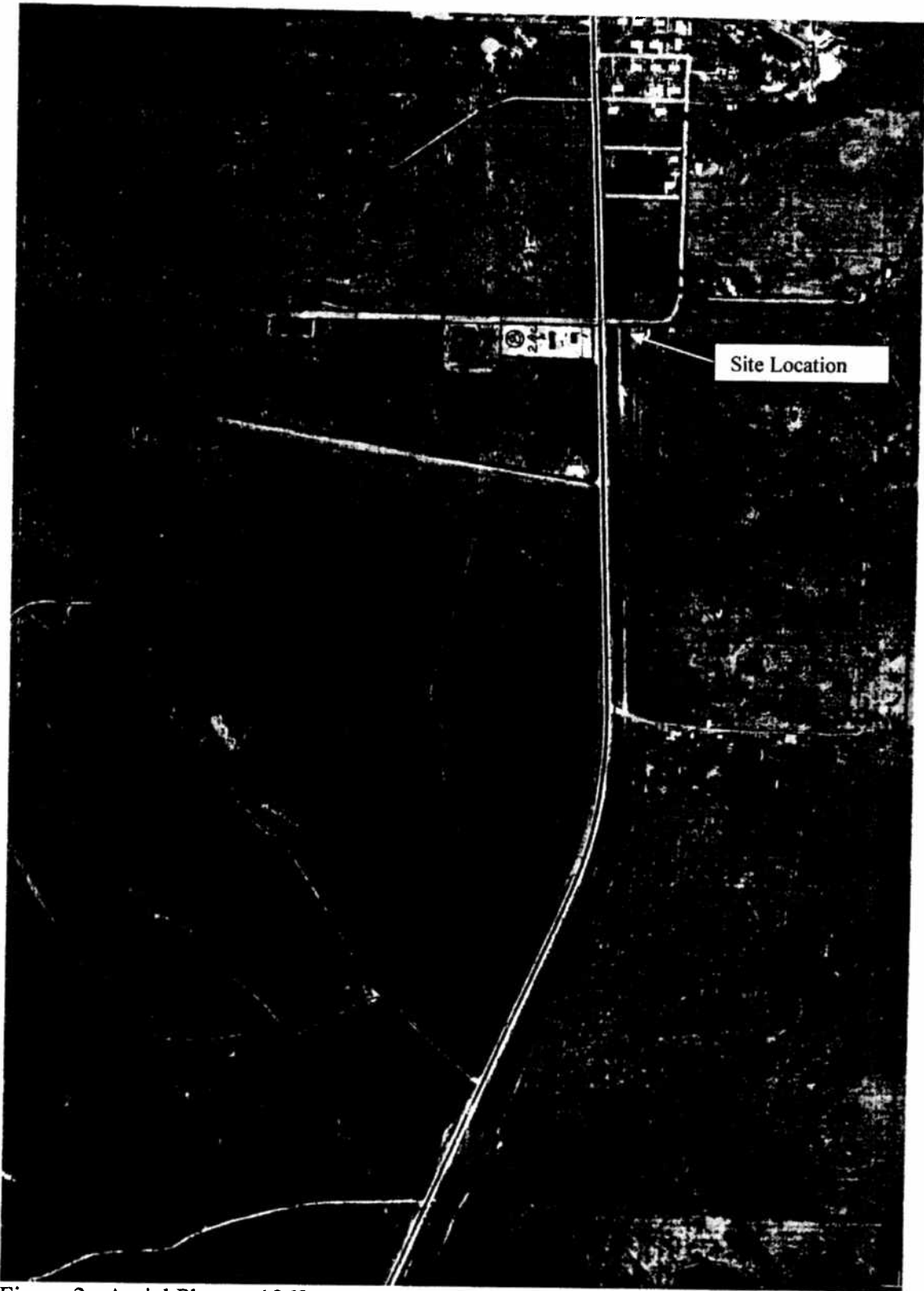


Figure 2. Aerial Photo - 1962

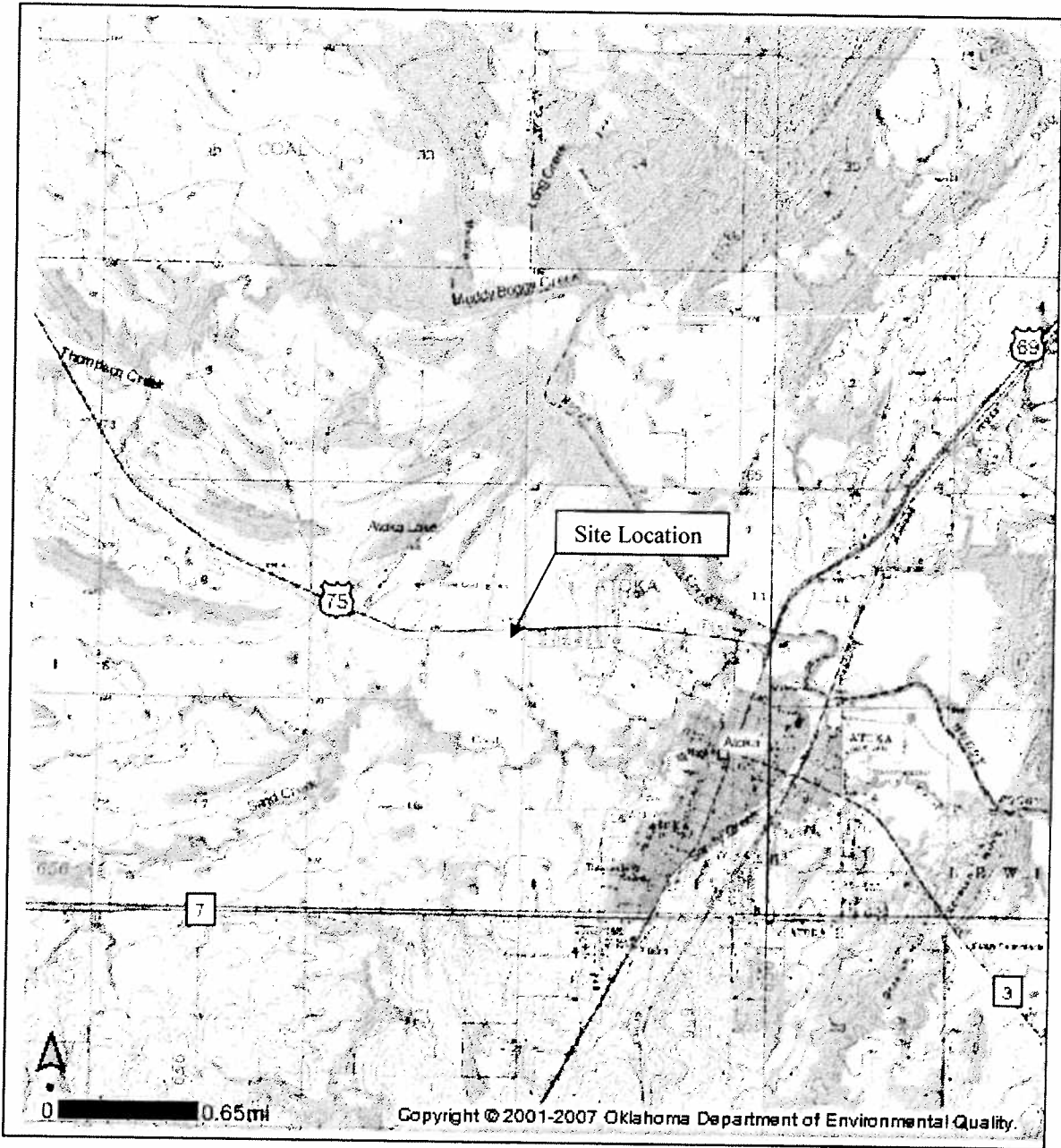


Figure 3. United States Geological Survey (USGS) Topographic Map

Appendix D - Interview Documentation

AAI Site Visit

Facility name: *ATOKA READINESS CENTER (ARMORY)*
Facility address: *1002 LIBERTY ROAD, ATOKA COUNTY, ATOKA OK*
Date of visit: *1-9-07*
DEQ staff in attendance: *JARRETT KEDD*
People interviewed/affiliation with site: *ATOKA POLICE CHIEF JOHN SMITHART CITY MGR DON WALKER*
Sgt Major Michael Scotty - OK NATIONAL GUARD

Note: Take a copy of the facility map with you to mark where drains, utilities, and sampling locations are located

Asbestos

Note: If Marshall Environmental has already surveyed for asbestos then we can get this information from their report.

Suspect asbestos containing materials (ACM): *SEE MARSHAL REPORT*

<u>Location of ACM</u>	<u>Material</u>	<u>Notes</u>
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

Onsite information

Air Emissions ^{LCAD QUEST?} Wastewater Discharge

Industrial activities

Monitoring wells *Location:*

Stained soils *Location:*

Seeps *Location:*

Chemical spills *Location:*

Oil and Gas Exploration *Describe:*

Known Groundwater or Surface Water contamination

Describe:

Farm Wastes

Known Pesticide Misapplication ^{X COPPER TRAPS ON SITE NOT MISAPPLIED}

Discharges and Runoff from Adjacent Property Affecting the Site

Transformers/PCB Equipment *Location:*

Describe:

Other known or Suspected Environmental Concerns On the Site

UST FILLED w/ AWD, CLOSED IN PLACE BY OCL

Historical Recognized Environmental Conditions On the Site

IFR, UST

Historical Use Information on Adjoining Properties

AERIAL PHOTO

Site Reconnaissance

Methodology and Limiting Conditions: The method used to observe the property and limitations imposed by physical obstructions or limiting weather conditions.

PEDESTRIAN WALK THROUGH

General Site conditions:

External observations

___ Stained soil or pavement ___ Stressed vegetation ___ Solid waste

Other:

Internal observations

___ Odors ___ Pools of liquids ___ Drums

___ Stains or Corrosion on floors, walls, or ceilings

Other:

General notes:

Military Department Property

N Boiler present? N Radiator present? # of radiators _____

Rooms radiator(s) present in: _____

_____ Old lighting ballasts present? - UNKNOWN IF BALLASTS ARE PRE '78
CITY MGR STATES ELECTRICAL EQUIP WAS INSPECTED BY CLEANMAN.

Rooms old lighting ballasts present in: _____

<u>Type of property</u>	<u>Amount</u>	<u>Room Located In</u>
1. DESKS		DRIVE ROOM
2. CHAIRS		
3. SAND TABLE		
4. F. 25 E. -	≈ 10	1FR
5.		1FR
6.		
7.		
8.		
9.		
10.		

Utilities

City water ___ Well City sewer ___ Septic tank
 Natural gas ___ Propane

Underground features

___ USTs removed ^{SEWER} Vent pipes present USTs not removed

Above ground features

___ Cisterns present ___ ASTs Impoundments ^{SMALL POND} MOST OF VEHICLE IMPOUNDMENT

Structures on adjoining property

Residential, commercial structures, churches, schools etc

N - ODOT NW KIAMATI TCBUT CTR
E - FUNERAL HOME → RESIDENTIAL
S - OL DEPT HUMAN SVCS → PASTURE
W - PASTURE

Current Use of the Property

Descriptions of Structures, Roads, Other Improvements on the Site

ALLAS NORTH, MAIN ENTRANCE N.
VEHICLE IMPROVEMENT - WEST FENCED

Description of adjacent properties

ODOT MAINTENANCE YARD TO N
FURNACE HALL EAST
RESIDENCE EAST 60
DCP HALLS S
PASSELS S AND W

Owner, Property Manager, and Occupant Information

DON WALKER, CITY MGR (520) 884-0625

Additional Environmental Record Sources

City Records: e.g. Material Safety Data Sheets for chemicals used at industrial or commercial facilities Land Use Restrictions

NO RECORDS AVAILABLE

CITY CLERK JOY B ANGLIT & CITY MGR DON WALKER

SAY NO VIOLATIONS TO THEIR KNOWLEDGE

Physical Setting Sources

Historical Use Information on the Property

AERIAL PHOTOS

Appendix E - Qualifications of Environmental Professionals

Appendix E – Qualifications of Environmental Professionals

Jarrett Keck holds a Bachelors of Science Degree in Environmental Engineering Technology from California State University Long Beach. He is an Environmental Programs Specialist for the Land Protection Division of the Oklahoma Department of Environmental Quality. His duties include providing technical and regulatory oversight in the Voluntary Cleanup and Brownfield programs. Mr. Keck has over five years of experience in the environmental field performing Phase I/ II Environmental Site Assessment activities, various site remediation technologies, and providing regulatory oversight for state and local government.

Rita R. Kottke, Ph.D., Rita R. Kottke, Ph.D., is the Brownfield Program Manager and Superfund Removal Coordinator for the Land Protection Division of the Oklahoma Department of Environmental Quality (DEQ). She is the agency's technical and policy expert in cross-jurisdictional redevelopment of contaminated property. She was heavily involved in the formulation of DEQ's Brownfield Program, the development of the Brownfield Cleanup Revolving Loan Fund, and the negotiation of the State's Brownfield Memorandum of Agreement with EPA. She has been with the agency for 14 years, working in the Superfund and Brownfields Programs. She holds a Doctorate in Environmental Sciences from Oklahoma State University.

Hal Cantwell holds a Bachelor Degree in Geography with emphasis in Physical Geography and ecological from the University of Oklahoma, and a Masters Degree in Geography with emphasis in Biogeography and Remote Sensing from the University of Oklahoma. Mr. Cantwell has 21 years experience working in the Superfund program including directing the investigation and remediation of National Priority List (NPL) sites. He has 21 years experience in performing site assessments and eleven years experience in directing and supervising CERCLA Preliminary Assessments and Site Investigations with the Oklahoma Department of Environmental Quality Land Protection Site Assessment Unit. He also has eleven/ years experience performing and supervising Targeted Brownfield Assessments under the DEQ Brownfields Program.

Appendix F - Analytical Results of Indoor Firing Range

7.0 ATOKA ARMORY

C.H. Guernsey & Company (GUERNSEY) surveyed the indoor firing range (IFR) at the Atoka Armory on May 4, 2005 (Photographs 7-1 through 7-19). The IFR is approximately 85 feet long, approximately 21 feet wide, and the ceiling is approximately 20 feet high. At one end of the IFR is a roll-up door. The ventilation system within the firing range is comprised of a fan located in the ceiling at what was once the bullet trap and vented directly outside.

Based upon information supplied to GUERNSEY, Oklahoma Military Department (OMD) personnel collected wipe samples from the IFR on April 29, 2004. Concentrations within the IFR were 1,983 $\mu\text{g}/\text{ft}^2$ near the former bullet trap, 101 $\mu\text{g}/\text{ft}^2$ near the middle of the floor, and less than 16 $\mu\text{g}/\text{ft}^2$ on the drill floor. Because of these relatively low concentrations of lead, remedial measures outside the IFR are not considered necessary at this time. Table 7-1 summarizes the laboratory results for the wipe samples.

Table 7-1
Laboratory Analysis

Sample ID #	Sample Date	Result ($\mu\text{g}/\text{sq. Ft.}$)	Lab Report ID #
NIA	4/29/2004	1,983.0	NIA
NIA	4/29/2004	<16.00	NIA
NIA	4/29/2004	101.55	NIA

Note:

NIA = No information available

There was no equipment identified for cleaning at this facility.

Table 7-2 provides a preliminary cost estimate to clean the equipment and/or remediate the lead contamination in the IFR. Figure 7-1 shows the approximate locations of the OMD samples.

6.1 OTHER ENVIRONMENTAL CONSIDERATIONS

Beyond the issues related to the IFR, the following environmental related issues potentially exist at the Armory:

- Asbestos containing material (ACM) is material that contains 1% or more asbestos fibers. Because of the Armory's age, there is a potential for ACM in building materials (roofing materials, floor tiles, mastic, ceiling tiles, window putty, natural gas-fired heating systems, etc);
- Lead has been used as a color carrier in paints for hundreds of years. In 1978, its use in residential paints was restricted in the United States. Because of its age, there is a potential for lead containing paints at the Armory;
- Polychlorinated biphenyls (PCB) are oils that were used in electrical equipment until their regulation in 1977. There is a potential for PCB in fluorescent lighting ballasts, capacitors, transformers and other dielectric fluid filled electrical equipment at the Armory;
- The potential for mold exists within the Armory due to a compromise of the building envelope and the presence of standing water and visible water damage;

- Chlorofluorocarbons (CFCs) are compounds used in heating, ventilation, and cooling (HVAC) systems and in fire suppression (i.e., halon) systems. The use, release and recycling of these compounds are regulated by EPA. There is a potential for CFCs to be present in the HVAC equipment and fire suppression system of the Armory;
- Mercury is a heavy metal used in thermostats, pressure gauges, and other building and process related equipment. There is a potential for mercury containing thermostats at the Armory;
- Lead, nickel, and cadmium are heavy metals used in batteries. There is a potential for heavy metal containing batteries in the emergency lighting and exit signage at the Armory; and
- Other issues may be present that were not visually evident to GUERNSEY.

**Table 7-2
Preliminary Cost Estimate**

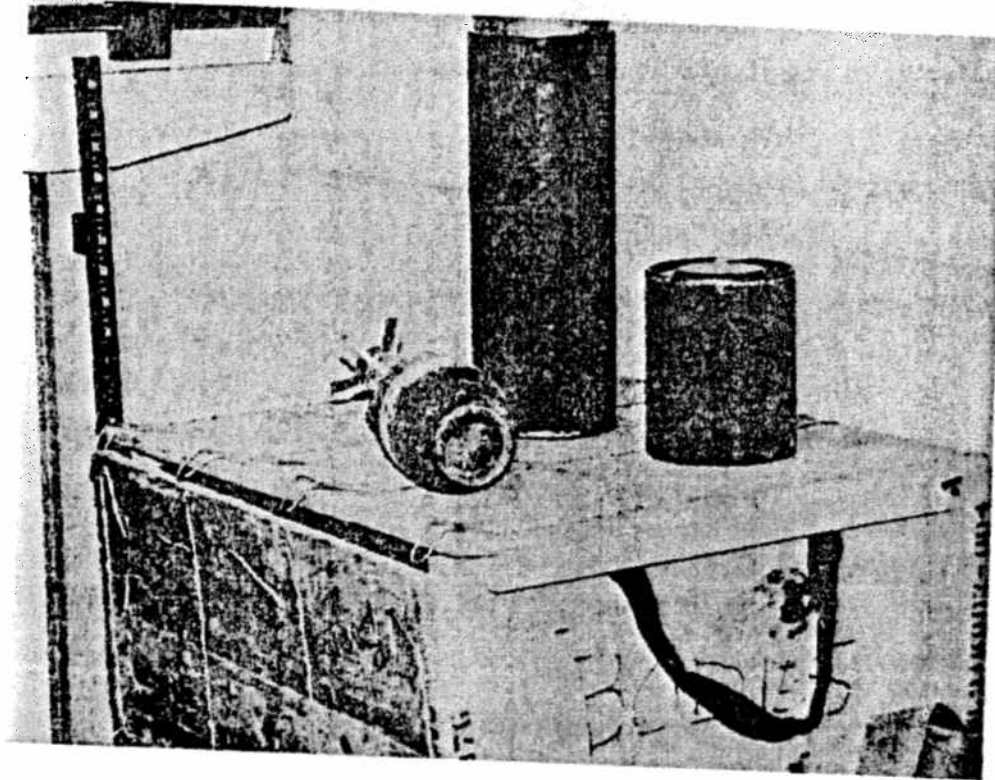
Equipment Cleaning Costs (a)				
Item Description	Number	Unit	Cost Per Unit	Total Cost
Total				\$0

Remediation Costs (b)				
Item Description	Number	Unit	Cost Per Unit	Total Cost
Mob/DeMob	1	Each	\$1,500	\$1,500
Stage/Clean Equipment/Components for Disposal	1	Each	\$2,500	\$2,500
Cleaning of Army Equipment (a)	N/A	N/A	N/A	\$0
Clean/Seal Firing Range surfaces	7810	ft ²	\$5	\$35,145
Clean Drill Floor	0	ft ²	\$0.10	\$0
Solidify/Stabilize Material in Bullet Trap	0	ft ³	\$15	\$0
Waste Disposal (non-hazardous)	3	Ton	\$1,000	\$3,000
Total (+/- 25%)				\$42,145

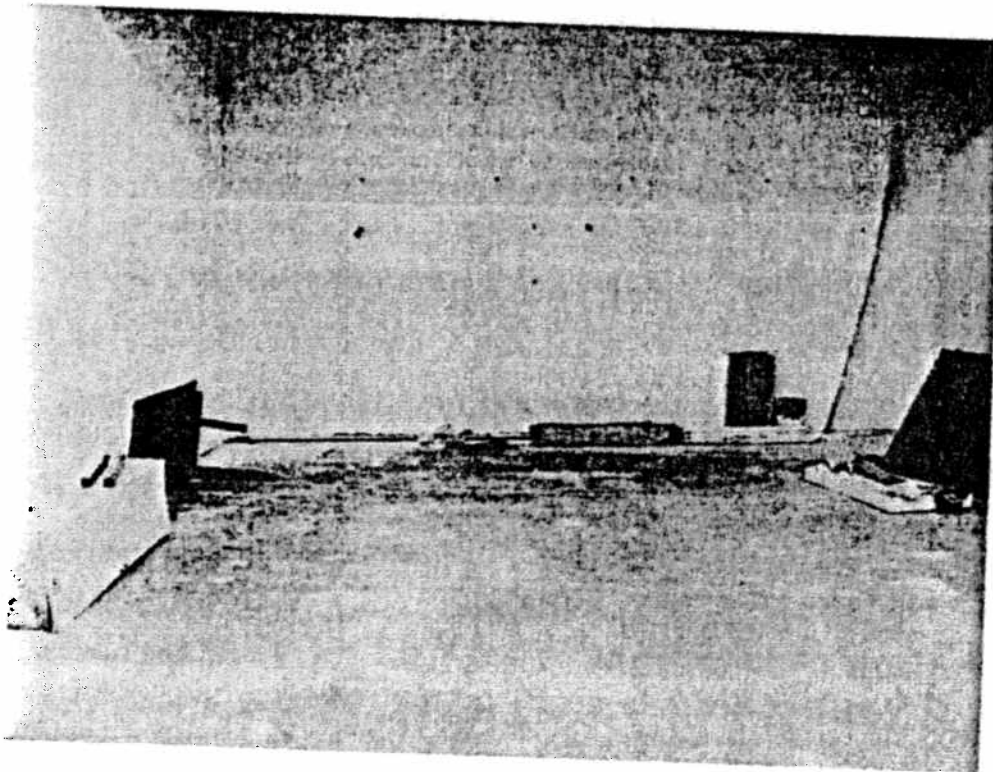
Notes:

- (a) Includes the cleaning of equipment identified by OMD personnel during site visit. Please reference photographs for each item.
- (b) Includes cleaning of firing range space, drill floor, and other surfaces to <40 ug/ft².

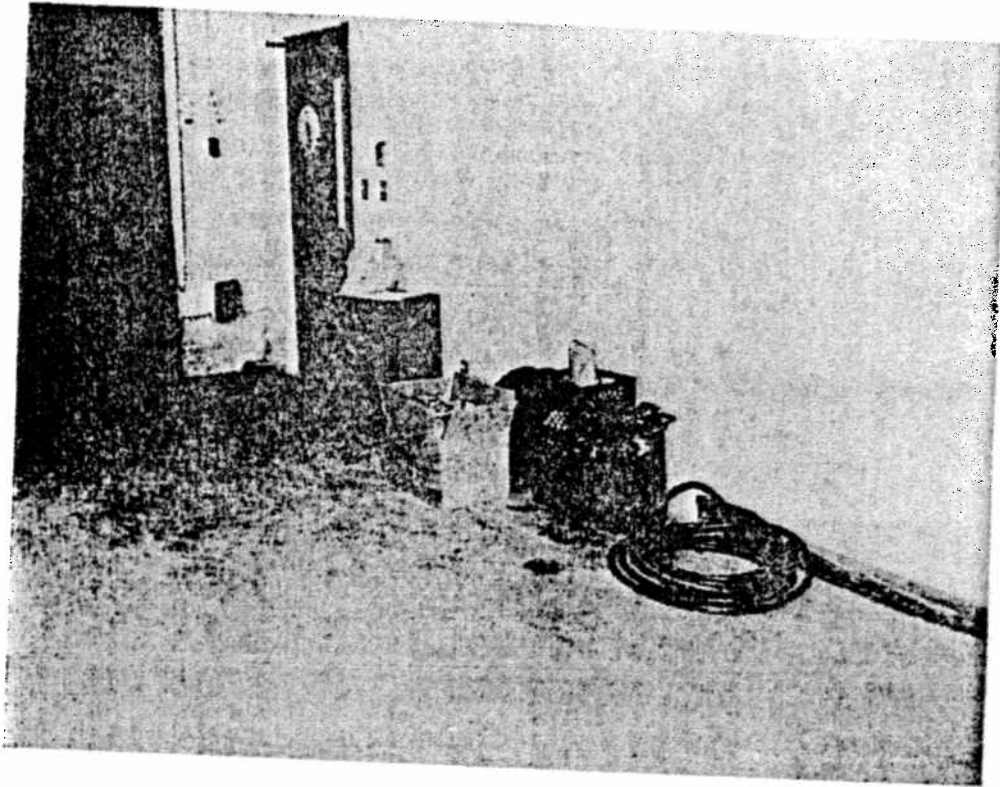
ATOKA ARMORY – PHOTOGRAPH LOG



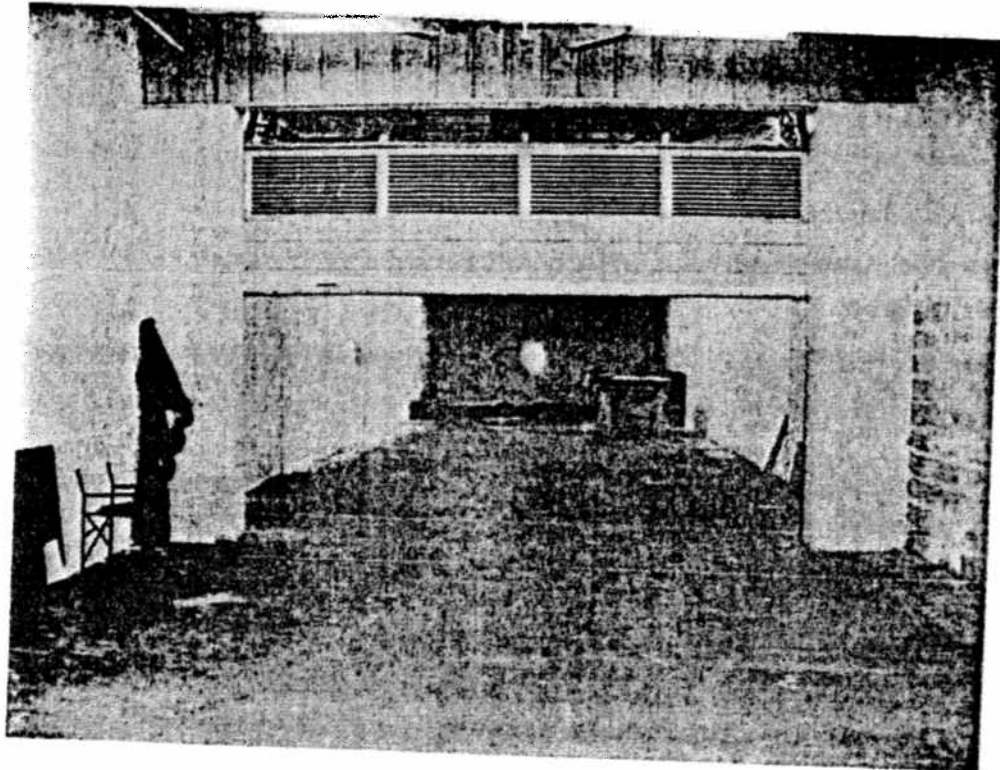
Photograph #7-1



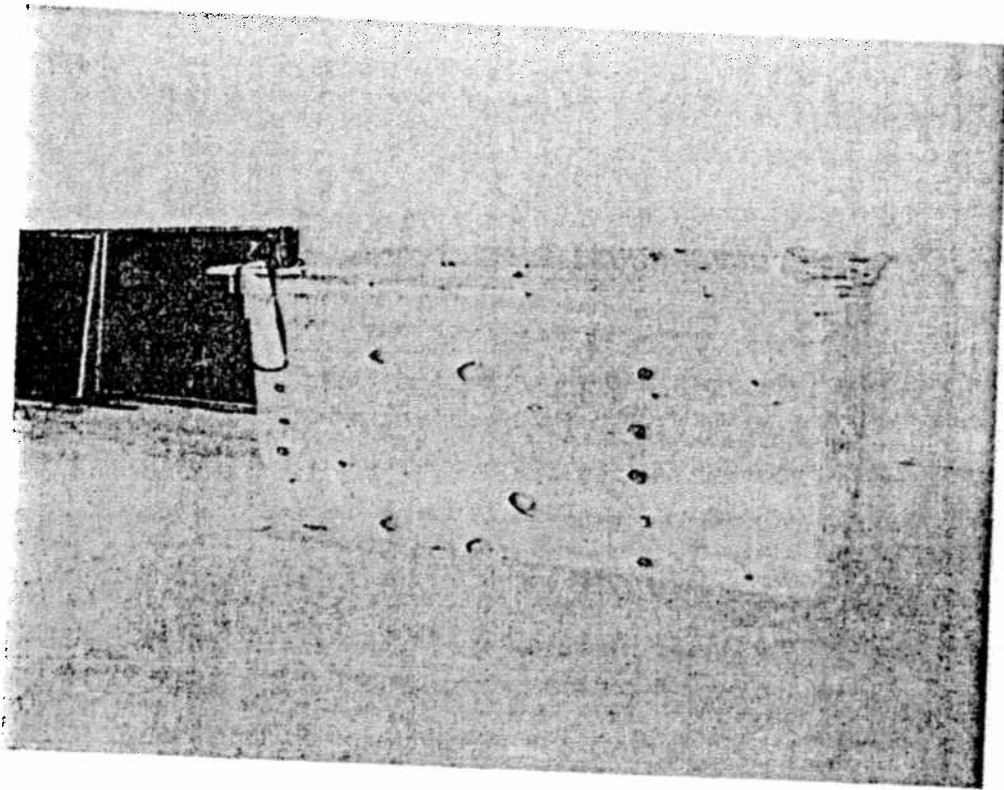
Photograph #7-2



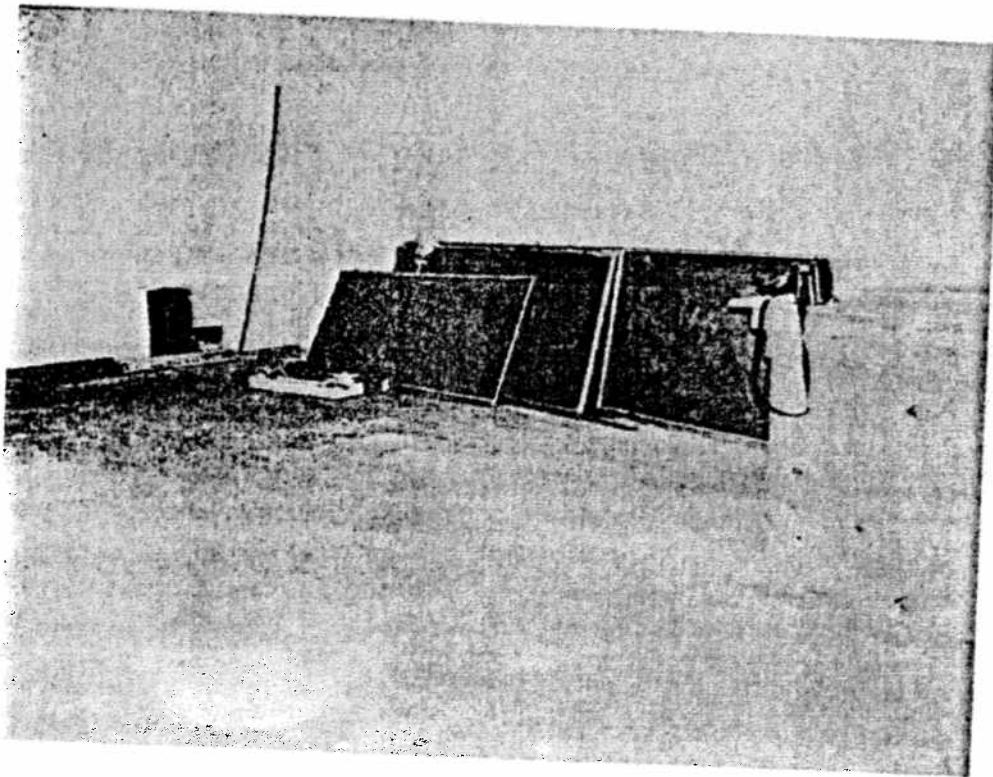
Photograph #7-5



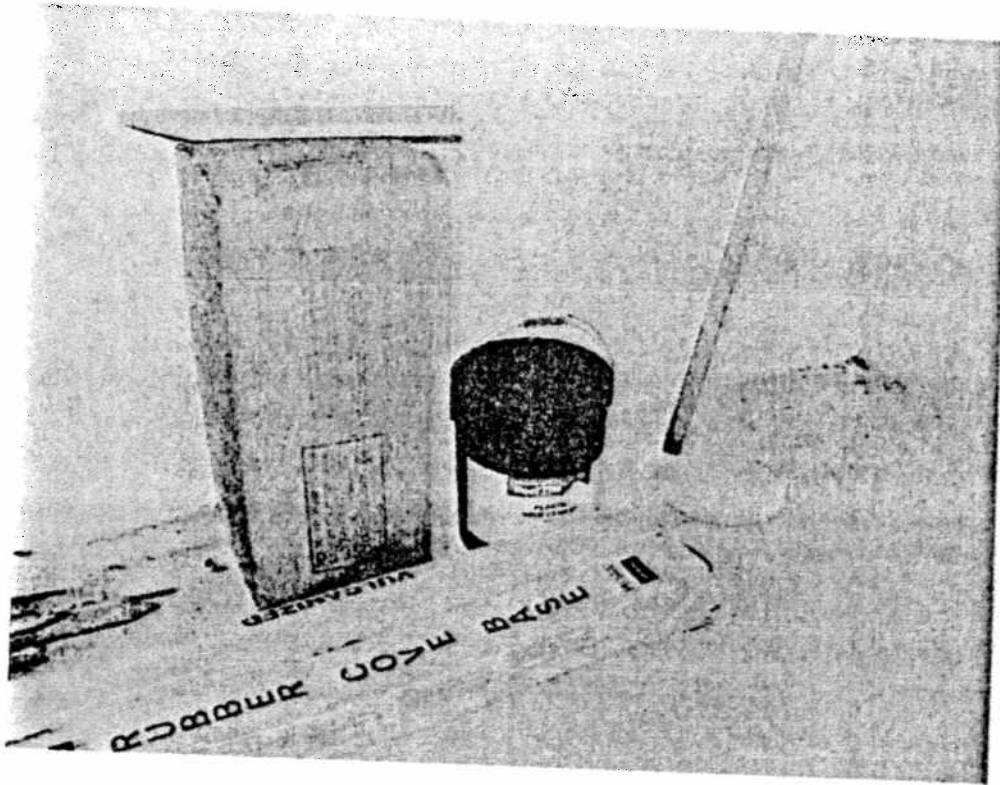
Photograph #7-6



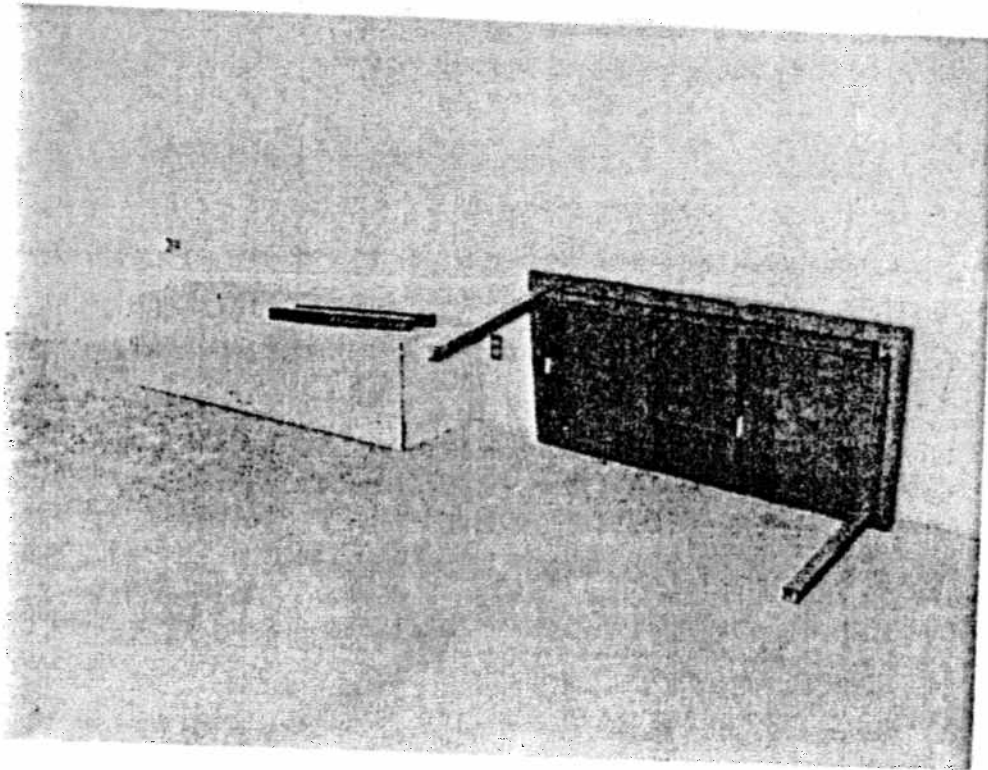
Photograph #7-9



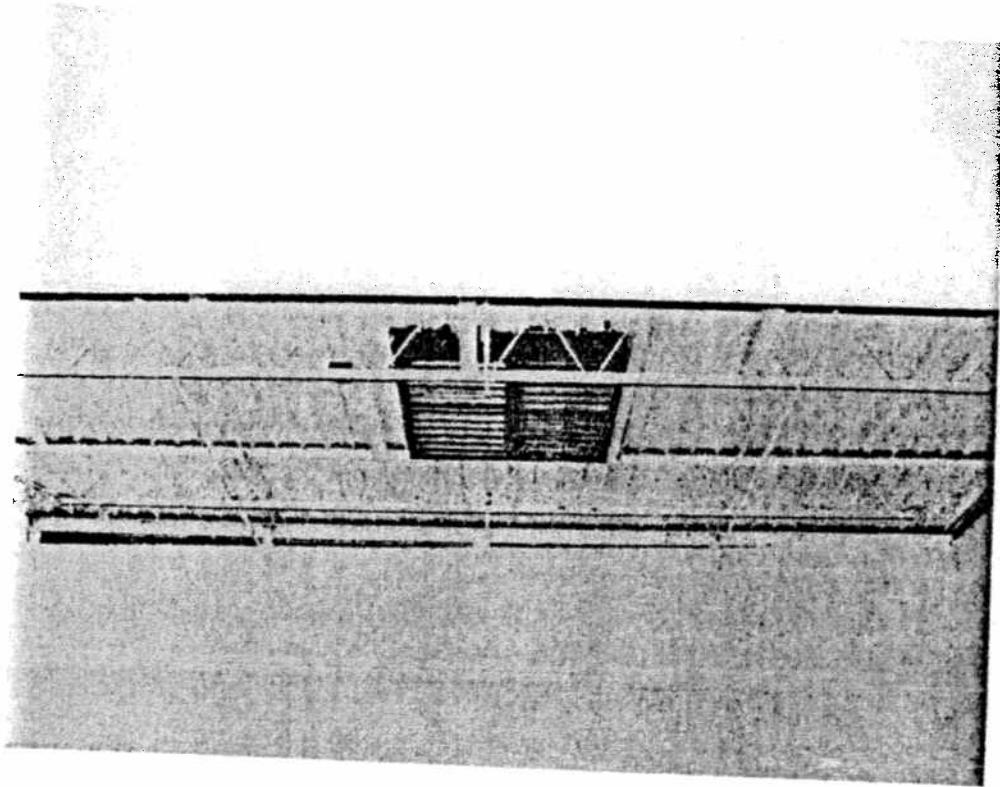
Photograph #7-10



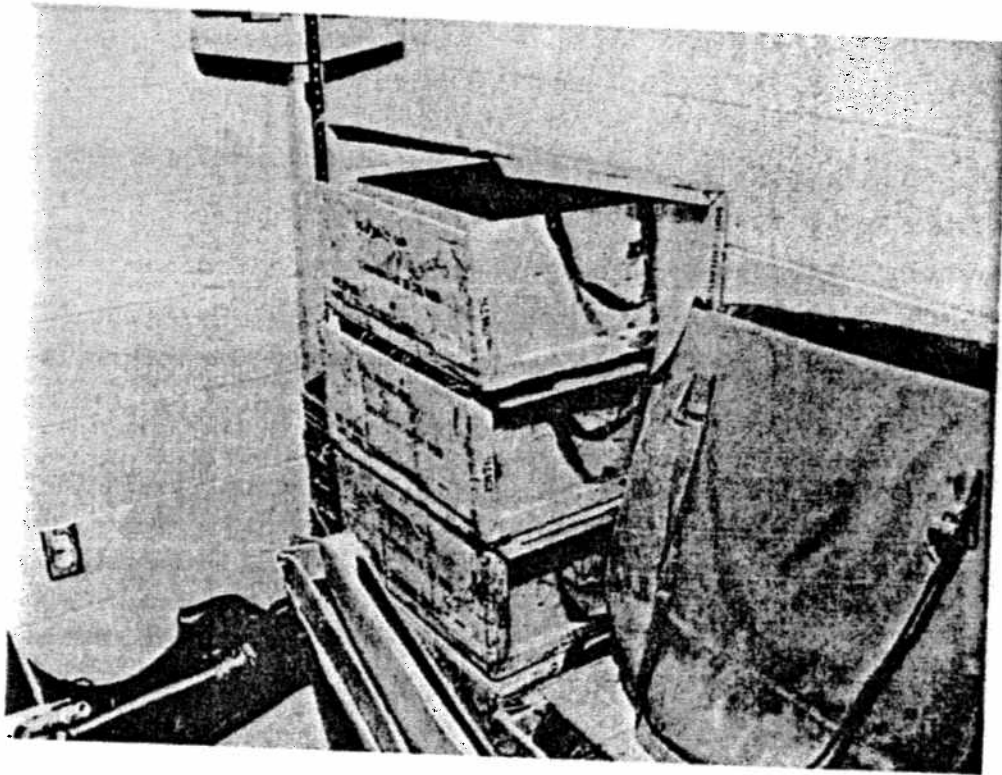
Photograph #7-13



Photograph #7-14



Photograph #7-17



Photograph #7-18