FINAL

ENVIRONMENTAL CONDITION OF PROPERTY REPORT

WILSON-KRAMER
U.S. ARMY RESERVE CENTER (PA008)
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

Prepared For:

U.S. Army Corps of Engineers – Louisville District
Engineering Division – Environmental Engineering Branch
600 Dr. Martin Luther King, Jr. Place
Louisville, Kentucky 40202-2232

FEBRUARY 2007

Certification

All information/documentation provided accurately reflects the environmental condition of the property. This ECP report is in general accordance with the U.S. Department of Defense (DoD) requirements for completion of an Environmental Condition of Property (ECP) report.

BRUCE KISH **DATE**
Environmental Protection Specialist
99th Regional Readiness Command

The undersigned certifies the contents of this report are in general accordance with DoD policies for the completion of an ECP.

02/14/07

LENARD GUNNELL, P.G. **DATE**
Project Geologist
U.S. Army Corps of Engineers

Executive Summary

CH2M HILL, under contract to the U.S. Army Corps of Engineers, Louisville District, has prepared this Environmental Condition of Property (ECP) report for the Wilson-Kramer U.S. Army Reserve (USAR) Center (Facility ID PA008), hereafter referred to as the "Property" or "USAR Center." The Property is in Bethlehem, Pennsylvania and encompasses approximately 4.5 acres.

This ECP report was conducted in conformance with the Department of Defense's (DoD's) Base Redevelopment and Realignment Manual, DoD 4165.77-M (BRRM), Army Regulation 200-1, and the American Society for Testing and Materials (ASTM) Designation D6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys*.

This ECP report details the history of the property, including the USAR and any prior tenant uses of the Property and the resulting environmental condition of the property.

The USAR Center is on approximately 4.5 acres of land with two permanent structures, a 26,890-square-foot administration building and a 2,521-square-foot Organizational Maintenance Shop (OMS) building. The site is currently occupied by three units: 130th Chemical Company, 377th Military Police (MP) Detachment, and 744th MP Battalion.

Based on a review of aerial photographs and U.S. Geological Survey (USGS) topographic maps dating back to 1893, the Property was an undeveloped lot prior to 1957. The USGS topographic map from 1957 did not show any structures on the Property; however, the 1964 USGS topographic map showed the original main administration building. The 1964-1992 and the 1999 USGS topographic maps show the addition to the main administration building constructed in 1975.

Areas of potential environmental concern were reviewed and CH2M HILL found the following findings relating to the environmental condition of the property.

- One 5,000-gallon underground storage tank (UST) was located at this Property and was removed in 1996. Soil samples were collected and results showed low concentrations of petroleum, oil, and lubricant (POL) products; however, all results were below regulatory action levels.
- The Property boundaries adjoin adjacent land (within 0.5 mile) that has documented or potential discharge to the environment, which may be affecting the Property. One property, Airport Garage, was listed as having had a release of unleaded gasoline into the soil and groundwater.

In accordance with DoD policy defining the classifications (see Sherri Goodman memorandum dated 21 October 1996), the Property has been classified as Type 2. This classification does not include categorizing the property based on de minimis conditions that generally do not present material risk of harm to the public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

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Abbreviations and Acronyms

The following is a comprehensive list of abbreviations and acronyms that are used throughout this report.

ACM	asbestos-containing material
ACO	administrative closeout
AMSA	Area Maintenance and Support Activity
AR	Army Regulation
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BRAC	Base Realignment and Closure
BRRM	Base Redevelopment and Realignment Manual
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Act Information System
CFR	Code of Federal Regulations
CORRACTS	Resource Conservation and Recovery Act corrective action site
DoD	Department of Defense
ECP	environmental condition of property
eFACTS	Environment, Facility, Application Compliance Tracking System
EDR	Environmental Data Resources, Inc.
ERNS	Emergency Response Notification System
FEMA	Federal Emergency Management Agency
FFR	full facility revitalization
kg	kilogram
LBP	lead-based paint
LUST	leaking underground storage tank
MEC	munitions and explosives of concern
MEP	military equipment parking
MP	Military Police
msl	mean sea level

NBC	nuclear, biological, chemical
NFA	no further action
NGVD	National Geodetic Vertical Datum
NIR	notice of intent to remediate
NPL	National Priorities List
NRHP	National Register of Historic Places
OMS	Organizational Maintenance Shop
OWS	oil/water separator
PADEP	Pennsylvania Department of Environmental Protection
PCB	polychlorinated biphenyl
pCi/L	picoCuries per liter
POL	petroleum, oil, and lubricant
POV	privately owned vehicle
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Act Information System
REWEI	R.E. Wright Environmental, Inc.
RRC	Regional Readiness Command
STATSGO	State Soil Geographic Database
TSD	treatment, storage, and/or disposal
UGI	United Gas Industries
USACE	United States Army Corps of Engineers
USAR	United States Army Reserve
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VCP	Voluntary Cleanup Program

1 Introduction

CH2M HILL, under contract to the U.S. Army Corps of Engineers (USACE) Louisville District Engineering Division was authorized to conduct an Environmental Condition of Property (ECP) report for the Wilson-Kramer U.S. Army Reserve (USAR) Center (PA008). The facility is located at 2940 Airport Road, Bethlehem, Lehigh County, Pennsylvania, and is hereafter referred to as the Property or USAR Center. CH2M HILL prepared this ECP report under Contract Number W912QR-04-D-0020, Task Order No. 0018, with the Louisville District USACE.

A visual non-intrusive reconnaissance of the Property was conducted on August 3, 2006, in support of the ECP. The reconnaissance purpose was to visually obtain information indicating the likelihood of recognized environmental conditions associated with the Property or adjacent properties.

In preparing this ECP report, CH2M HILL gathered information from the available records and previous work from others, interviews with individuals purporting to be familiar with the Property, and observations from a site reconnaissance. The accuracy of the information obtained from these sources was not verified by CH2M HILL. As such, CH2M HILL will make no warranty, expressed or implied, relative to the accuracy, completeness, or reliability of the information used to create the records and reports prepared by others.

1.1 Purpose of Environmental Condition of Property

The Military Department with real property accountability shall assess, determine and document the environmental condition of all transferable property in an ECP report. This ECP report is based on readily available information. Pursuant to the Department of Defense's (DoD's) policy, set forth in the Base Redevelopment and Realignment Manual (DoD 4165.66-M, March 1, 2006) Section C8.3 (BRRM), the primary purposes of the ECP report include the following:

- Provide the Army with information it may use to make disposal decisions
- Provide the public with information relative to the environmental condition of the property
- Assist in community planning for the reuse of Base Realignment and Closure (BRAC) property
- Assist federal agencies during the property screening process
- Provide information for prospective buyers
- Assist prospective new owners in meeting the requirements under U.S. Environmental Protection Agency's (USEPA's) "All Appropriate Inquiry" regulations
- Provide information about completed remedial and corrective actions at the property

- Assist in determining appropriate responsibilities, asset valuation, and liabilities with other parties to a transaction

The ECP report contains the information required to comply with the provisions of 40 Code of Federal Regulations (CFR) Part 373, which require that a notice accompany contracts for the sale of, and deeds entered into, for the transfer of federal property on which any hazardous substance was stored, released, or disposed of. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 120(h) stipulates that a notice is required if certain quantities of designated hazardous substances have been stored on the property for 1 year or more—specifically, quantities exceeding 1,000 kilograms (kg) or the reportable quantity, whichever is greater, of the substances specified in 40 CFR 302.4 or 1 kg of acutely hazardous waste as defined in 40 CFR 261.30. A notice also is required if hazardous substances have been disposed of or released on the property in an amount greater than or equal to the reportable quantity. Army Regulation (AR) 200-1 requires that the ECP report address asbestos, lead-based paint (LBP), radon, and other substances potentially hazardous to human health.

This ECP report used the American Society for Testing and materials (ASTM) Designation D6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys*, the BRRM, CERCLA §120, and AR 200-1.

1.2 Scope of Services

This ECP report covers the 4.5-acre USAR Center located at 2940 Airport Road, Bethlehem, Lehigh County, Pennsylvania. Access to the Property is from Avenue A on the northern side of the facility. On the eastern side lies a manufacturing facility; a Pennsylvania State Police post is situated on the southern side. State Highway 22 lies 0.25 mile to the south, and the Lehigh Valley International Airport is on the other side of Airport Road on the western side of the Property. All site maps, figures, and aerial photographs referenced herein are provided in Appendix A, while Appendix B contains the photographs taken during the August 3, 2006, site reconnaissance. Appendix C contains the Property warranty deeds and chain of title information, and lease or permit agreements if applicable. Relevant historical environmental documents and reports are provided in Appendix D, while Appendix E contains the Environmental Data Resources, Inc. (EDR) radius search reports commissioned for this effort.

This ECP report classifies the Property into one of seven DoD Environmental ECP categories as defined by the DoD policy defining the classifications (see Sherri Goodman memorandum dated 21 October 1996). The property classification categories are as follows:

- ECP Area Type 1—An area or parcel of real property where no release or disposal of hazardous substances or petroleum products or their derivatives has occurred (including no migration of these substances from adjacent properties).
- ECP Area Type 2—An area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred.

- ECP Area Type 3—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but at concentrations that do not require a removal or remedial action.
- ECP Area Type 4—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and all remedial actions necessary to protect human health and the environment have been taken.
- ECP Area Type 5—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred and removal or remedial actions, or both, are underway, but all required actions have not yet been taken.
- ECP Area Type 6—An area or parcel of real property where release, disposal, or migration, or some combination thereof, of hazardous substances has occurred, but required response actions have not yet been initiated.
- ECP Area Type 7—An area or parcel of real property that is unevaluated or requires additional evaluation.

2 Site Location and Physical Description

2.1 Site Location

The USAR Center is located in Lehigh County, on the northwest side of the city of Bethlehem, Pennsylvania, at 2940 Airport Road (Figure 1, Appendix A). Access to the Property is from Avenue A on the northern side of the facility. On the eastern side lies a manufacturing facility; a Pennsylvania State Police post is situated on the southern side. State Highway 22 lies 0.25 mile to the south, and the Lehigh Valley International Airport is on the other side of Airport Road on the western side of the Property.

2.2 Asset Information

Facility Name and Address:	Wilson-Kramer U.S. Army Reserve Center 2940 Airport Road Bethlehem, Pennsylvania
Property Owner:	U.S. Government
Date of Ownership:	Deed dated August 4, 1960
Current Occupant:	130th Chemical Company, 377th Military Police (MP) Detachment, and 744th MP Battalion
Zoning:	P-I, Planned Industrial District
County, State:	Lehigh, Pennsylvania
USGS Quadrangle(s):	Allentown, Pennsylvania (1893, 1947, 1957) Catasauqua, Pennsylvania (1964, 1964-1992, 1999)
Latitude/longitude:	40°38'53.2"N; 75°25'49.1"W (EDR, 2006)
Legal Description:	The USAR Center includes one contiguous 4.49-acre parcel of land, described in the chain of title report as Tract 100, and described as LR39031, Lots 50 and 51. A copy of the chain of title report by EDR, which includes an accurate legal description, is provided in Appendix C.

2.3 Physical Description

The USAR Center is located on a 4.5-acre parcel on the northwestern side of Bethlehem, Pennsylvania. The Property is located on the U.S. Geological Survey (USGS) 7.5-minute Catasauqua Quadrangle map, at an average elevation of 380 feet National Geodetic Vertical Datum (NGVD). The topography of the Property is generally flat.

The USAR Center contains two permanent structures and two parking lots (Figure 2, Appendix A). Construction of both the 26,890-square-foot administration building and the 2,521-square-foot Organizational Maintenance Shop (OMS) building was completed in 1961. Both structures are on concrete foundations and consist of concrete block walls covered with a brick veneer. A military equipment parking (MEP) area and a privately owned vehicle (POV) parking area also are contained within the Property. Chain-link security fencing topped with barbed wire encloses the MEP area and OMS building.

Approximately two-thirds of the Property is covered by impervious surface features such as asphalt parking areas, driveways, concrete walkways, and building footprints. The remaining land is grassed with trees along the perimeter of the Property.

Main Building

The main building is an irregular-shaped, single-story masonry structure, with a two-story drill hall connected by an enclosed corridor. The building's interior consists of office space, classrooms, kitchen area, storage, former indoor firing range (Photograph 1, Appendix B), and the drill hall. The main building's original construction dates back to 1961. In 1975, additional administrative, classroom, and unit storage spaces were constructed onto the original building. The Property contains a grease trap associated with the kitchen. An arms vault is located at the northern portion of the building and is used to store rifles and pistols. Based on interviews with facility personnel, ammunition is not stored in the arms vault. In addition, on the northern portion of the building, is a former firing range. Additional information regarding the former firing range is presented in Section 6.9. The southern portion of the main building consists of administrative offices, storage, and restrooms. The storage rooms contain nuclear, biological, and chemical (NBC) monitors that contain small amounts of radioactive materials that are not regulated.

A boiler room is located on the eastern side of the main building adjacent to the assembly hall. The boiler room is lower in elevation than the first floor and houses the building's water heater, two natural gas heating units, and a small packaged air-cooled chiller. Non-hazardous items were stored in the boiler room's former coal storage room during the time of the survey (Photograph 2, Appendix B). A large stain resembling an electrical burn was noted on the wall of the boiler room between the exit and the entrance to the coal storage room (Photograph 3, Appendix B).

OMS Building

The OMS building was originally constructed in 1961 and is without alteration except for an interior partition added to provide a separate administrative area within the work bays. It is located at the eastern portion of the Property and consists of a one-story, rectangular-shaped steel and brick building with two maintenance bays, each with manually operated roll-up sectional doors. Approximately 35 percent of the interior is used for office space, while the remaining space is dedicated to caged storage and light vehicle maintenance. All major maintenance is performed offsite; however, items such as motor oil, lube oil, and antifreeze were present in the flammable storage cabinet located in the OMS building (Photograph 4, Appendix B). Facility personnel noted that these items are used to fill vehicle fluids as necessary, and hazardous materials are no longer generated at the Property. No spills were identified in or around the OMS building. The MEP area bounds the OMS building on the

eastern and western sides. During the August 3, 2006, site reconnaissance, there were several military vehicles parked in the MEP area, and there also were several empty storage containers.

Vehicle Wash Area

Vehicle washing occurred in the OMS building in the past. A wash rack was visible outside, by the southern wall of the OMS building (Photograph 5, Appendix B). The wash rack consists of a concrete pad surrounded by a concrete curb. A grate is located in the center of the wash rack and leads to an oil/water separator (OWS) from which the flow enters the sanitary sewer. There were no records of a release occurring from the wash rack and OWS, and none was observed during the site visit.

2.4 Site Hydrology and Geology

The USAR Center and the city of Bethlehem are located within the Ridge and Valley Province. This province covers all of Lehigh County. The Ridge and Valley Province contains sedimentary rocks such as limestone, dolomite, siltstone, sandstone, conglomerate, and anthracite. These rocks range in age from Cambrian to Pennsylvanian. The southeast part of the province, called the Great Valley, is a wide lowland underlain by limestone and dolomite on the south side and shale on the north side. Bethlehem and the USAR Center are located in the Great Valley section of the Ridge and Valley Province (Parsons, 2005).

Both Bethlehem and the USAR Center are found on the USGS 7.5-minute Catasauqua quadrangle map. As shown on this map, ground surface elevations at the center average 378 feet means sea level (msl).

2.4.1 Surface Water Characteristics

Figure 8 in Appendix A provides a portion of the 1999 Catasauqua, Pennsylvania USGS topographic map that includes the Property. As shown, the Property is situated at an elevation of approximately 378 feet msl and is relatively flat. In the immediate vicinity of the Property, the land surface is situated on a plateau-like plain that gently slopes toward the Lehigh River located southwest of the Property.

The main storm drainage pipe runs along Airport Road inside the right-of-way. There are two inlets onsite. One is next to the curb at the southern end of the main building. The other lies in the grass north of the main building next to Avenue A. It was reported that the grassy area around the inlet blocks the flow toward it, and as a result, part of the MEP floods (M&H, 2003). As a result of development and grading activities on the property, surface stormwater drainage has been directed to the northwest corner of the Property, instead of following the general topography that slopes south, south-westward. At the southern end of the main building, water ponds adjacent to the curb and does not flow to the southern catch basin. The southern edge of the POV parking area is not curbed, and the runoff from the bank to the south ponds and degrades the asphalt of the POV parking area.

No surface water features are located in the immediate vicinity of the Property. The Lehigh River, located approximately 1.9 miles southwest of the Property, is the closest major surface water feature.

According to the EDR radius map (page 8 in the radius report located in Appendix E), the Property is not included in the 100-year floodplain. This information was gathered by EDR in 1999 from the Federal Emergency Management Agency (FEMA).

2.4.2 Hydrogeological Characteristics

According to information acquired from the Soil Conservation Service's State Soil Geographic Database (STATSGO) for Lehigh County, the specific type of soil at the Property is part of the Urban Land Series. This soil series does not meet the requirements for a hydric soil.

The surface soils are generally extremely gravelly, coarse sand, silty loams, and loams. In general, the Property is underlain by one main stratigraphic unit, the Lower Paleozoic granitic rocks. The groundwater flow direction follows the general surface topography in the area which is south, south-westward toward the Lehigh River.

2.5 Site Utilities

Water Service—The City of Bethlehem provides potable water service to the Property.

Sanitary Sewer System—The City of Bethlehem provides sanitary sewer service to the Property. The primary source of wastewater directed to the city sewer system includes non-process wastewater (bathrooms, sinks, etc.) and vehicle washing runoff.

Gas and Electric—United Gas Industries (UGI) provides natural gas service to the Property, while Pennsylvania Power & Light provides electric service to the Property.

The main building was constructed with two coal-fired steam boilers. These were converted in 1973 from coal to oil-fired. The system was then converted to the present gas-fired boilers in 1993.

2.6 Water Supply Wells and Septic Systems

Based on a review of available historical site and agency records and interviews with site personnel, neither a water supply well nor a septic system is or was located at the Property. Potable water is supplied by the City of Bethlehem.

A search of federal and state water well databases identified one public water supply source located approximately 0.5 to 1 mile south-southwest of the Property. The well is located topographically downgradient of the Property.

3 Site History

3.1 History of Ownership

Based on the research done for the 2006 historical chain of title report, the Property belonged to Ray Hoffman and was granted to Eva Seip on August 14, 1941. On May 21, 1959, Albert and Eva Seip granted the Property unto Lehigh Valley Industrial Park, Inc. The U.S. Government then purchased the Property from the Lehigh Valley Industrial Park, Inc. on August 4, 1960. The United States of America is the current owner of the Property. A copy of this report is located in Appendix C.

According to a city directory summary provided by EDR and dated July 24, 2006, the address of the USAR Center was not listed in any of the research sources (Polk's City or City's City directories). Subsequent city directory searches do not list the Property, but did list surrounding properties. A copy of the summary of the city directory is included in Appendix E.

3.2 Past Uses and Operations

In 1960, the U.S. Government purchased the 4.5 acres of land for construction of the USAR Center. Construction of the main building and OMS building occurred in 1961. In 1975, administrative, classroom, and unit storage spaces were added onto the original main building. Historical information sources suggest the Property formerly belonged to the Hoffmans until 1941 and the Seips until 1959. The Property has served as a reserve and mobilization center for USAR since the U.S. Government acquired the land in 1960.

The Property primarily functioned as an administrative, logistical, and educational facility, with limited maintenance of military vehicles occurring in the OMS building. The Property was historically used by reservists for drill activities on various weekends throughout the year. The 744th MP Battalion, the 130th Chemical Company, and the 377th MP Detachment are current occupants of the facility. At the time of the site reconnaissance, the main building contained various items such as desks, office furniture, and folding tables.

The OMS building was used to perform limited maintenance activities on military equipment. Activities inside the OMS building were limited to preventative maintenance checks, including checking vehicle fluids such as motor oil, water, and antifreeze, and light maintenance activities. Any equipment requiring heavier maintenance activities was sent to an Area Maintenance Support Activity (AMSA) shop located at one of the other USAR centers in Pennsylvania.

At the time of the site reconnaissance, the OMS building contained a wheeled military vehicle with a drip pan underneath and a parts washer that was currently not in use (Photographs 6 and 7, Appendix B).

Historical aerial photographs and topographic maps were the primary source of information on the past use and operations at the Property. Figures 3 through 11 in

Appendix A provide USGS topographic maps and aerial views of the Property and surrounding areas in 1893, 1947, 1955, 1957, 1964, 1972, 1964-1992, and 1999.

The 1893 USGS topographic map (Figure 3, Appendix A) shows the Property and surrounding areas as undeveloped. The city of Bethlehem is established to the southeast. The 1964 USGS topographic map (Figure 6, Appendix A) shows both the main building and OMS building. The Pennsylvania State Police Post presently located south of the Property also is visible.

The 1955 aerial photograph (Figure 9, Appendix A) shows the Seip farm and the Pennsylvania State Police Post to the south.

The 1972 aerial photograph (Figure 10, Appendix A) shows the Property as it was constructed in 1961. A number of military vehicles are visible in the MEP area. The 1999 aerial photograph (Figure 11, Appendix A) shows the classrooms, administrative, and office spaces added to the original main building in 1975. A number of vehicles are visible in the MEP area. The hazardous waste storage shed is visible outside of the OMS building.

3.3 Past Use, Storage, Disposal, and Release of Hazardous Substances

3.3.1 Past Use and Storage of Hazardous Substances

Information related to the past use and storage of hazardous substances at the Property was compiled through review of available site records, searches of federal and state environmental databases, and interviews with USAR personnel. Chemicals formerly used and stored at the Property were associated with vehicle and facility maintenance activities and janitorial services. Janitorial chemicals and building maintenance-related products were stored in the designated storage area within the janitorial closet located in the main building. Vehicle maintenance products and small amounts of petroleum, oil, and lubricant (POL) products also were stored within designated areas within the OMS building. A hazardous waste storage shed complete with secondary containment and spill kits readily available were later added on. Available records indicate that hazardous materials have been stored at this facility. These materials include antifreeze, motor oil, hydraulic fluid, acetylene, degreasers, lubricating oils, dry cleaning solvents, varnishes, and paints. A 1993 chemical inventory of these substances is included in Appendix D.

Certain types of chemical products used and stored at the Property would have contained CERCLA hazardous substances and would have been stored on a rotational basis in amounts necessary to support the unit through direct support-level maintenance. There is no indication that CERCLA hazardous substances were stored at the Property for 1 year or more or in excess of corresponding reportable quantities.

3.3.2 Past Disposal and Release of Hazardous Substances

Information related to past disposal and potential release of hazardous substances at the Property was compiled through review of available site records, searches of federal and state environmental databases, and interviews with USAR personnel. According to USAR personnel and site records, onsite disposal of hazardous materials or wastes of reportable

quantities has not occurred at the Property. No stained soil or stressed vegetation was observed during the August 3, 2006, site reconnaissance. Additionally, the MEP area and POV parking area did not show any signs of staining, and no noxious or foul odors were noted during the site reconnaissance.

3.4 Past Presence of Bulk Petroleum Storage Tanks

A 5,000-gallon underground storage tank (UST) associated with this facility was removed on October 30, 1996. The tank stored No. 2 fuel oil used for space heating. Release detection monitoring was not conducted prior to excavation and removal of the tank. Approximately 1,610 gallons of fuel oil and 60 gallons of sludge were removed from this tank prior to excavation. During the excavation, three soil samples were collected from the bottom of the excavation and one from the excavated material. Sample results detected low concentrations of POL products; however, all results were below regulatory action levels (no groundwater was encountered). Because the tank stored fuel oil for space heating, it is exempt from regulation by the state and federal government. The closure report issued by Engineering Technologies Associates, Inc. does not serve to fulfill any regulatory requirements.

A fuel data inventory listed a 1,000-gallon aboveground storage tank (AST) containing No. 2 diesel fuel, which was used as a backup fuel source. The fuel data inventory also stated the AST was awaiting removal. No other references to this AST in any other reports were found. No personnel interviewed had any knowledge of this AST or its location on the Property.

There are no other known USTs or ASTs on the Property at this time.

3.5 Review of Previous Environmental Reports

A review of site records produced several reports pertaining to the Property. The following subsections provide a brief summary of these reports. Copies of the reports, unless otherwise specified, are provided in Appendix D.

3.5.1 2003 Full Facility Revitalization Technical Assessment

This full facility revitalization (FFR) technical assessment documents an assessment of the USAR Center that was conducted by The Mason & Hanger Group. The report states the facility is in good repair, and there have been recent improvements and maintenance performed. Major projects completed include window replacement, roof replacement, and mechanical changes.

3.5.2 1996 UST Closure Report

A 1996 report by Engineering Technologies Associates, Inc. documents closure activities related to the removal of one 5,000-gallon UST that was used to store No. 2 fuel oil. The report documents analytical results for subsurface soil samples collected from the UST excavation. Three soil samples were collected from the bottom of the excavation and one from the excavated material. Sample results detected low concentrations of POL products; however, all results were below regulatory action levels. The closure report states that because this UST was used to supply fuel oil for space heating, it is unregulated by the

federal government and by the state of Pennsylvania. The report also states that it does not serve to fulfill any regulatory requirements.

3.5.3 1995 Asbestos-containing Material Building Inspection Report

In April 1995, R.E. Wright Environmental, Inc. (REWEI) conducted an asbestos-containing materials (ACM) survey. Friable ACM pipe insulation, floor tile, and mastic were found in various places in the main building. This report also states the findings of a previous report and abatement done by Biospherics, Inc. in 1987. The ACM materials found during this inspection were in relatively good condition and did not require removal. It was recommended that special care be taken if any remodeling to these areas were to be done in the future.

3.5.4 1995 Cultural Resource Management Plan

A cultural resource management plan for the facility was prepared for the 79th Army Reserve Command by KFS Historic Preservation Group in July 1995. The purpose of the survey and subsequent report was to inventory all properties controlled or leased by the 79th Army Reserve Command in the state of Pennsylvania. Historical information, setting and landscape, cultural resources, security, architectural information, and structure descriptions are included for each property. Each site also was assessed for its eligibility to the National Register of Historic Places (NRHP). No facilities at the USAR Center were eligible for listing on the NRHP.

3.5.5 2003 Range Cleanup Report

IT Corporation prepared a range cleanup report for the USAR Center in May 2003. This report provides documentation on final range closure activities at the USAR Center.

3.5.6 Significant Biological Resources Report

A report entitled *An Inventory of Significant Biological Resources at U.S. Army Reserve Centers in Central and Eastern Pennsylvania* was prepared for the 99th Regional Readiness Command (RRC) (PSOTNC, 1995) in an effort to inventory and manage natural resources found at 99th RRC facilities in Pennsylvania. The report also would provide a foundation for future natural resource management. The report noted that this USAR Center did not contain any key natural resources, including wetlands, surface water, floodplains, rare species, or the potential for rare species.

3.5.7 1999 Engineering and Environmental Facility Assessment

USAR (416th Engineering Command) performed an internal survey in 1999, listing and evaluating areas on the Property where environmental concerns were apparent. Some suggested projects included replacing the OMS roof sealing/stripping the POV parking areas.

4 Adjacent Properties

Adjacent property land uses are significant to the ECP process, as these current or past uses may have an environmental impact on the USAR Center. Adjacent properties were included in the EDR report review for this reason. Typically, adjacent properties within 0.25 mile of the USAR Center property boundaries are reviewed and visually surveyed. For the purposes of this ECP, the adjacent property reconnaissance was performed from the USAR Center property boundaries and from public access points. Historical aerial photographs and topographic maps also were reviewed for conditions or activities that may have had an environmental impact on the Property.

4.1 Land Uses

Land south of the USAR Center belongs to the Pennsylvania State Police Post. This facility is visible in the 1955 aerial photograph, indicating it was constructed prior to the USAR Center. On the western side of the USAR Center, lies Airport Road, a divided four-lane highway. The Lehigh Valley International Airport lies on the other side of Airport Road. On the northern side is Avenue A, where access to the facility is located. A manufacturing facility lies on the eastern side of the USAR Center. State Highway 22 lies 0.25 mile to the south of the Property. Table 1 summarizes the current adjacent properties and their owners.

TABLE 1
Land Uses Near Wilson-Kramer USAR Center, Bethlehem, Pennsylvania

Name/Type of Property	Address	Distance and Direction from Property	Remarks
Airport Garage	3220 Airport Road Allentown, PA 18103	Approx. 694 feet north	1 former LUST, 3 USTs currently in use.
Penn Linen and Uniform Service (Cintas Corporation)	2255 City Line Road Bethlehem. PA	Approx. 1,980 feet northeast	VCP, unregulated tank
Lehigh Valley Intl Airport Aviation Fuel Farm	3311 Airport Road Allentown, PA 18109	Approx. 1,636 feet north	Several LUSTs and several USTs currently in use.

LUST – leaking underground storage tank
UST – underground storage tank
VCP – Voluntary Cleanup Program

4.2 Findings

The EDR database search results were reviewed for any evidence that adjacent properties may have past or present environmental issues that would impact the USAR Center.

3220 Airport Road—Owned by Airport Garage. This facility had a leaking underground storage tank (LUST) and is located upgradient of the Property. The LUST was given a "2" on the Pennsylvania Department of Environmental Protection (PADEP) tank list. A "2" indicates that interim or remedial action has been initiated and for a confirmed release, site characterization and/or physical activity to remove contaminants are underway. According to PADEP's Environment, Facility, Application Compliance Tracking System (eFACTS), the LUST, Tank 002, had a release of unleaded gasoline in 1997 into groundwater and soil and was closed. A remedial action progress report was received on July 21, 2006, and was accepted by PADEP. As of the preparation of this ECP report, a no further action (NFA) status has not been granted to this facility. During the windshield survey performed in conjunction with the site reconnaissance, several groundwater monitoring wells were observed (flush mounts and stick-ups) on the Airport Garage property. The presence of the monitoring wells, the remediation status reported in the radius search results, and the absence of an NFA status indicate all remediation activities have not been completed. There is the potential that release of petroleum products from the Airport Garage facility could have an environmental impact the USAR Center.

3311 Airport Road—Owned by Lehigh Valley Intl Airport Fuel Farm. This facility had several LUSTs and several USTs currently in use, and it is located upgradient of the Property. On PADEP's tank list, this facility was given an "8". An "8" indicates the tank was given an administrative closeout (ACO), as a facility where multiple releases have occurred and corrective action is ongoing. The prior release incidents will be assigned the ACO status. The most recent release incident will remain open. On PADEP's eFACTS Web site, it stated that the extent of contamination was contained in soil, not groundwater. Based on this information, it is not likely this facility will have an environmental impact on the USAR Center.

2255 City Line Road—Previously owned by Penn Linen and Uniform Service and currently owned by Cintas Corporation. According to EDR, this facility was listed in the Voluntary Cleanup Program (VCP) database and the unregulated tank database. When researched through PADEP's eFACTS Web site, this facility was noted as having a release of chlorinated solvents into groundwater and soil. A notice of intent to remediate (NIR) was issued on March 24, 1998. A final report was submitted and approved by PADEP on March 21, 2005. Even though this site has not been issued an NFA by PADEP, neither a cleanup plan nor a risk assessment plan was required, and it is expected that concentrations of release were below regulatory criteria; therefore, an environmental impact to the Property from migration is not likely.

Water well databases at the federal and state level were reviewed to identify any water supply source near the Property. One water supply source is located approximately 1 mile south-southwest of the Property. This is a municipal well owned by Toms Den and is located topographically downgradient of the Property.

Based on a review of available aerial photographs, land use at adjacent properties appears to have changed significantly over the years. The property was open fields, used for agricultural purposes in 1955, based on the 1955 aerial photograph (Figure 9, Appendix A). The Pennsylvania State Police Post, located directly to the south of the future USAR Center property is visible. In addition, to the south, past State Highway 22, are many residential developments. The major runway of the Lehigh Valley International Airport, located to the

west of the future USAR Center property, has not yet been built. Land use to the north and east is mainly agricultural.

The 1972 aerial photograph (Figure 10, Appendix A) shows increasing development of the surrounding areas to the east, west, north, and south. Avenues A, B, and C, and City Line Road have appeared. The major runway of the Lehigh Valley International Airport is now visible. The USAR Center has now appeared, and the Pennsylvania State Police Post remains unchanged. Commercial development has been established to the north and east of the USAR Center. To the south, new apartment buildings have emerged, as well as additional residential developments.

The 1999 aerial photograph (Figure 11, Appendix A) shows increasing commercial development in the industrial park to the north and east. To the south, most of the apartment buildings that were visible in the 1972 aerial photograph have been replaced by hotels. State Highway 22 and Airport Road (now four lanes) are now connected via a clover leaf interchange. To the west, the Lehigh Valley International Airport has additional parking lots and terminals.

5 Review of Regulatory Information

An essential component of an ECP is the review of records and databases containing information on the Property and adjacent properties. The review includes reasonably obtainable federal, state, and local government records, and is intended to identify a release or likely release of any hazardous substance or any petroleum product, which is likely to cause or contribute to a release or threatened release of any hazardous substance or any petroleum product to the Property.

The majority of the regulatory information for this ECP was obtained from EDR on July 12, 2006. EDR provides a regulatory database summary that consolidates standard federal, state, local, and tribal environmental record sources based on ASTM-recommended minimum search distances from the Property.

All findings reported in Sections 5.1, 5.2, and 5.3 are from the EDR report unless otherwise noted. A copy of the complete EDR report is included in Appendix E.

5.1 Federal Environmental Records

5.1.1 Federal National Priorities List Sites within 1 Mile

USEPA maintains a record of the nation's worst uncontrolled or abandoned hazardous waste sites, known as the National Priorities List (NPL). Sites on the NPL undergo long-term remedial action under CERCLA. The USAR Center is not an NPL site, nor were any such sites located within 1 mile of the Property.

5.1.2 Federal Comprehensive Environmental Response, Compensation and Liability Act Information Systems Sites within 0.5 Mile

The CERCLA Information System (CERCLIS) contains data on potentially hazardous waste sites that have been reported to USEPA by state, municipalities, private companies, and private persons, pursuant to Section 103 of the Act. CERCLIS contains sites that either are proposed to be or are on the NPL and sites that are in the screening and assessment phase for possible inclusion on the NPL.

The USAR Center is not a CERCLIS site, and there are no CERCLIS sites located within 0.5 mile of the USAR Center.

5.1.3 Resource Conservation and Recovery Act Corrective Action Sites within 1 Mile

Resource Conservation and Recovery Act (RCRA) corrective action sites (CORRACTS) represent facilities that have generated or managed hazardous wastes and require corrective action. The USAR Center is not a CORRACTS, nor were any such sites identified within 1 mile of the USAR Center.

5.1.4 RCRA Treatment, Storage, and/or Disposal Sites within 0.5 Mile

RCRA defines and regulates sites that generate, transport, store, treat and/or dispose (TSD) of hazardous wastes. The RCRA Information System (RCRIS) includes selective information on these sites.

The USAR Center is not an RCRIS TSD site, and there are no such sites located within 0.5 mile of the USAR Center.

5.1.5 Federal RCRA Small and Large Quantity Generators List within 0.25 Mile

Conditionally exempt small quantity generators are defined as facilities generating less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. RCRA small quantity generators are defined as facilities generating between 100 and 1,000 kg of hazardous waste per month. A facility generating more than 1,000 kg of hazardous waste or over 1 kg of acutely hazardous waste per month is defined as a large quantity generator.

The USAR Center is listed as an RCRA-registered small quantity generator. No RCRA violations are associated with the USAR Center. The USEPA number is PA8210422293.

Three adjacent properties are RCRA-registered small quantity generators. The Pennsylvania State Police Lab (USEPA number PAD987328713) is located within 0.125 mile of the USAR Center, approximately 29 feet south of the Property. No RCRA violations were noted for this site. The Service Tire Truck Center, located on 2320 Avenue A, is situated 956 feet east-northeast of the Property. No RCRA violations were noted for this site. Puritan Products, Inc. is located 1,221 feet east northeast from the Property on 2290 Avenue A. No RCRA violations were noted for this site.

No large quantity generators are located within 0.25 mile of the USAR Center.

5.1.6 Federal Emergency Response Notification System List

The Federal Emergency Response Notification System (ERNS) List maintains information on reported releases of oil and hazardous substances. The USAR Center is not on this notification list.

5.2 State and Local Environmental Records

Most of the information presented in this subsection was obtained from the EDR report. Additional information also was obtained from online database searches (PADEP's LUST database and PADEP's eFACTS). Occasionally, state and local agency personnel were interviewed via telephone to answer questions about any database issues.

5.2.1 State Lists of Hazardous Waste Sites within 1 Mile

The USAR Center is not on the state list of hazardous waste sites. No adjacent properties within 1 mile of the USAR Center were listed as having a hazardous waste site.

5.2.2 State-Registered Landfills or Solid Waste Disposal Sites within 0.5 Mile

The USAR Center does not have a solid waste landfill, incinerator, or transfer station within the Property boundaries. No adjacent properties within 0.5 mile of the USAR Center have a solid waste landfill, incinerator, or transfer station.

5.2.3 State-Registered LUST Sites within 0.5 Mile

In addition to information obtained from the EDR report, PADEP maintains a comprehensive database of LUST sites. The USAR Center is not listed in the state LUST database.

There are four LUST sites in various stages of closure within 0.5 mile of the USAR Center. Table 2 summarizes information for these sites relative to the USAR Center and provides the status of their corrective action. During a site reconnaissance on August 3, 2006, it was noticed that at least two groundwater monitoring wells have been installed at the Airport Garage facility, indicating that interim remedial actions have been initiated. Because of the direction of groundwater flow and the location of the Property, there is a potential of migration of petroleum contaminants to the Property.

The Lehigh Valley International Airport fuel farm has had multiple releases. Limited available information regarding these releases was available in the EDR report and on the PADEP Web site. The PADEP's LUST list has given the facility an ACO. An ACO is a facility where multiple releases have occurred and corrective action is ongoing. The prior release incidents will be assigned the ACO status. The most recent release incident will remain open. Contamination has been limited to the soil, and therefore, migration to the Property is not possible. Naval & Marine Reserve Center and the Getty 69262 are both downgradient of the Property, and therefore, offsite migration from these sites will not environmentally impact the Property.

TABLE 2
LUST Sites
Near Wilson-Kramer USAR Center, Bethlehem, Pennsylvania

Company/Site	Address	Distance and Direction from Property	Regulatory Status	Elevation Relative to Property
Airport Garage	3220 Airport Road Allentown, PA 18103	Approx. 694 feet north	Interim remedial actions initiated or completed	Lower
Naval & Marine Reserve Center.	1400 Postal Road Lehigh Valley, PA	Approx. 1,336 feet south-southwest	Cleanup completed	Lower
Lehigh Valley International Airport	3311 Airport Road Allentown, PA 18109	Approx. 1,636 feet north	Interim remedial actions not initiated	Lower
Getty 69262	2450 Catasauqua Road Bethlehem, PA 18018	Approx. 1,827 feet south-southeast	Interim remedial actions initiated and/or completed	Lower

5.2.4 State-Registered UST Sites within 0.5 Mile

Review of the EDR report revealed two UST sites were within 0.5 mile of the USAR Center. Table 3 lists the sites along with the tanks' status. The Property itself was not listed in the state UST database.

Ikes Airport Sunoco currently has eight active USTs. The last inspection was performed at this facility by PADEP on January 20, 2004, and no violations were found. This site is not considered to present an environmental risk to the Property. Airport Garage currently has five active USTs. The last inspection was performed at this facility by PADEP on July 14, 2005, and no violations were found. The USTs at this site are not considered to present an environmental risk to the Property.

TABLE 3
UST Sites
Near Wilson-Kramer USAR Center, Bethlehem, Pennsylvania

Company/Site	Address	Distance and Direction from Property	Tank Status	Closure Status	Elevation Relative to Property
Ikes Airport Sunoco	3200 Airport Road Allentown, PA 18109	Approx. 501 feet north	Eight tanks-currently active	NA	Lower
Airport Garage	3220 Airport Road Allentown, PA 18103	Approx. 694 feet north	Five tanks-currently active	1 Tank closed (LUST) cleanup initiated	Lower

LUST – leaking underground storage tank
NA – not applicable

5.2.5 State Spills Incidents

The USAR Center is not listed on the PADEP petroleum spill list.

5.2.6 Records of Contaminated Public Wells within 0.5 Mile

The EDR report identified one water supply source located approximately 0.5 mile south-southwest of the USAR Center, owned by Toms Den. No records of any contamination of this supply well were found, according to EDR. This well is still online and producing potable water passing federal drinking water standards.

5.2.7 Voluntary Remediation Program Sites within 0.5 Mile

The USAR Center is not listed in Pennsylvania's Brownfield Program (the successor to the VCP). One site located within 0.5 mile of the USAR Center is listed as being in the VCP. The owners of the facility are Cintas Corporation (formerly the Penn Linen and Uniform Service). The radius search did not provide any additional information regarding the status of this facility. PADEP's eFACTS Web site, however, reported this facility had a confirmed release of chlorinated solvents into groundwater and soil. According to the Web site, an NIR was issued on March 24, 1998. Neither a risk assessment plan nor a cleanup plan was

required; therefore, it is expected that concentrations of release were below regulatory criteria. The final report was submitted and approved by PADEP on March 21, 2005.

5.2.8 State-Registered Bulk Fertilizer and Pesticide Storage Facilities within 0.25 Mile

The USAR Center is not registered with the state as a bulk fertilizer and pesticide storage facility. Additionally, no adjacent properties within 0.25 mile were registered as one of these facilities.

5.3 Unmapped Sites

Some sites within the databases EDR searches have the same zip code as the USAR Center, but no street address. These sites, known as unmapped or orphan sites, cannot be mapped from the EDR results alone. Additional efforts described herein were made to locate these sites and assess their environmental importance to the USAR Center.

Using the mapping utility provided at maps.google.com, the locations of the orphan sites were identified and mapped. One of the sites, Avis Rent a Car, was listed as having a non-leaking UST and is located within a corresponding ASTM search radius distance. The facility is not listed on any other federal, state, or local environmental databases searched during the data gathering process.

No other sites were located within corresponding ASTM search radius distance.

5.4 Summary of Properties Evaluated to Determine Risk to the Property

To summarize Sections 5.1 through 5.3, three separate properties, near or adjacent to the USAR Center, were evaluated as potential risk properties to the Property. These adjacent properties evaluated were identified as a result of information obtained during area reconnaissance, interviews, and regulatory database searches and are summarized in Table 4.

Based on an evaluation of available site information and details concerning the properties listed in Table 4, one of the three facilities evaluated exhibits moderate to significant environmental conditions that have the probability of adversely affecting the environmental conditions at the USAR Center.

TABLE 4
Properties Evaluated for Potential Environmental Risks
Wilson-Kramer USAR Center, Bethlehem, Pennsylvania

Company/Site	Database	Elevation Relative to Property?	Potential Impact on the Property?	Comments
Airport Garage	LUST, UST	Lower	Yes	LUST closed. Interim remedial activities are underway. No violations associated with USTs.
Penn Linen and Uniform Service	Voluntary Cleanup Program, Unregulated Tanks, Act 2-Deed	Lower	No	Confirmed release of chlorinated solvents into groundwater and soil. No indications that cleanup has been completed (no NFA issued). No cleanup plan or risk assessment plan was required. Expected concentrations were below clean up criteria.
Lehigh Valley Intl. Airport Tank Farm	LUST, UST, Archive AST, Archive UST	Lower	No	Several LUSTs. Cleanup not completed. PADEP's eFACTS indicate contamination only impacted soil, not groundwater.

AST – aboveground storage tank
EDR – Environmental Data Resources, Inc.
LUST - leaking underground storage tank
NFA – no further action
PADEP – Pennsylvania Department of Environmental Protection
UST - underground storage tank

6 Site Investigation and Review of Hazards

Findings documented in the following subsections are based on the August 3, 2006, site reconnaissance, a review of available site records, and information obtained from USAR personnel.

6.1 USTs/ASTs

A 5,000-gallon UST associated with this facility was removed October 30, 1996. The tank stored No. 2 fuel oil used for space heating. Release detection monitoring was not conducted prior to excavation and removal of the tank. Approximately 1,610 gallons of fuel oil and 60 gallons of sludge were removed from this tank prior to excavation and removal by Hazleton Oil. During the excavation, soil samples were collected (no groundwater was encountered). Three soil samples were collected from the bottom of the excavation and one from the excavated material. Sample results detected low concentrations of POL products; however, all results were below regulatory action levels. Because the tank stored fuel oil for the purpose of space heating, it is exempt from regulation by the state and federal government. The closure report issued by Engineering Technologies Associates, Inc. does not serve to fulfill any regulatory requirements.

A fuel data inventory for the 99th RRC, dated October 25, 1996, listed a 1,000-gallon AST containing No. 2 diesel fuel being used as a backup fuel source. The inventory also stated the AST was awaiting removal. No other references to this AST in any other reports were available. No one interviewed had any knowledge of this AST or its location on the Property.

There are no other known USTs or ASTs on the Property at this time.

6.2 Inventory of Chemicals/Hazardous Substances

Records pertaining to chemicals including hazardous materials, chemical bulk storage, petroleum products, hazardous waste, and petroleum waste were reviewed in addition to interviews and the site reconnaissance to develop the inventory for this Property.

Available records indicate that hazardous materials and/or POLs have been stored at this facility. The materials include motor oil, touch-up paint, liquid ice melter, hydraulic fluid, brake cleaner, antifreeze, and dry cleaning solvent. These items were either stored in the flammable storage cabinet located within the OMS building or in the hazardous waste storage shed located adjacent to the OMS building. The hazardous waste storage shed is equipped with secondary containment and spill kits (Photographs 8, 9, and 10, Appendix B).

Other than the assumed routine household and yard use of pesticides and herbicides, no evidence of pesticide/herbicide use (empty containers, dead or stressed vegetation) was observed during the site reconnaissance.

6.3 Waste Disposal Sites

No waste disposal sites were observed during the site reconnaissance, nor were any signs of past onsite waste disposal (such as stressed vegetation or suspicious depressions in the landscape) observed.

6.4 Pits, Sumps, Drywells, and Catch Basins

Available records, interviews, and site observations did not indicate the existence or past existence of any pits, sumps, drywells, or catch basins.

An OWS was present outside the OMS building. It is no longer in use. In a 1999 engineering and environmental facility assessment, it was stated, "Previous reports indicate a Class III finding of a clogged oil/water separator at the vehicle wash rack. The facility manager recollected that Safety-Kleen had corrected the problem in 1997; however, no documentation is available to support the claim. Vegetation and sediment still exist in the drain" (Army, 1999). The wash rack and drain collected wash fluids that would have included POLs, cleaning solvents used in the cleaning of vehicle components, and antifreeze. While cracks in the wash rack floor or drain piping over extended periods of time could result in a release, because wash racks are not typically used to drain POL, antifreeze, or solvent fluids directly and typically any such fluids entering the drains of a wash rack would have been diluted with water from spray hoses, only de minimis quantities would be suspected to have the potential to be released.

6.5 Asbestos-containing Material

REWEI conducted an asbestos survey was conducted on April 13, 1995. Samples were taken from areas that were suspected of containing ACM. In the ACM building inspection report, it was stated that a review of sampling results performed by Biospherics, Inc. indicated ACM had been located in the boiler room (Room 125) and consisted of exhaust duct insulation, straight pipe insulation, and pipe elbow laggings. ACM also was identified in the detached garage and consisted of insulation around pipe fittings. ACM in the general building space included steam pipe insulation, pipe elbow insulation, and black 9-inch by 9-inch floor tiles. No suspect material was observed in the boiler room during REWEI's inspection (REWEI, 1995). All thermal insulation, including elbows and sections, appeared to be newly installed fiberglass and in good condition. Obvious signs of asbestos abatement in this room included encapsulated (painted) bare piping.

The OMS building was visually inspected by REWEI, and no suspect materials were observed. Obvious evidence of abatement at locations where suspect material had been located was observed (REWEI, 1995). REWEI collected 14 bulk samples from the facility. ACM was found in the pipe insulation. It was recommended that the friable pipe insulation be removed. The nonfriable ACM floor tile and mastic were in good condition and did not need to be removed. If the floor tiles are removed, proper precaution should be taken.

6.6 Polychlorinated Biphenyl-containing Equipment

There are three pole-mounted transformers supplying underground service entrance conductors for the main building. There are no pad-mounted transformers onsite. A letter from Pennsylvania Power & Light, February 14, 1991, states that, "If a transformer has not been tested and its PCB [polychlorinated biphenyl] content is unknown, PP&L [Pennsylvania Power & Light] assumes the unit to be PCB-contaminated….If requested, PP&L will sample the transformer at the customer's expense" (PP&L, 1991). The letter goes on to list the transformers, the locations, and the PCB content, if known. At the USAR Center, the PCB content for the three pole-mounted transformers all had levels less than 1.0 part per million (ppm).

6.7 Lead-based Paint

The FFR technical assessment stated that, "A lead paint survey has evidently not been conducted at this facility. Age of the 1961 original parts of the buildings implies a moderate risk of encountering lead paint in the course of future renovation of building interior and exterior. Age of the 1976 building additions implies a lower risk of encountering lead paint" (MHG, 2003). At the time of the site visit, only a few areas in the interior of the main building had visible chipped or peeling paint.

6.8 Radon

A site-specific radon survey was conducted at the USAR Center in 1989. Results from this survey indicated that radon levels were above USEPA's residential action level of 4 picoCuries per liter (pCi/L) of air. Passive detection equipment was installed throughout the main building to determine levels of radon gas over a long period of time. Based on the sampling results, several sample locations exhibited elevated radon levels above USEPA's residential action level. As a result, a soil depressurization radon mitigation system was installed in 1997. Information on the system's effectiveness was unavailable and has been requested.

In addition, the USEPA Map of Radon Zones for Lehigh County, Pennsylvania, confirms the county lies within the high priority zone, Zone 1, which has a predicted average indoor screening level greater than USEPA's residential action level of 4 pCi/L of air.

6.9 Munitions and Explosives of Concern

Based on a review of available records, the site reconnaissance, and interviews with USAR Center personnel, there are no indications that munitions and explosives of concern (MEC) are or were present at the Property. There was an indoor firing range on the Property located on the first floor of the main building, however it was decommissioned in 2002 (IT, 2003). At the time of the 2002 decommissioning, the indoor firing range had not been used in several years, and the shooter partitions, target retrieval system, bullet trap, and deflector plates had been previously removed. Metal cages also ran from the firing line along the entire length of the range and were completely full of stored items. In addition, the

acoustical tiles had been removed, and the remaining cinder block walls were repainted. The bullet trap and air exhaust system had also been removed.

There was no sand or lead shot observed. The floor was concrete and contained a drain. The floor of the firing range was cleaned in October 2002 using a cleaning solution in conjunction with floor scrubbers. Confirmatory wipe samples were collected following decommissioning activities in 2002. Results from these wipe samples indicate that concentrations of lead were below 200 micrograms per square foot, and the range is safe for reoccupation (IT, 2003).

In the assembly hall, there was at one time a rifle range lane along the left side. All that remains is the layered wood/plywood backstop, and a few pockmarks high on the concrete wall from errant shots. The wood has a few scattered holes that look to be approximately 0.22 inch in diameter, and it is suspected that lead is imbedded in the wood. No records on any lead abatement or clearance on this wooden backstop were available (M&H, 2003).

6.10 Radioactive Materials

Based on the August 3, 2006, site reconnaissance and interviews with USAR Center personnel, radioactive materials were present in equipment used on the Property. Meters used to monitor NBC hazards were stored in the main building. These meters apparently contain small quantities of radioactive material in sealed containers and are not regulated.

7 Review of Special Resources

7.1 Land Use

The City of Bethlehem's Planning and Zoning Department has designated this Property and surrounding properties as P-I, Planned Industrial District. The site is located in an area that has industrial land uses.

7.2 Coastal Zone Management

The PADEP Water Planning Office is the lead agency for the Pennsylvania Coastal Zone Management Program. This Property is not included in the coastal zone management plan, nor is it in a coastal zone (PADEP, Coastal Zone Management Program).

7.3 Wetlands

According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory maps, no jurisdictional wetland areas are identified on the Property or on adjacent properties. The nearest wetland is 6.1 acres and located 1.66 miles northwest of the Property. The radius map in the EDR report (page 8, Appendix E) indicates there are no wetlands in the immediate vicinity of the Property. In addition, during the August 2006 site visit, no indications of wetlands were present.

7.4 100-year Floodplain

A review of EDR's radius map (page 8, Appendix E) indicates the Property lies outside the 100-year floodplain.

7.5 Natural Resources

A report entitled *Programmatic Natural Resource Management Plan 79th Army Reserve Command Pennsylvania* was prepared for the 79th RRC in an effort to inventory and manage natural resources found at 79th RRC facilities in central and southeastern Pennsylvania. The report concluded that the USAR Center did not contain any key natural resources, including wetlands, surface water, floodplains, rare species, and/or the potential for rare species (Unknown, 1995).

7.6 Cultural Resources

A cultural resource management plan for the 79th Army Reserve Command was prepared by KFS Historic Preservation Group in July 1995. The purpose of the survey and subsequent report was to inventory all properties controlled or leased by the 79th Army Reserve Command in the state of Pennsylvania. Historical information, setting and landscape,

cultural resources, security, architectural information, and structure descriptions are included for each property. Each site also was assessed for its eligibility to the NRHP. Overall, none of the buildings at the Property was found to meet the criteria for inclusion in the NRHP. Appendix D provides a copy of the cultural resource management plan.

7.7 Other Special Resources

Based on a review of available current and historical documents, no additional special resources were identified on the Property or the immediate surrounding area.

8 Conclusions

The following information was obtained after conducting an environmental record search including records for adjacent properties, reviewing available historical information, conducting interviews with knowledgeable parties connected with the Property or with state and local agencies, and conducting a reconnaissance of the Property and adjacent properties.

8.1 Review of Findings

Hazardous Substances. Hazardous substances pursuant to CERCLA §101(14) (42 United States Code [USC] 9601 (14)) were used and stored at the Property in amounts necessary to support vehicle and building maintenance activities. These substances include motor oil, touch-up paint, liquid ice melter, hydraulic fluid, brake cleaner, antifreeze, and dry cleaning solvent. Available information indicates the quantities stored would not have resulted in a significant release to the environment. There is no evidence (no available reports or persons interviewed) that the hazardous substances used or stored were released or disposed of at the Property.

USTs/ASTs. One UST was located at this Property and was removed in 1996. The tank was used to store No. 2 fuel oil for the purpose of space heating, thereby exempting the tank from state or federal regulation. During the excavation, three soil samples were collected from the bottom of the excavation and one from the excavated material. Sample results detected low concentrations of POL products; however, all results were below regulatory action levels.

A fuel data inventory for the 99th RRC, dated October 25, 1996, listed a 1,000-gallon AST containing No. 2 diesel fuel being used as a backup fuel source. The inventory also stated the AST was awaiting removal. No other references to this AST were made in reasonably available reports, and no additional documentation on the AST was identified for preparation of this report. No one interviewed had any knowledge of this AST or its location on the Property.

Non-UST/AST Petroleum Storage. Used POL substances were stored in the hazardous waste shed located outside of the OMS building. Secondary containment and spill kits were available. Small amounts of motor oil and other POL substances were stored in the flammable cabinet located in the OMS building.

PCBs. There are three pole-mounted transformers supplying underground service entrance conductors for the main building. There are no pad-mounted transformers onsite. A letter from Pennsylvania Power & Light, dated February 14, 1991, states "If a transformer has not been tested and its PCB content is unknown, PP&L assumes the unit to be PCB-contaminated….If requested, PP&L will sample the transformer at the customer's expense" (PP&L, 1991). The letter goes on to list the transformers, the locations, and the PCB content, if known. The PCB content for the three pole-mounted transformers at the USAR Center all

had levels less than 1.0 ppm. The exteriors of the transformers appeared to be in good condition at the time of the site reconnaissance, and no evidence of release (for example, stains around the base of the pole or adjacent soil) was observed.

ACM. A 1995 survey evaluation of ACM at the USAR Center (REWEI, 1995) found friable insulation in some old piping in the main building (1961 portion). The main building also has a limited amount of non-friable 9-inch by 9-inch ACM floor tiles in some areas. There also is asbestos-containing mastic under much of the non-ACM 12-inch by 12-inch floor tiles throughout the building. All remaining ACM at this facility is in reportedly good condition. Special care must be taken if these areas are to be disturbed. No asbestos is reported to remain in the OMS building.

LBP. No LBP surveys have been conducted at the Property. Facilities constructed before 1978 are presumed to have lead-containing paint. All buildings on the Property were constructed before 1978 and, therefore, have the potential to have LBP present. At the time of the site survey, painted surfaces were in relatively good condition with only a couple of internal areas with chipped and/or peeling paint

Radiological Materials. Based on the August 3, 2006, site reconnaissance and interviews with USAR Center personnel, radioactive materials were present in equipment stored on the Property. Meters used to monitor NBC hazards were stored in the main building. These meters apparently contain small quantities of radioactive material in sealed containers and are not regulated.

Radon. A radon survey conducted at this facility had results indicating that a few sampling locations exhibited radon levels above USEPA's residential action level of 4 pCi/L of air. As a result, a radon mitigation system was installed at this facility in 1997.

MEC. Available records do not indicate any MEC currently or formerly located at this Property. No evidence of MEC was observed during the site reconnaissance. There were two firing ranges formerly at this facility. One, on the first floor of the main building, was properly decommissioned and closed. The other, located in the drill hall, has not been decommissioned.

Surrounding Properties. Potential environmental concerns, located on surrounding properties within the standard ASTM search radius distance from the Property, were evaluated through database review and site reconnaissance. Only one adjacent property evaluated exhibited environmental conditions that had or have the potential to adversely affect environmental conditions at the Property.

Airport Garage, located on 3220 Airport Road (approximately 694 feet upgradient of the Property) was identified in the LUST database. According to the PADEP's eFACTS, Airport Garage was given a status of "2", which indicates that interim or remedial actions have been initiated. During a site reconnaissance of the facility, several groundwater monitoring wells were observed around the property. Reports containing information regarding extent of contamination were not available. It is a possibility this release of unleaded gasoline could have an environmental impact the Property.

Wetlands and Floodplain. According to the USFWS National Wetlands Inventory maps, the 2006 EDR report, and visual observations, no wetlands were observed or appear to be

associated with any of the facilities at this site, or with any adjacent properties. The Property is not located within a 100-year floodplain or within a coastal zone.

Threatened and Endangered Species. A report entitled *Programmatic Natural Resource Management Plan 79th Army Reserve Command Pennsylvania* concluded that the USAR Center did not contain any key natural resources, including wetlands, surface water, floodplains, rare species, and/or the potential for rare species.

Archaeological and Historical Resources. A cultural resource management plan for the Property concluded that no historic architectural resources were identified at the Property, and neither of the buildings at the Property was found to meet the criteria for inclusion in the NRHP.

8.2 Environmental Condition of Property

Findings of this ECP report were based on reasonably available environmental information; interviews with site, state, and local personnel; review of previous environmental studies; and federal and state database and file information related to the storage, release, treatment, and/or disposal of hazardous substances or petroleum products. Results also were based on visual observations of the Property and adjacent properties.

In accordance with DoD policy defining the classifications (see Sherri Goodman memorandum dated 21 October 1996), the Property has been classified into one of seven property types. Based on the results of this ECP study, the property has been assigned an overall DoD Environmental Condition Type 2. The property type is based on the following major findings:

- A 5,000-gallon UST associated with this facility was removed October 30, 1996. The tank stored No. 2 fuel oil used for space heating. Release detection monitoring was not conducted prior to excavation and removal of the tank. Approximately 1,610 gallons of fuel oil and 60 gallons of sludge were removed from this tank prior to excavation. During the excavation, three soil samples were collected from the bottom of the excavation and one from the excavated material. Sample results detected low concentrations of POL products; however, all results were below regulatory action levels.
- The Property boundaries adjoin adjacent land that has documented a POL release to the environment. Airport Garage, located on 3220 Airport Road (approximately 694 feet upgradient of Property), was identified in the LUST database. According to PADEP's eFACTS, Airport Garage was given a status of "2", which indicates that interim or remedial actions have been initiated. During a site reconnaissance of the facility, several groundwater monitoring wells were observed around the property. Reports containing information regarding the extent of contamination were not available. It is a possibility this release of unleaded gasoline could negatively impact the Property.

9 References

Persons Contacted

- Jason Clutter, GS Environmental Protection Specialist, RSO #2, 570-342-3786 x 1220 (office), 570-417-9556 (cell), August 1, 2006
- Ray Spriggs, Environmental Protection Specialist/Automation Program Manager, 570-342-3786 (office), 570-417-7815 (cell), August 3, 2006.
- John Wascavage, Operation NCO, 610-974-9601 (office), August 3, 2006.
- Salvatore Zangari, Facility Operation Specialist, 610-974-9601 (office), 610-662-1653 (cell), August 24, 2006.
- Arnold Olsen, Motor Sergeant, 610-974-8208 (office), August 3, 2006.
- Kevin Finn, Security 744th MP, 610-974-8210 (office), August 3, 2006.
- Mr. Burke, Building Coordinator, 610-974-8210 (office), August 3, 2006.

Resources Consulted

- Aerial photographs provided by Banks Information Solutions, Inc., dated 1955, 1972, and 1999
- U.S. Geologic Survey (USGS) 30-minute and 7.5-minute Topographic maps provided by Environmental Data Resources, Inc. (EDR), 1893 Allentown Quad, 1947 Allentown Quad, 1957 Allentown Quad, and 1964, 1964-1992, and 1999 Catasauqua Quads
- Pennsylvania Brownfield Inventory, http://www.pasitefinder.state.pa.us
- Pennsylvania Department of Environmental Protection (PADEP), Land Recycling Program, Bureau of Waste Management, Storage Tank Cleanup Location, http://www.depweb.state.pa.us/landrecwaste/lib/landrecwaste/storagetankcleanups/tankincidents.xls
- Cultural Resources GIS, https://www.dot7.state.pa.us
- USEPA Map of Radon Zones, http://www.epa.gov/radon/zonemap.html
- Pennsylvania Department of Environmental Protection (PADEP), Water Planning Office, Coastal Zone Management Program, http://www.dep.state.pa.us/river/czmp.htm

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Pennsylvania Power & Light. 1991. *Transformer Information Request Letter*. February.

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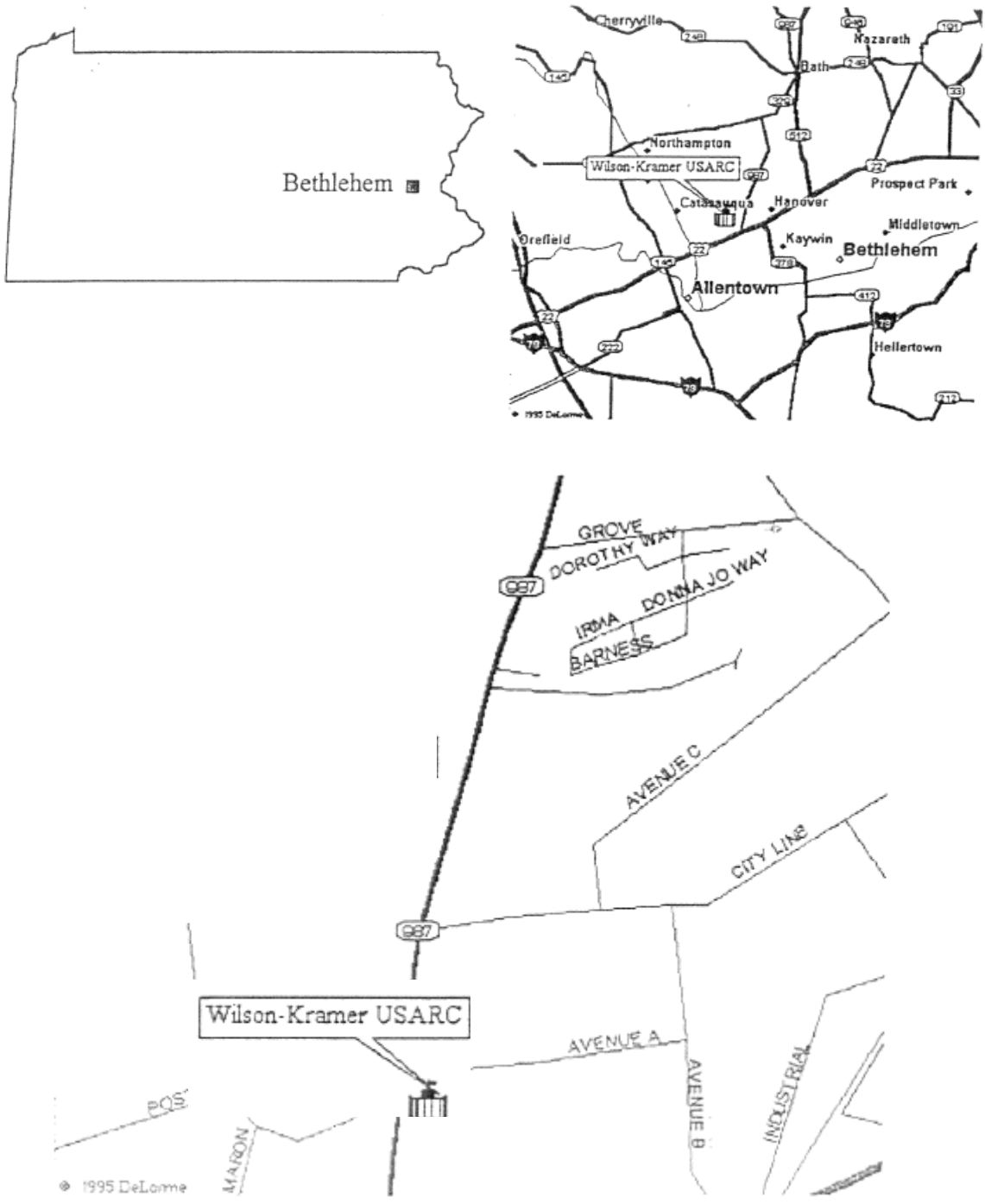
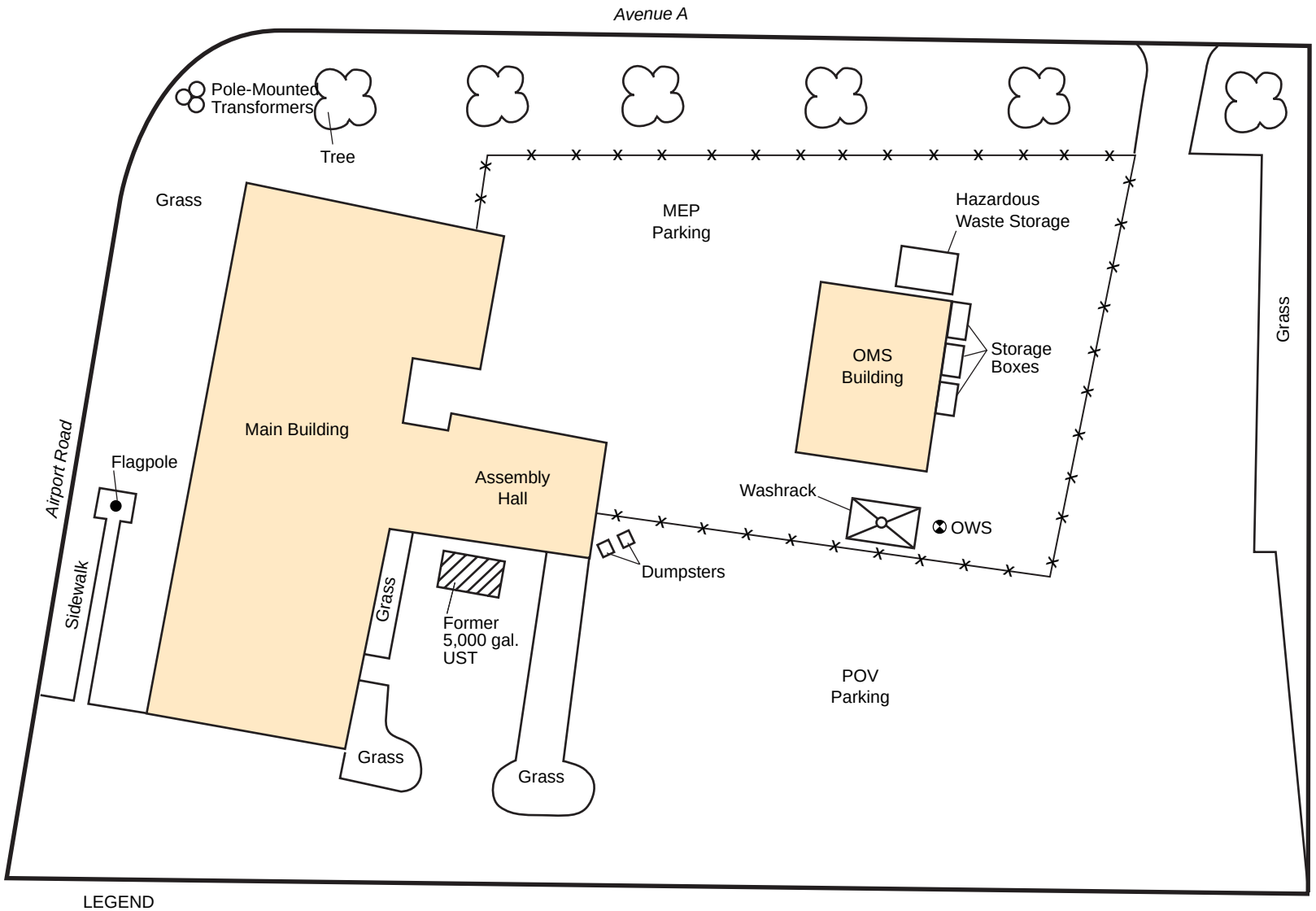
Unknown Author. 2005. *Programmatic Natural Resource Management Plan 79th Army Reserve Command Pennsylvania*. July.

Appendix A
Figures



North

FIGURE 1
General Site Location Map
Phase I ECP Report



LEGEND

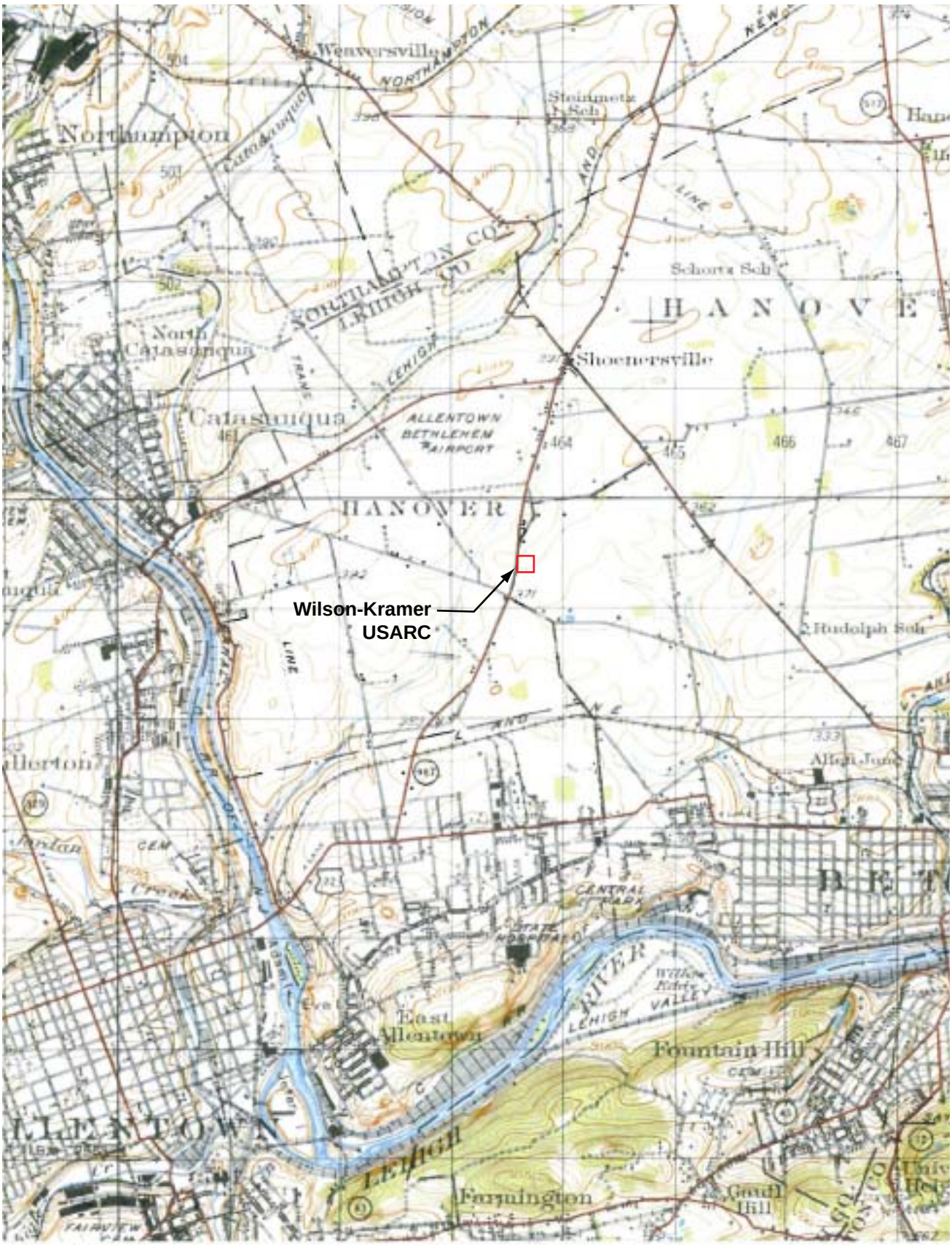
Approximate Property Boundary
—x— Fence Line
PVO Privately Owned Vehicle
MEP Military Equipment Parking
OMS Organizational Maintenance Shop
OWS Oil/Water Separator

FIGURE 2
Site Layout Plan
Phase I ECP Report

EDR INQUIRY# 1714247.250 TARGET QUAD: ALLENTOWN YEAR: 1893 Series: 15' Scale: 1:62,500

North

FIGURE 3
1893 USGS 15-Minute Topographic Map
Allentown, Pennsylvania
Phase I ECP Report



EDR INQUIRY# 1714247.250 TARGET QUAD: ALLENTOWN YEAR: 1947 Series: 15' Scale: 1:50,000

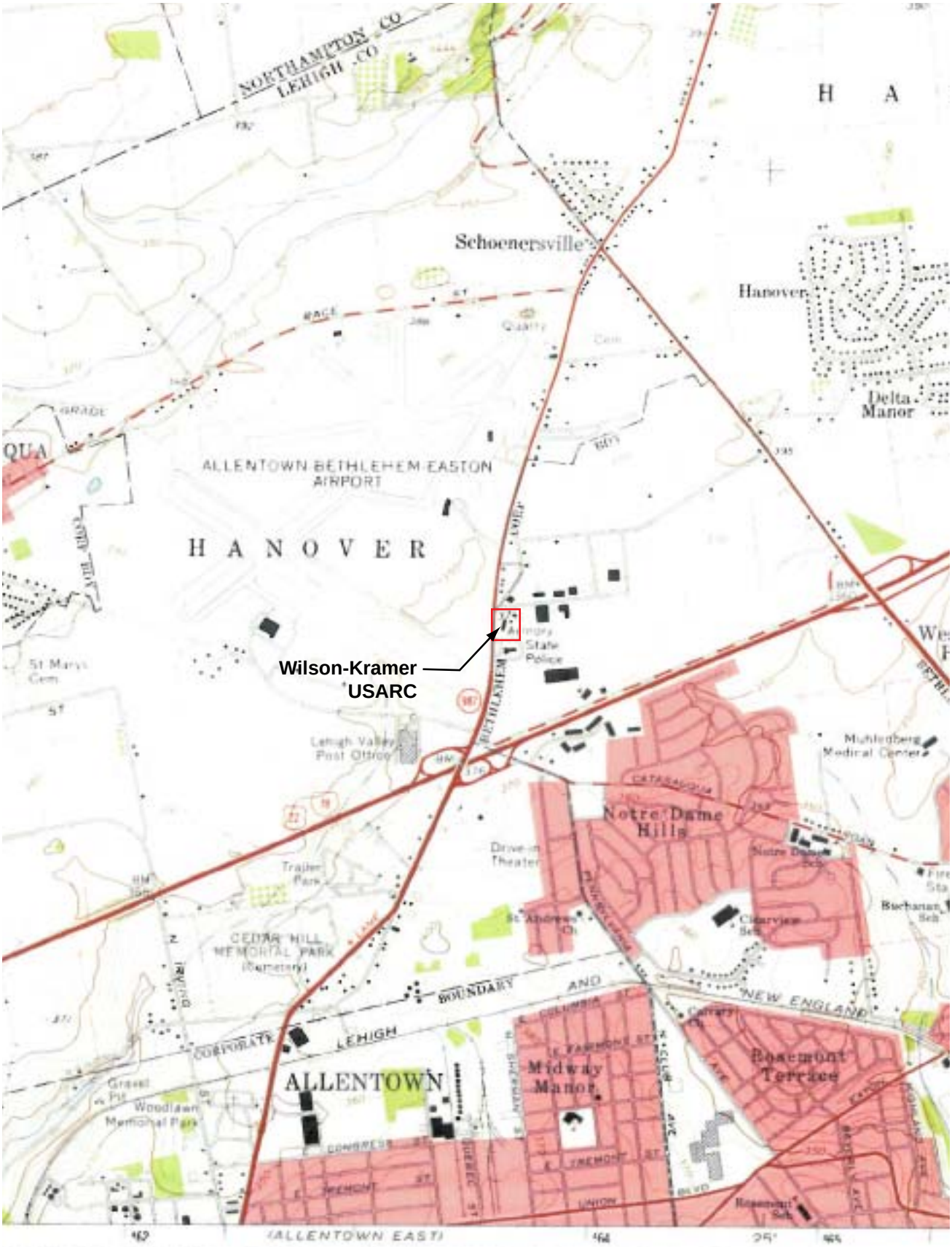
North

FIGURE 4
1947 USGS 15-Minute Topographic Map
Allentown, Pennsylvania
Phase I ECP Report

INQUIRY# 1714247.250 TARGET QUAD: ALLENTOWN YEAR: 1957 Series: 15' Scale: 1:62,500

North

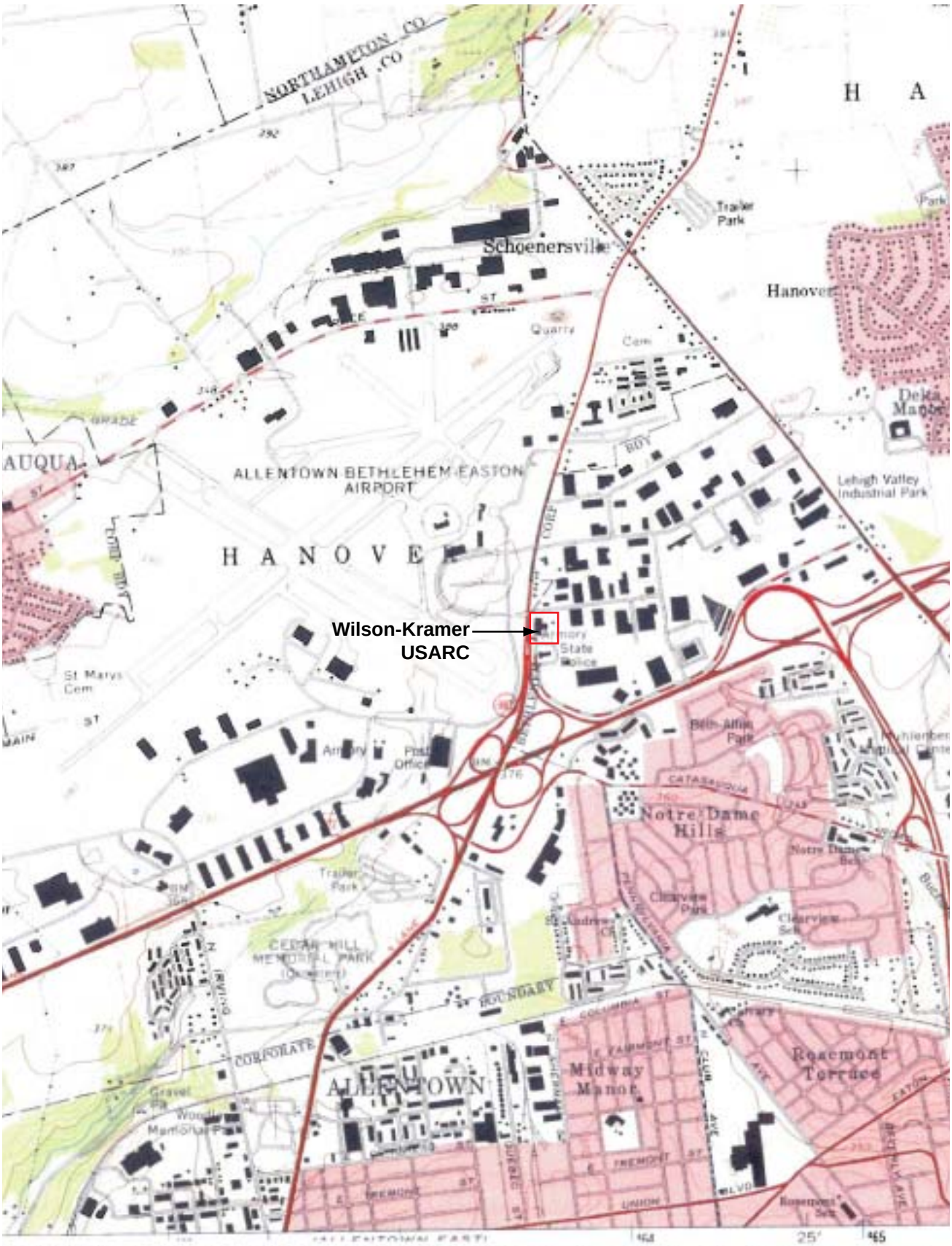
FIGURE 5
1957 USGS 15-Minute Topographic Map
Allentown, Pennsylvania
Phase I ECP Report



EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA YEAR: 1964 Series: 7.5' Scale: 1:24,000

North

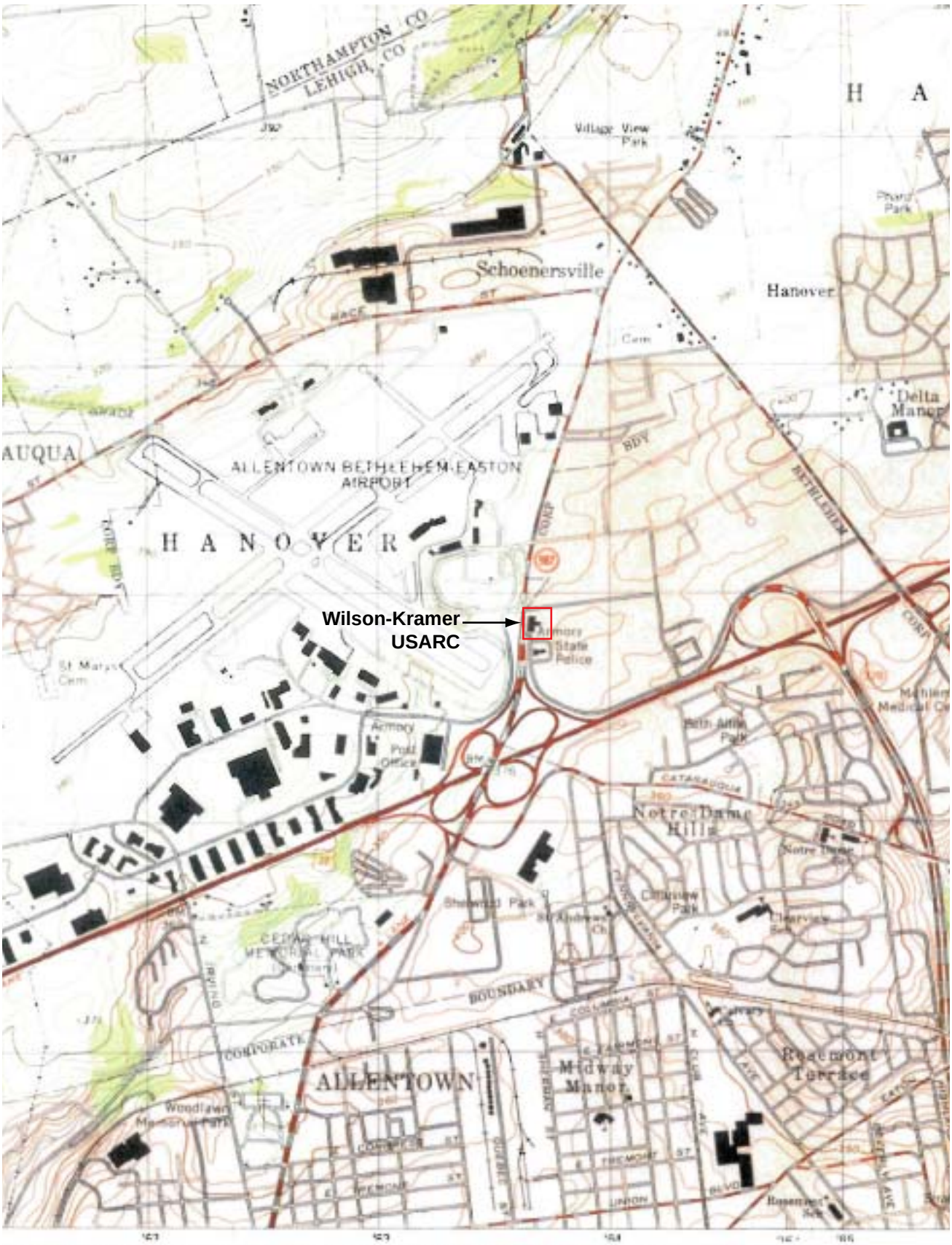
FIGURE 6
1964 USGS 7.5-Minute Topographic Map
Catasauqua, Pennsylvania
Phase I ECP Report



EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA Revised: 1964-1992 Series: 7.5' Scale: 1:24,000

North

FIGURE 9
1964-1992 USGS 7.5-Minute Topographic Map
Catasauqua, Pennsylvania
Phase I ECP Report



EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA YEAR: 1999 Series: 7.5' Scale: 1:24,000

North

FIGURE 8
1999 USGS 7.5-Minute Topographic Map
Catasauqua, Pennsylvania
Phase I ECP Report

North

FIGURE 9
1955 Aerial Photograph
Allentown, Pennsylvania
Phase I ECP Report

North

FIGURE 10
1972 Aerial Photograph
Allentown, Pennsylvania
Phase I ECP Report

North

FIGURE 11
1999 Aerial Photograph
Allentown, Pennsylvania
Phase I ECP Report

Appendix B
Site Reconnaissance Photographs

APPENDIX B

Site Reconnaissance Photographs

1. Former rifle range used as storage.

2. Former coal storage room used to store non-hazardous materials located in boiler room.

3. Strange burn on wall in boiler room.

4. Flammable storage cabinet in OMS building.

5. Closed wash rack.

6. Drip pan not catching oil in OMS building.

7. Parts washer in OMS building.

8. Hazardous waste shed. No secondary containment under drip pan (liquid unknown), unsecured tank, spill

9. Hazardous waste shed. Spill kits, shelves with motor oil, liquid ice melter, etc. Also stores hydraulic fluid on secondary containment pallets.

10. Hydraulic fluid on secondary containment. Spill kit.

Appendix C

Property Acquisition Documents and Chain of Title Report

USARC SITE, ALLENTOWN-BETHLEHEM, PA.
TRACT NO. 100

ALL that certain tract or parcel of ground situate along the east side of the Allentown-Schoenersville Road (Legislative Route 39031, Traffic Route 987) in the Thirteenth (13th) Ward, City of Bethlehem, County of Lehigh, Commonwealth of Pennsylvania, bounded and described as follows, to wit:

BEGINNING at a point on the easterly street line of the Allentown-Schoenersville Road as proposed by the City of Bethlehem, said point being in a line of lands now or formerly of the General State Authority (Bethlehem Barracks Pennsylvania State Police); thence extending N 9° 13' 30" E along the easterly street line of the Allentown-Schoenersville Road a distance of 308.32 feet to a point; thence by a curve to the right having a radius of 75.0 feet, the chord thereof having a bearing of N 49° 05' 20" E a distance of 96.14 feet, and an arc distance of 104.36 feet to a point on the southerly street line of a proposed 60.0 foot wide street; thence extending eastwardly and southwardly in and through the lands of the Lehigh Valley Industrial Park, Inc., the grantors hereof of which this conveyance is a part, the following two courses and distances, to wit: N 88° 57' 10" E along the southerly street line of a proposed 60.0 foot wide street a distance of 441.89 feet to a point; thence extending S 1° 02' 50" E a distance of 365.0 feet to a point in line of lands now or formerly of the General State Authority; thence extending S 88° 57' 10" W along lands now or formerly of the General State Authority a distance of 570.67 feet to a point on the easterly street line of the Allentown-Schoenersville Road, being the point or place of beginning, containing 4.49 acres strict measure. Bounded on the west by the Allentown-Schoenersville Road; on the north and east by other lands of the Lehigh Valley Industrial Park, Inc., and on the south by lands now or formerly of the General State Authority.

BEING part of the same premises which Albert A. Seip and Eva C. Seip, his wife, granted and conveyed unto Lehigh Valley Industrial Park, Inc., by deed dated May 21, 1959, and recorded in Deed Book 943, page 213, Lehigh County records.

SUBJECT to existing easements for public roads and highways, public utilities, railroads and pipelines.

2055 East Rio Salado Parkway, Suite 201
Tempe, Arizona 85281
Phone: (480) 967-6752
Fax Number: (480) 966-9422
Web Site: www.netronline.com

HISTORICAL CHAIN OF TITLE REPORT

WILSON KRAMER USARC, PA
2940 AIRPORT ROAD
BETHLEHEM, PENNSYLVANIA

Submitted to:

ENVIRONMENTAL DATA RESOURCES, INC.
C/O
CH2M HILL
1569 Stampmill Way
Lawrenceville, Georgia 30043
(770) 338-1589

Attention: Mary Jacques

Project No. N06-5543

Thursday, September 14, 2006

NETR- Real Estate Research & Information hereby submits the following ASTM historical chain-of-title to the land described below, subject to the leases/miscellaneous shown in Section 2. Title to the estate or interest covered by this report appears to be vested in:

UNITED STATES OF AMERICA

The following is the current property legal description:

Being that parcel or tract of land, consisting of 4.49 acres more or less, known as Military Tract No. 100 and described as LR39031, Lots 50-51, situated and lying in the 13th Ward, City of Bethlehem, Lehigh County, State of Pennsylvania

Assessor's Parcel No: 6418274712951, old parcel number 03-13-F10NE1-007-001

1. HISTORICAL CHAIN OF TITLE

1. DEED:
   - RECORDED: 08-14-1941
   - GRANTOR: Ray Hoffman, et al, as to the Last Will and Testament of Esther M. Hoffman, deceased
   - GRANTEE: Eva C. Seip
   - INSTRUMENT: Bk 607, Pg 206

2. DEED:
   - RECORDED: 05-21-1959
   - GRANTOR: Albert Seip & Eva Seip, husband & wife
   - GRANTEE: Lehigh Valley Industrial Park, Inc., a Pennsylvania Corporation
   - INSTRUMENT: Bk 943, Pg 213

3. DEED:
   - RECORDED: 08-04-1960
   - GRANTOR: Lehigh Valley Industrial Park, Inc., a Pennsylvania Corporation
   - GRANTEE: United States of America
   - INSTRUMENT: Bk 972, Pg 405

2. LEASES AND MISCELLANEOUS

1. No environmental liens, institutional controls or engineering controls were found of record.

3. LIMITATION

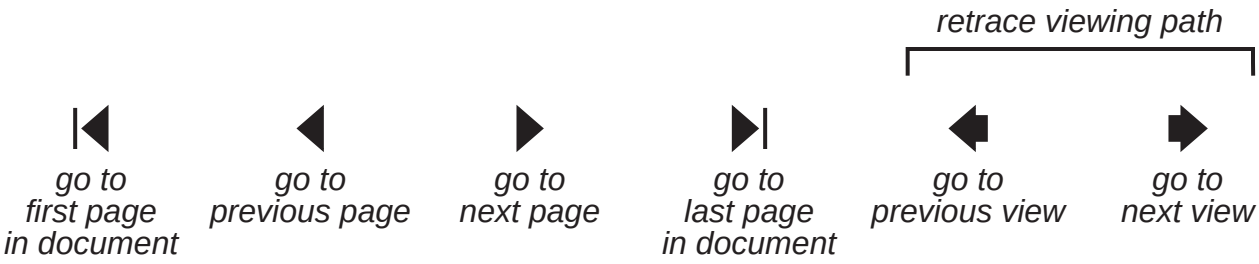
This report was prepared for the use of Environmental Data Resources, Inc., and CH2M Hill, exclusively. This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. NETR- Real Estate Research & Information does not guarantee nor include any warranty of any kind whether expressed or implied, about the validity of all information included in this report since this information is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Appendix D

Previous Environmental Site Assessment Reports

Navigation notes:

For easiest navigation, extensive use of "bookmarks" has been made. To view a given Section, simply click on the desired Section heading. A "+" sign indicates collapsed subheadings can be found by clicking on the "+". To re-collapse the heading, click on the "–" sign. Use the *Page Up* and *Page Down* keys to move to adjacent pages. You can also navigate by single-clicking the arrow buttons on the toolbar at the top of the Acrobat Reader window (see the diagrams below for an explanation).



Range Cleanup - PA008, 99th RSC

Wilson-Kramer U.S. Army Reserve Center

Bethlehem, Pennsylvania

Project Report

Prepared for

U.S. Army Corps of Engineers
Louisville District
Environmental Engineering Branch
Contract No. DACA27-99-D-0021 • Delivery Order No. 14

Prepared by

IT CORPORATION
312 Directors Drive
Knoxville, Tennessee 37923-4799

May 2003

INTERNATIONAL TECHNOLOGY CORPORATION

PROJECT REPORT

RANGE CLEANUP – PA008, 99th RSC
WILSON-KRAMER U.S. ARMY RESERVE CENTER
BETHLEHEM, PENNSYLVANIA

Contract No. DACA 27-99-D-0021
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Submitted to:

U.S. Army Corps of Engineers
Louisville District
Environmental Engineering Branch

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Knoxville, Tennessee 37923-4799

May 2003

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Appendix D Clearance Sample Sampling Form and Analytical Result, IT Corporation and EnviroData Group, October 2002
Appendix E Hazardous Waste Management Records
Appendix F Non-hazardous Waste Management Records
Appendix G Clearance Certification Letter

1.0 Introduction

This document presents the report for cleanup activities at the 99th RSC facility located at 2940 Airport Road, Bethlehem, Pennsylvania (Figure 1-1). The cleanup activities were based on the Scope of Work (SOW) provided by the U.S. Army Corps of Engineers (USACE) Louisville District (CELRL) and a site inspection conducted on April 18, 2002.

1.1 Property/Project Identifiers

- Facility ID Number: PA008
- State: Pennsylvania
- Facility Name: Wilson-Kramer U.S. Army Reserve Center
- City: Bethlehem.

1.2 Site Description

1.2.1 Inspection Information

Ms. Ginger Darnell of IT Corporation inspected the range on April 18, 2002. The three-position range was located on the first floor of the facility. Metal cages ran from the firing line along the entire length of the range and were completely full of stored items. A small area behind the firing line and a narrow corridor along the south wall provided the only clear access to the range. The shooter partitions and target retrieval system had been previously removed. The bullet trap and air exhaust system had also been removed. There was no sand or lead shot observed.

The concrete walls and ceiling were painted. All sound deadening material had been removed. The floor was constructed of concrete and contained a drain.

No other investigations (e.g., lead inspections or asbestos assessments) are known to have been conducted at the range.

1.2.2 Pre-Cleanup Characteristics

1.2.2.1 Number of Firing Points

The range had three firing points.

1.2.2.2 Bullet Trap Characteristics

The bullet trap had been previously removed. No sand or lead shot was present.

1.2.2.3 Range Characteristics

The range, which was located on the first floor, was constructed of the following:

- Floor – sealed concrete
- Walls – painted concrete
- Ceiling – painted concrete.

Other features included:

- Metal storage cages
- Numerous stored items, including office furniture, shelves, lockers, wooden crates, cabinets, field equipment, hand tools, helmets, bedrolls, and other military supplies
- Fluorescent lights spaced across the ceiling and running the entire length of the range.

1.2.2.4 Suspect Asbestos Containing Materials (ACM) Inventory

No suspect ACM was known to be present.

1.2.2.5 Air Handling Systems Description

The air handling system at the site consisted of the following:

- Fresh air intake connected to heating system in adjacent room
- Roof-mounted air exhaust fan that had been previously removed.

1.2.2.6 Access Points

The only access to the firing range is via an entry door near the firing line.

1.3 Scope of Work

The SOW consisted of the following:

- Cleaning/removing stored items
- Cleaning the range
- Cleaning and removing the air handling system
- Collecting clearance samples
- Scabbling and sealing the floor, if necessary, based on clearance data.

The U.S. Army Reserve Command (USARC) recognized safety and health hazards from lead-dust in indoor rifle ranges; however, regulations supporting cleanup remedies dealt primarily with non-industrial standards. After reviewing information relative to cleaning methods and clearance sampling, the value of 200 micrograms per square foot (µg/sf) was derived as a value that would release the indoor ranges as a room that could be reoccupied as a non-lead work area. This value has also been selected by other federal agencies as acceptable.

2.0 Project Team

The project team involved with the cleanup activities included the following organizations and their representatives:

- Project Initiator – USARC
  Ken Coulter – Facility Support Branch, U.S. Army Reserve Engineer

- Client – 99th RSC

- Construction Manager – USACE, Louisville District
  Project Manager – Mark Ringenberg
  Contracting Officer's Representative – David Dierken

- Contractor – IT Corporation
  Project Manager – Bill Scoville
  Site Supervisor – Charles Heffelfinger
  Site Safety Officer/Construction Quality Control Engineer – Charles Pultz

- Subcontractors
  Range Clearance Inspection and Sampling – CIH Environmental, Inc., Reading, Pennsylvania
  Hazardous Decontamination Water Disposal Facility – Heritage Environmental Services, Indianapolis, Indiana
  Recycled Metal Facility – Catasauqua Scrap Yard, Catasauqua, Pennsylvania
  Non-hazardous Debris Disposal Facility – Bucks-Mont District, Telford, Pennsylvania.

3.0 Project Activities

This section details the project activities performed at the 99th RSC facility located at 2940 Airport Road, Bethlehem, Pennsylvania. The cleanup activities consisted of the following:

- Range Removal Activities (Section 3.1)
- Range Cleaning Activities (Section 3.2)
- Range Clearance Inspection and Sampling (Section 3.3)
- Waste Management, Transportation, and Disposal (Section 3.4)
- Site Monitoring (Section 3.5).

The following sections discuss the operational details associated with the implementation of each of these activities.

Range cleanup activities commenced on September 17, 2002, and continued until October 18, 2002. Photographs of cleanup activities are included in Appendix A. Major schedule milestones include:

- Commenced field work on September 17, 2002.
- Completed initial range cleanup activities on September 24, 2002, and demobilized pending clearance sampling and receipt of clearance sampling results.
- Conducted clearance sampling on October 4, 2002.
- Remobilized to the site on October 15, 2002, for additional cleaning/painting; the results of the clearance sample collected on October 15, 2002, indicated that the cleanup performance standards had been attained.

In summary, the following work was performed:

- Double-washed and HEPA-vacuumed the range
- Achieved cleanup of range concrete floor surface to 200 µg/sf
- Removed and disposed of five drums (275 gallons) of lead contaminated decontamination water
- Removed and recycled one pick-up truck load (1,160 pounds) of scrap steel

- Removed and disposed of one roll-off box (500 pounds) of non-hazardous debris.

3.1 Range Removal Activities

The following removal activities were completed from September 17 through September 20, 2002:

- Wiped and cleaned stored items and moved them to sea/land containers. Cleaned and left in place all fluorescent tubes and light fixtures.

- Removed 1,160 pounds of steel slats from the ceiling and air exhaust system. Loaded materials in a pick-up truck for recycling. All scrap steel was decontaminated using a lead-clean solution.

- Removed a small amount of demolition debris and placed in a roll-off box.

3.2 Range Cleaning Activities

From September 21 through September 24, 2002, the firing range was initially cleaned. To remove as much dust and remaining debris as possible, the firing range was vacuumed using a HEPA vacuum. All surfaces were vacuumed, starting at the end farthest from the main entrance (the bullet trap area) and moving towards the main exit, beginning with the top of the room and working down. All vacuumed materials were containerized and later recycled with the scrap metal.

The walls were washed with a commercial detergent and two coats of lead barrier paint were applied to the walls and ceiling of the entire range.

Floor cleaning activities consisted of the application of the following cleaning solutions:

- ZEP All Purpose Cleaner & Degreaser, manufactured by ENFORCER Products, Inc.
- HMCS-101, manufactured by Chemical Solutions International Corporation.

These solutions were applied in accordance with the manufacturers' recommendations; floor scrubbers were used to increase the effectiveness of the solutions. After the excess solution was removed with wet-dry vacuums, the floor was rinsed with hot water until the water being vacuumed was visibly clear of dirt and suds. All decontamination water was containerized in 55-gallon drums. Copies of the Material Safety Data Sheets for the cleaning solutions are provided in Appendix B.

Additional cleaning was performed on October 15, 2002, using HMCS-101.

3.3 Range Clearance Inspection and Sampling

Upon completion of cleaning activities and prior to clearance sampling, a visual inspection was conducted of the areas potentially affected by the lead hazard control project. The inspection was conducted on October 4, 2002, by James E. Detwiler, Certified Industrial Hygienist (Certification No. 2020) of CIH Environmental, Inc., Reading, Pennsylvania. The purpose of the inspection was to determine whether the work was completed as required on all interior surfaces treated, as specified in the original project scope and as indicated in the project report, and whether visible settled dust or debris was present.

The visual examination included a surface-by-surface examination to determine if known or suspected lead-dust surfaces were still present in the range. Lead hazard removal verification was documented on a Visual Clearance Form (Appendix C). All interim controls were verified visually to confirm stabilization of all lead dust surfaces, including any friction or impact surfaces treated during the project.

The visual examination verified the absence of visual dust in all rooms and on all surfaces treated. The absence of all waste and debris was also verified.

When acceptable visual examination results were received, clearance dust sampling commenced. Clearance dust sampling consisted of collecting single-surface dust wipe samples and analyzing them for lead content to determine whether lead concentrations exceeded clearance criteria (the clearance standard for this project is 200 µg/sf).

A total of 21 dust wipe samples were collected from the following locations:

- Nineteen dust wipe samples from:
  - Floor – outside of door (001DT)
  - Floor – firing line (002DT)
  - Floor - center (003DT)
  - Floor –trap (004DT)
  - Wall - trap (005DT)
  - Wall - trap (006DT)
  - Wall - trap (007DT)

- Wall - right (008DT)
- Wall - left (009DT)
- Wall - right (010DT)
- Wall - left (011DT)
- Wall – left (012DT)
- Wall – right (013DT)
- Wall – firing line (014DT)
- Wall – firing line (015DT)
- Wall – firing line entrance (016DT)
- Ceiling – trap (017DT)
- Ceiling – center (018DT)
- Ceiling – firing line (019DT)

- One field blank sample (020DT)

- One spike sample (021DT).

Sample 007DT, from the bullet trap wall, was found to have a lead level above the clearance criteria of 200 µg/sf. After recleaning and painting the trap area walls with lead barrier paint, one additional wipe sample was collected by Charles Pultz of IT Corporation, Inc., on October 15, 2002, from the following location:

- One dust wipe sample from:
  - Wall – trap (001DT)

Figure 3-1 shows the locations where clearance samples were collected. Sampling procedures are discussed in Section 4.1; analytical results are presented on Table 4-1. The clearance inspection and dust wipe sample collection forms and the analytical reports are included in Appendices C and D.

3.4 Waste Management, Transportation, and Disposal

Hazardous wastes generated during cleanup activities included:

- Five drums (275 gallons) of lead-contaminated decontamination water were transported by Heritage Transport, LLC, and taken to Heritage Environmental Services, LLC, Indianapolis, Indiana, on December 17, 2002, for treatment.

Table 3-1 summarizes this hazardous waste shipment. Copies of the waste profile, Land Disposal Restriction (LDR) notification, and hazardous waste manifest are provided in

Appendix E.

Non-hazardous waste generated during project activities and subsequently disposed of includes:

- Scrap metal from steel slats in the ceiling and the air exhaust system – one pick-up truck (1,160 pounds) of scrap metal was transported by IT Corporation, Inc., to the Catasauqua Scrap Yard in Catasauqua, Pennsylvania, on September 24, 2002, for recycling.

- Demolition debris – one roll-off box (500 pounds) of debris was transported by BFI and taken to the Bucks-Mont District, Telford, Pennsylvania, on September 26, 2002, for landfilling.

Table 3-2 summarizes these non-hazardous waste shipments. Copies of the non-hazardous waste shipping documents are provided in Appendix F.

3.5 Site Monitoring

Personal and area air monitoring for lead were not conducted during these lead removal operations. Worker lead exposure monitoring includes regular blood lead monitoring; blood lead monitoring subsequent to site activities were within limits established by the Occupational Safety and Health Administration (OSHA).

4.0 Sample Collection and Analysis

4.1 Lead Wipe Sampling Summary

To confirm that the lead contamination had been removed from the floor of the range, on October 4, 2002, personnel from CIH Environmental, Inc., collected the samples described in Section 3.3, following procedures presented in the project Work Plan. An additional sample was collected by Charles Pultz of IT Corporation on October 15, 2002.

Horizontal surfaces were sampled to determine total lead content in the settled dust. Lead-in-dust wipe samples were generally secured over a 1-sf area following an "S" pattern from side-to-side, folded in half, and wiped over the same area at a 90° angle to the first "S" pattern (top-to-bottom). Latex gloves were changed between sampling episodes. Samples were then returned to the vials, sealed, and labeled for transport to the laboratory.

A field blank and a spike sample were also submitted for analysis. The field blank was prepared by removing and replacing the cap of the vial in the sampling area. The spike sample was prepared in the laboratory by treating sampling media with a known quantity of lead dust.

All lead-in-dust wipe samples were acid digested in accordance with U.S. Environmental Protection Agency (USEPA) Method SW-846 6010B. Results of the wipe sample analyses are summarized in Table 4-1 and are detailed in the laboratory analytical reports provided in Appendices C and D. Wipe sample locations are shown on Figure 3-1. Copies of the Visual Clearance Form and the Dust Sampling Form are also provided in Appendices C and D.

The analytical results in Table 4-1 may be summarized as follows:

- After the initial cleaning, the range showed lead levels of <2.5 µg/sf in 12 wall and ceiling samples. Six additional samples, ranging from 3.11 µg/sf to 120 µg/sf, were collected from wall and floor locations. The right front wall in the trap area had a lead level of 216 µg/sf. Because a sample exceeded the clearance criteria of 200 µg/sf, additional cleaning and painting was performed.

- A sample collected on October 15, 2002, showed that the lead level from the right front wall of the trap area was below the clearance criteria of 200 µg/sf.

Thus, based on this result, the clearance criteria of 200 µg/sf has been attained.

Via a letter dated October 28, 2002, the facility was notified that the clearance levels were attained and that the range could be reoccupied. A copy of the clearance certification letter is provided in Appendix G.

4.2 Air Monitoring Sampling Summary

No air monitoring was performed (see Section 3.5).

5.0 Conclusions

In total, all the range structures associated with the indoor range at the Wilson-Kramer U.S. Army Reserve Center, Bethlehem, Pennsylvania, were successfully removed, characterized for disposal, and properly disposed of as indicated below:

- Hazardous, lead-contaminated waste – five drums (275 gallons) of water
- Recycled metal – one pick-up truck load (1,160 pounds) of scrap metal
- Non-hazardous waste – one roll-off box (500 pounds) of debris

All removal activities were performed as specified in the project SOW and Work Plan, using direct Health and Safety support involving personal and area air monitoring.

Clearance wipe samples document that residual lead levels in the range concrete are below the clearance level of 200 µg/sf. At the completion of site operations for this activity, all planned objectives were met. Based on a review of the clearance wipe sample data, IT concludes that no further range cleanup is necessary for the Wilson-Kramer U.S. Army Reserve Center. IT further certifies that the range cleaning activities have successfully attained the project clearance objectives and the range is approved for reoccupancy. Range clearance procedures consisted of the following:

- A surface-by-surface visual examination to verify that:
  - The lead hazard control work was completed as required
  - No known or suspected lead dust surfaces are still present in the range at levels that exceed the project clearance level of 200 µg/sf.

- Clearance sampling consisting of collecting wipe samples from the floor, wall, and ceiling surfaces and analyzing the samples for lead.

Please note that although the range has been cleaned to below the project clearance levels, small amounts of lead dust may be present in the range. The OSHA Construction Industry Standard for Lead (29 CFR 1926.62) should be reviewed before any remodeling activities that may cause a release of dust on wall and floor surfaces are undertaken. The OSHA standard requires certain controls to reduce or maintain worker exposures less than the Permissible Exposure Limit (PEL) of 50 $\mu g/m^3$ of lead. The employer must protect the worker from lead.

TABLES

Table 3-1
Hazardous Waste Disposal Log
Wilson-Kramer U.S. Army Reserve Center, PA008
Bethlehem, PA

Waste Type	Code	Shipment Date	Volume/ Weight	Transporter	TSD Facility	Manifest	Doc. #	Disposal Method
Decontamination Water	D008	12/17/02	5 Drums (275 gal)	Heritage Transport, LLC	Heritage Environmental Services, Indianapolis, IN	PAG 398406	12172	Treatment

Table 3-2
Non-Hazardous Waste Disposal Log
Wilson-Kramer U.S. Army Reserve Center, PA008
Bethlehem, PA

Waste Type	Shipment Date	Volume/ Weight	Transporter	TSD Facility	Documentation	Disposal Method
Scrap metal	9/24/02	1 Pick-up truck (1,160 lbs)	IT Corporation	Catasauqua Scrap Yard Catasauqua, PA	Weigh Ticket A 17050	Recycle
Demolition debris	9/26/02	1 Roll-off (500 lbs)	BFI	Bucks-Mont District Telford, PA	Ticket 186568	Landfill

Table 4-1

Lead Wipe Clearance Sample Results (µg/sf)[1]

Wilson-Kramer U.S. Army Reserve Center, PA008

Bethlehem, PA

Site/Date Code	99PABET02OCT04			99PABLM02OCT15	
Sampler	CIH Environmental, Inc.			IT Corporation	
Location[3]	Sample ID	Result[2]	Comments	Sample ID	Result[2]
Floor - outside of door	001DT	**57**		No Sample	
Floor - firing line 103/7	002DT	**11**		No Sample	
Floor - center 61/1	003DT	**43**		No Sample	
Floor - trap 5/11	004DT	**120**		No Sample	
Wall - trap 13/7	005DT	**<2.5**		No Sample	
Wall - trap 8/4	006DT	**3.11**		No Sample	
Wall - trap 1/1	007DT	216		001DT	**<2.5**
Wall - right 3/6	008DT	**<2.5**		No Sample	
Wall - left 8/3	009DT	**<2.5**		No Sample	
Wall - right 56/2	010DT	**<2.5**		No Sample	
Wall - left 60/11	011DT	**<2.5**		No Sample	
Wall - left 102/5	012DT	**<2.5**		No Sample	
Wall - right 99/3	013DT	**<2.5**		No Sample	
Wall - firing line 1/6	014DT	**<2.5**		No Sample	
Wall - firing line 7/4	015DT	**<2.5**		No Sample	
Wall - firing line entrance 17/2	016DT	**36**		No Sample	
Ceiling - trap 3/12	017DT	**<2.5**		No Sample	
Ceiling - center 40/10	018DT	**<2.5**		No Sample	
Ceiling - firing line 102/4	019DT	**<2.5**		No Sample	
Field blank	020DT	<2.5		No Sample	
Spike sample	021DT	200	210 µg spike	No Sample	

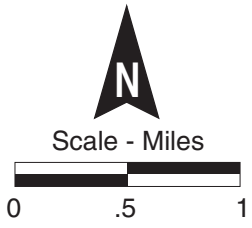
(1) = Results expressed in micrograms per square foot (mg/sf) of surface area, except Field Blank and Spike Sample, which are mg/wipe.

(2) = Results (other than blanks or spikes) in **bold** type are below the clearance level of 200 mg/sf .

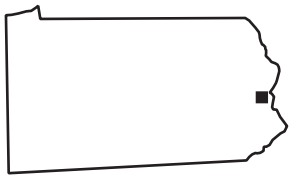
(3) = Distance in feet (floor - ceiling) from trap/from right; (side wall) from trap/up; (end wall) from right/up.

FIGURES

Source Map: MapQuest.com, Inc.



Pennsylvania



QUADRANGLE LOCATION

IT CORPORATION

Figure 1-1.
Site Location Map.
Bethlehem, PA (PA008) Reserve Center.

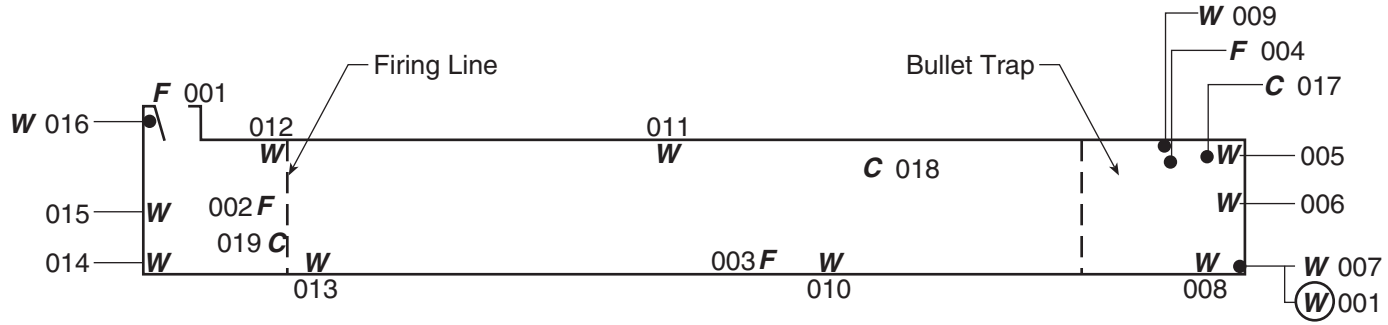
DRAWING NO. K-807744-0301-3/03-w

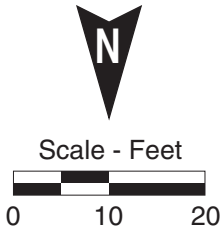
CHECKED BY

APPROVED BY

KMS 3/5/03

DRAWING BY





Legend

	Sample Date
F/W/C	04 Oct 02
(W)	15 Oct 02

Notes: ***F*** (floor), ***W*** (wall), and C (ceiling) designate the location of the sample.
Samples 020 and 021 collected on 04 Oct 02 were a blank and a spike, respectively.

IT CORPORATION

Figure 3-1.
Clearance Wipe Sample Locations.
Bethlehem, PA (PA008) Reserve Center.

DRAWING BY	KMS	CHECKED BY			DRAWING NO.
	3/5/03	APPROVED BY			K-807744-0399-3/03-w

APPENDIX A
Photographs

Bethlehem (PA008) Photo No. 1 - Range overview, 3 pt range looking toward firing line. Note cages and numerous stored items.

Bethlehem (PA008) Photo No. 2 –Closer view of the firing line area.

Bethlehem (PA008) Photo No. 3 - Range overview, 3 pt range looking toward the bullet trap area.

Bethlehem (PA008) Photo No. 4 - Closer view of the bullet trap.

Bethlehem (PA008) Photo No. 5 –Exterior view of air intake vent.

Bethlehem (PA008) Photo No. 6 - Sealed exhaust vent.

Bethlehem (PA008) Photo No. 7 –View of firing line area after cleanup activities and application of lead barrier paint.

Bethlehem (PA008) Photo No. 8 –Looking toward the bullet trap area after completion of cleanup activities, application of lead barrier paint, and installation of storage cages.

APPENDIX B
Material Safety Data Sheets

Material Safety Data Sheet

Issue Date: March 20, 1991; Revisions: Rev 1: 01/01/94; Rev 2: 05/01/97; Rev 3: 06/09/97, Rev 4: 01/28/98: Rev 5: 09/22/00; Rev 6: 01/29/02

Product Name: D-Lead® Equipment Cleaner

Product Code #: 3102ES

Product Information: (414) 962-5323
Manufacturer: ESCA Tech, Inc.
3747 North Booth Street
Milwaukee, WI 53212
Fax: (414) 962-7003

Transportation Emergency Phone:
1-800-535-5053 Info Trac
(24 hours, during transportation only)

email: eti@execpc.com

Section 1: Material Identification

Proper Shipping Name:	(49 CFR 172.101) Compound, Cleaning Liquid, N.O.S.		
D.O.T. Hazard Name:	(49 CFR 172.101) None		
D.O.T. ID No.:	Same as above		
D.O.T. Hazard Class:	Same as above		
RCRA Hazard Class:	(40 CFR 261) (As Received) None		
E.P.A. Priority Pollutants:	(40 CFR 401.15) None		
Generic Description:	Liquid, concentrated alkaline detergent		
NFPA: None	Health (NFPA): N.A.	Flammability (NFPA): N.A.	
Reactivity (NFPA): N.A.	CAS No.: Mixture	OSHA Subpart Z. No	
OSHA 1910.119: No	SARA Title III, Sec.312; 313; 372: Yes	TPQ: No	
Reportable Quantity: None	State Lists: None	Proposition 65: No	
Reproductive Hazard: No	Carcinogen: No	WHMIS (Canada): No	
Extremely Hazardous Substances List: No			

Section 2: Ingredients and Hazards

Hazardous Ingredients

Ingredient CAS Number	Max %	SARA applies			Air contaminant levels			Skin Agent
	w/w	312	313	372	TWA/TLV (ppm)	STIEL (ppm)	CEILING (ppm)	
Ethylene Glycol Monobutyl Ether (CAS#: 111-76-2)	4.8	Y	Y	Y	25	None	None	OSHA - Y ACGIH - Y

Other Recommended Limits: None ♦ Contains: Nonionic surfactants, complexing alkali and builders. Does not contain EDTA, chelates, phosphates, stearates, solvents, free alkalies, abrasives, citrates, tartrates, or acetates. Contains 2.0 % silicates. All ingredients are listed with EPA TSCA Inventory of Chemical Substances.

Section 3: Physical Data

Boiling Point:	208° F
Vapor Pressure:	17mm Hg.
Vapor Density (Air = 1):	>1, same as water
Melting Point:	28° F, -2° C
Specific Gravity (H_2O = 1):	1.033 (8.60 lbs./gal.)
Evaporation Rate (Butyl Acetate = 1):	0.36, (Slower)
Solubility in Water:	Infinite
Appearance and Odor:	Purple liquid, moderately viscous, characteristic odor
pH:	11.5 to 11.8 - undiluted; 10.5 at a 4:1 dilution with water

Section 4: Fire and Explosion Hazard Data

Flash Point (method used): NA ◆ Flammable Limits: Material will not burn ◆ LEL: NA ◆ UEL: NA ◆ Extinguishing Media: Material is not flammable ◆ Special Fire Procedures: None ◆ Unusual Hazards: None Material will not support combustion.

Section 5: Reactivity Data

Stable/Unstable: Stable ◆ Conditions to Avoid: Do not mix with other chemicals ◆ Hazardous Decomposition/Byproducts: Thermal decomposition may produce carbon monoxide ◆ Hazardous Polymerization: Will not occur ◆ Incompatibility: Strong oxidizing agent such as bleach. Should not be mixed with other chemicals.

Section 6: Health Hazard Data

Routes of entry:	Ingestion possible. No inhalation normally. Eye contact possible if splashed.
Acute/Chronic Health Effects:	**INHALATION:** Does not generate vapors at normal temperatures of use. **SKIN:** May defat the skin. **INGESTION:** Nausea, dizziness, fatigue.
Carcinogenicity:	None known. NTP? No IARC Monographs? No OSHA Regulated? No
Signs/Symptoms of Exposure:	SKIN: De-fatting of the skin. EYES: Burning. ORAL: Nausea, dizziness, fatigue.
Emergency and First Aid:	SKIN: Remove from source. Rinse with water. Treat as a caustic burn. EYES: Flush thoroughly with cool water for 15 minutes, lifting lids. Get medical attention. Treat as a caustic burn. INHALATION: Remove to fresh air. ORAL: Do not induce vomiting, keep quiet, get medical attention immediately. Treat as alkaline detergent.
Medical Condition Generally Aggravated by Exposure:	None known.

Section 7: Spill, Leak, and Disposal Procedures

Steps to be Taken in Case Material is Released or Spilled: Stop leak at source. Small spills can be mopped up, and floor rinsed with water. For large spills, stop leak at source and absorb onto inert medium for disposal. Collect in an approved container. Material is an alkaline detergent, do not release to streams, lakes, storm sewer, etc. ◆ Waste Disposal Method: According to all local, state and federal regulations.

Section 8: Special Protection Information

Respiratory Protection: None required ◆ Ventilation: Not needed ◆ Protective Gloves: Neoprene, nitrile, natural rubber or PVC ◆ Eye Protection: Chemical safety goggles or faceshield ◆ Other Protective Clothing or Equipment: Eye wash and safety shower, impervious clothing ◆ Work/Hygienic Practices: Wash with soap and water. Discard contaminated clothing according to state or EPA regulations.

Section 9: Special Precautions and Comments

Storage Requirements: Store above 32°F. Keep from freezing. If frozen, product should thaw without adverse effects. Product may appear cloudy. Keep out of extreme heat. Generally stored at temperatures between 40° and 90°F, out of direct sunlight. Heat buildup will cause product to cloud and separate irreversibly.

Comments: Product has a shelf life of 9-12 months. Keep containers tightly closed when not in use. Keep out of reach of children. For professional use only. After use, solution will contain dissolved and suspended heavy metals along with fats, oils and greases. Discharge waste water in accordance with all applicable local, state and federal regulations and in accordance with all water discharge permits.

ESCA Tech, Inc. Disclaimer: "The information and recommendations presented herein are based on sources believed to be reliable as of the date hereof. ESCA Tech makes no representation as to the completeness of accuracy thereof. It is the user's responsibility to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. No representations or warranties not expressly set forth herein are made hereunder, whether express or implied by operation of law or otherwise, including, but not limited to any implied warranties of MERCHANTABILITY OR FITNESS. ESCA Tech neither assumes or authorizes any other person to assume for it, any other or ADDITIONAL LIABILITY OR RESPONSIBILITY resulting from the use of, or reliance upon, this information."

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ENFORCER Products, Inc.
P.O. Box 1060
Cartersville, GA 30120
1-888-805-HELP

Material Safety Data Sheet
AND SAFE HANDLING DISPOSAL INFORMATION

Section 1. Chemical Product and Company Identification

Product name	**All Purpose Cleaner & Degreaser**
Product Code	**HD0860-32/5G** **CN0860-32/5G**
Formula No.	**F0567**
Date of Issue	**03/20/02** **Version** 1.00
Emergency telephone number	For MSDS Information: Compliance Services, 404 352 1680 For a Medical Emergency: Toll Free INFOTRAC, 877 541 2016 (Calls Recorded) For a Transportation Emergency: Toll Free CHEMTREC, 800 424 9300 (Calls Recorded)
Prepared by	Acuity Specialty Products Group 1420 Seaboard Industrial Blvd. Atlanta, GA 30318

Section 2. Composition, Information on Ingredients

Name of Hazardous Ingredients	CAS #	% by Weight	Exposure Limits
1) OSHA's Hazard Communication Standard (29 CFR 1910.1200) does not require the listing of any ingredient for this product.			

Section 3. Hazards Identification

Acute Effects **Routes of Entry** Not applicable.

Eyes Slightly hazardous in case of eye contact (irritant).
Skin Non-irritant for skin.
Inhalation Exposure unlikely in this form.
Ingestion Non-hazardous in case of ingestion.

HMIS

[redacted]	1
Fire Hazard	0
[redacted]	0
Personal Protection	B

Chronic Effects Repeated or prolonged exposure is not known to aggravate medical condition.
Carcinogenic Effects Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact Rinse with plenty of running water. Get medical attention if irritation develops.
Inhalation Exposure via inhalation is unlikely in this form.
Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. If large quantities of this material are swallowed, call a physician immediately.

Section 5. Fire Fighting Measures

Flash Point Not applicable. **Flammable Limits** Not applicable.
Flammability Not applicable. **Fire Hazard** Not applicable.
Fire-Fighting Procedures Not applicable.

Section 6. Accidental Release Measures

Spill Clean up Absorb with an inert material and place in an appropriate waste disposal container.

Continued on Next Page

Section 7. Handling and Storage

Handling Do not ingest. Avoid contact with eyes.
Storage Keep container tightly closed. Store above 40°F and below 120°F.

Section 8. Exposure Controls, Personal Protection

Personal Protection

Eyes Safety glasses.
Body No special protection is required.
Respiratory Not applicable.

Protective Clothing (Pictograms)

Section 9. Physical and Chemical Properties

Physical State	Liquid.	**Color**	Green.
pH	9 - 9.5	**Odor**	Pleasant.
Boiling Point	Not available.	**Vapor Pressure**	Not available.
Specific Gravity	100 (Water = 1)	**Vapor Density**	Not available.
VOC (Consumer)	19 (g/l).	**Evaporation Rate**	Not available.
Solubility	Not available.		

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.
Incompatibility None identified.
Hazardous Decomposition Products Carbon oxides (CO, CO2) and organic materials
Hazardous Polymerization Will not occur.

Section 11. Toxicological Information

Toxicity to Animals Non-toxic.
Chronic Effects on Humans No evidence of risk in humans.

Section 12. Ecological Information

Ecotoxicity Not available.
Biodegradable/OECD Not available.

Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream N/A
Consult your local or regional authorities.

Section 14. Transport Information

Proper shipping name Not applicable.
DOT Classification Not a DOT controlled material (United States).
UN number Not regulated.

TDG Classification Not available.

Section 15. Regulatory Information

U.S. Federal Regulations SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

State Regulations California prop. 65: No products were found.

WHMIS (Canada) Not controlled under WHMIS (Canada).

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Heavy Metal Cleaning Solution (HMCS-101)

(Catalog # RP-104)

General Information - Application Information - MSDS

I Product: HEAVY METAL CLEANING SOLUTION (HMCS-101)

Description: Clear Liquid Manufacturer: **Chemical Solutions Int'l. Corp.** **P.O. Box 891185** **Houston, TX 77289-1185**	Date Prepared: July 2000. Emergency Telephone No. **(281) 992-3031** **(800) 424-4804** E-mail: jimarnold@chemicalsolutionsintl.com Home Page: www.chemicalsolutionsintl.com

II Health Hazard Data:

Health Hazards (Acute & Chronic)
EYES: May cause discomfort.
SKIN: Concentrate will dry out and chap sensitive skin as would detergent.
INHALATION of fumes may upset stomach.

SIGNS & SYMPTOMS OF EXPOSURE:

EYES:Redness, tearing, blurred vision.
SKIN: Dryness, redness, chapping.
INGESTION may cause vomiting.

FIRST AID: EYES: Flush 15 minutes with water.
SKIN: Wash with soap and water.
INHALATION: Move to fresh air. Apply artificial respiration if breathing has stopped.
INGESTION: Do not induce vomiting. If any irritation persists, seek medical atttention.

III Precautions for Safe Handling & Use:

If material is spilled, remove leaking package to safe area. Flush with water.
Disposal: Any approved method for dilute cleaner.
Surfactants are highly biodegradable.

IV Physical Data:

pH.....10

V Hazardous Ingredients:

Hg Cleaning Solutions is a proprietary formulation which contains small amounts of minerals and organics.
This product should be handled accordingly.
Complies with OSHA 29 CFR XVIII-1910.1200 Section (I) "Trade Secrets"
Contains no hazardous components under current OSHA definitions.

VI Special Protection & Precautions:

Hygienic Practices: Wash after each shift. Remove and wash contaminated clothing before re-used.
Work Practices: Wear goggles or face shield. Rubber gloves.
Other Protective Clothing: Long sleeved shirt buttoned at neck is desirable. Rubber boots.

VII Reactivity Data:

Stable under normal use and storage conditions.
Incompatible with strong oxidizing agents.
Hazardous decomposition or byproducts - oxides of carbon.

VIII Fire & Explosion Data:

Flash Point/Method Used..... None/COC.

IX Control Measures:

Solubility in water.....100% Boiling Point..... 212°F Vapor Pressure/Density..... Same as water Evaporation Rate (Butyl Acetate=1).....<1 Appearance & Odor: Clear liquid with medium viscosity and synthetic cleaner odor. Specific Gravity..... 1.06	Respiratory Protection: Not Necessary. Ventilation: Local Exhaust/Desirable. Mechanical/Helpful in congested areas. (Complies with OSHA 174, Sep. 1985.)

HMIS CODE: Health 1 Flammability 0 Reactivity 0 Personal Protection B

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APPENDIX C
Range Clearance Inspection and Sampling Report, CIH Environmental, Inc., October 9, 2002

CIH Environmental, Inc.
HEALTH - SAFETY - ENVIRONMENTAL CONSULTING
1044 VICTORY CIRCLE READING, PENNSYLVANIA 19605
(610) 372-6692 FAX(610) 372-0862

October 9, 2002

Mr. William Scoville, P.E.
IT Corporation
11499 Chester Road
Cincinnati, OH 45246-4012

Dear Mr. Scoville:

Re: Firing range Lead Cleaning Clearance – Wilson-Kramer USARC – Bethlehem, PA

CIH Environmental, Inc. has conducted a visual inspection and lead dust clearance sampling at the above referenced site. This work was performed in conjunction with IT Corporation's contract DACA-27-97-D0021-DO014 with the U.S. Army Corp of Engineers (COE) to conduct cleanup of lead dust at indoor firing ranges at U.S Army Reserve Centers.

IT Corporation's contract requires that they clean these firing ranges to meet the following criteria:

Clearance Standards for Dust		
Surface	Lead Loading ($\mu g/ft^2$)	Lead Loading (mg/m^2)
Uncarpeted Floors, Walls, and Ceilings	200	2.16

The visual inspection was performed on October 4, 2002. This inspection included a surface-by-surface examination or all exposed areas within the range. Based on this inspection it was concluded that the cleaning work was performed as required on all interior surfaces and that no visible settled dust or debris was present. Following completion of the visual inspection and at least one hour after completion of clean-up activities, wipe samples were collected and submitted to the following laboratory for analysis:

Envirodata Corporation
2420 Regency Road
Lexington, Kentucky 40503

The visual inspection and sample collection were performed by a Certified Industrial Hygienist . Wipe samples were collected in accordance with ASTM's Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques (E 1728). Each of these samples was collected on a "Ghost Wipe" from Environmental Express. These materials meet the ASTM Standard Specification for Wipe Sampling Materials for Lead in Surface Dust (E 1792). Samples submitted for analysis included at least one field blank sample and one field spiked wipe sample per batch of samples shipped to the laboratory. A chain of custody protocol was followed to ensure and document a continuous record of sample possession from sample collection to receipt by the laboratory.

The laboratory results of all samples except the wall sample collected at the bottom right corner of the bullet trap end wall (#99PABET02OCT04007DT) met the clearance criteria listed above.

Attached to this report are the following:

- Visual Clearance Form
- Dust Sampling Form
- Sketch of Firing Range Showing Wipe Sample Locations (Fig. 1)
- Request for Laboratory Analytical Services and Chain-Of-Custody
- Rush Analytical Report from EnviroData Group

If you have any questions, please contact me.

James E. Detwiler, P.E., CIH

Visual Clearance Form

Installation Indoor Firing Range Army POC Salvatore Zangari
Building Address or Location 2940 Airport Road, Bethlehem, PA
Range Unit No. PA 008

Date Cleanup Completed 9-24-02
Time Cleanup Completed 1700
Date and Time Inspection Initiated 10-4-02 1000

Lead Hazard Control Contractor Name IT Corporation
Address 11499 Chester Road
Cincinnati, OH 45246
Telephone No. (513) 782-4964

Location within Range	Work Completed? (yes/no)	Visible Dust Seen? (yes/no)	More Work Required? (yes/no)	Comments
Firing Line Floor	Yes	No	No	
Floor between Firing Line and Bullet Trap	Yes	No	No	
Bullet Trap Floor	Yes	No	No	
Ceiling	Yes	No	No	
Sidewalls	Yes	No	No	
Front Wall	Yes	No	No	
Back Wall	Yes	No	No	
Ventilation System	Yes	No	No	

Does range venting discharge to soil? ___ Yes ✓ No
Was contaminated soil removed? ___ Yes ___ No
Is additional soil treatment required? ___ Yes ___ No

Other Comments: _____

Name of Clearance Examiner (print) James E. Detwiler
Certification Title and License Number Certified Industrial Hygienist # 2020
(EPA, State, or both, if applicable)
Signature: James E Detwiler Date 10-4-02

Dust Sampling Form

Installation Indoor Firing Range Army POC Salvatore Zongari
Building Address or Location 2940 Airport Road, Bethlehem, PA
Range Unit No. PA 008
Date Cleanup Completed 9-24-02 Time Cleanup Completed 1700 Date and Time Sampling Initiated 10-4-02 1000

Clearance Categories:

1. Interior treatment without containment
2. Interior treatment with containment
3. Exterior work (including soil)
4. Routine Maintenance

Sample No.*	Sample Location**	Clearance Category No.	Sample Area Dimensions	Sample Area (ft^2)	Lab Results ($\mu g/ft^2$)	Pass or Fail
001	Floor - outside of door	1	1 ft. x 1 ft.	1	57	P
002	" - Firing Line 103/7	1		1	11	P
003	" Center 61/1	1		1	43	P
004	" Trap 5/11	1		1	120	P
005	Wall - Trap 13/7	2		1	<2.50	P
006	" " 8/4	2		1	3.11	P
007	" " 1/1	2		1	216	F
008	" - Right 3/6	2		1	< 2.50	P
009	" - Left 8/3	2		1	< 2.50	P
010	" - Right 56/2	2		1	< 2.50	P
011	" - Left 60/11	2		1	< 2.50	P
012	" - Left 102/5	2		1	< 2.50	P
013	" - Right 99/3	2		1	< 2.50	P
014	" - Firing Line 1/6	2		1	< 2.50	P
015	" - " 7/4	2		1	< 2.50	P
016	" " Entrance 17/2	2		1	36	P
017	Ceiling - Trap 3/17	2		1	< 2.50	P
018	" - Center 40/10	2		1	< 2.50	P
019	" - Firing Line 102/4	2	↓	1	< 2.50	P
020	Blank	-	-	-	< 2.50	ok
021	Spike 15007	-	-	-	200	210

Comments * Prefix 99PABET02OCT04 and suffix DT apply to all sample numbers
** Distance in feet: Floor, ceiling = From trap/from right; Side wall = From trap/up; End wall = From right/up

Date of Sample Collection 10-4-02 Date Shipped to Lab 10-4-02
(Attach a Copy of the Chain of Custody to this Form)

Name of Lab and Phone No. EnviroData Group (800) 489-3506
Name of Clearance Examiner (print) James E. Detweiler
Certification Title and License Number (EPA, State, or both, if applicable) CIH # 2020
Signature: James E Detweiler Date 10-9-02

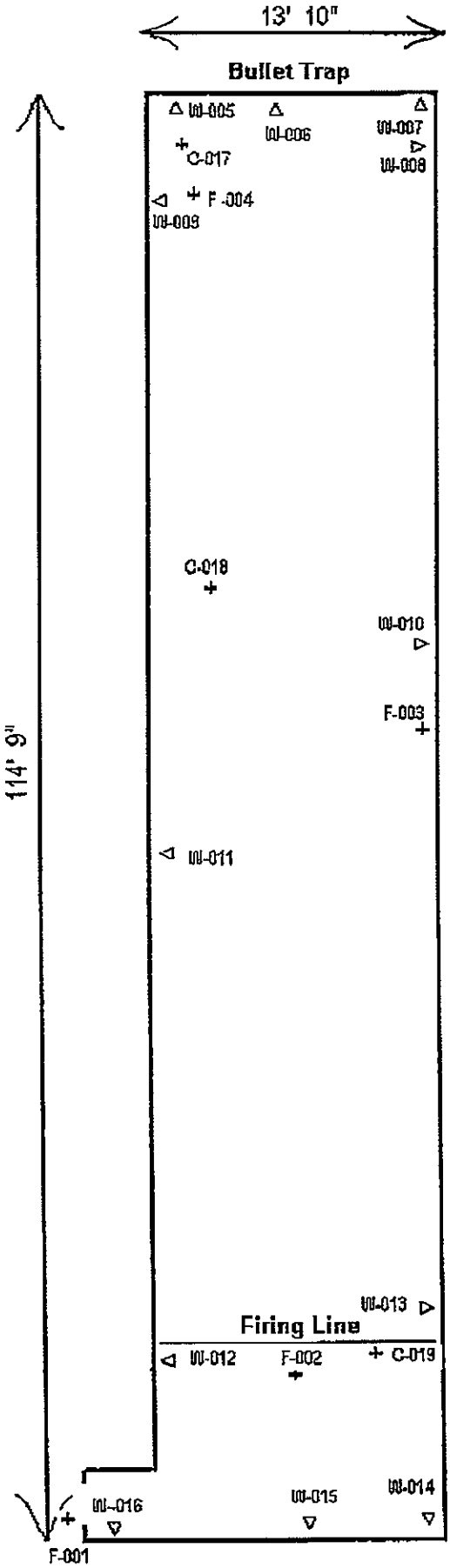


Fig. 1 - Sampling Locations
Wilson-Kramer USARC - Bethlehem, PA

REQUEST FOR LABORATORY ANALYTICAL SERVICES
CHAIN-OF CUSTODY

Job No: SEI-E40 Date: 10-4-02 Page 1 of 2

Report results and send invoice to: James E. Detwiler

CIH Environmental, Inc.
1044 Victory Circle
Reading, PA 19605

(610) 372-6692 Voice
(610) 372-0862 FAX
cihenv@fast.net

Sample * I.D.	Date Sampled	Sample Media	Area (ft²)	Analysis Requested
001	10-4-02	Ghost wipe	1	Lead (EPA SW-846 Method 6010B)
002			1	
003			1	
004			1	
005			1	
006			1	
007			1	
008			1	
009			1	
010			1	

Note: Please analyze samples in accordance with IT corporation contract for Firing Range Clearance Sampling

* Prefix 99PA13ET02OCT04 and suffix DT apply to all Sample number

Samples relinquished by: (signature) J E Detwiler	Date: 10-4-02	Time: 7:00 p.m.	Samples received by: (signature)	Date:	Time:
Samples relinquished by: (signature)	Date:	Time:	Samples received by Lab: (signature)	Date:	Time:

Please present initial results by:		Rush charges authorized?
___ Phone (610-372-6692)	X FAX (610-372-0862)	___ Yes
___ Regular Mail	___ E-mail (cihenv@fast.net)	___ No

Authorized by: J E Detwiler

REQUEST FOR LABORATORY ANALYTICAL SERVICES
CHAIN-OF CUSTODY

Job No: SEI-E40 Date: 10-4-02 Page 2 of 2

Report results and send invoice to: James E. Detwiler

CIH Environmental, Inc.
1044 Victory Circle
Reading, PA 19605

(610) 372-6692 Voice
(610) 372-0862 FAX
cihenv@fast.net

Sample ID	Date Sampled	Sample Media	Area (ft²)	Analysis Requested
011	10-4-02	Ghost Wipe	1	Lead (EPA SW-846 Method 6010B)
012			1	
013			1	
014			1	
015			1	
016			1	
017			1	
018			1	
019			1	
020			1	
021			1	

Note: Please analyze samples in accordance with IT corporation contract for Firing Range Clearance Sampling

Samples relinquished by: (signature)	Date:	Time:	Samples received by: (signature)	Date:	Time:
J E Detwiler	10-4-02	7:00 p.m.			
Samples relinquished by: (signature)	Date:	Time:	Samples received by Lab: (signature)	Date:	Time:

Please present initial results by:		Rush charges authorized?
___ Phone (610-372-6692)	X FAX (610-372-0862)	___ Yes
___ Regular Mail	___ E-mail (cihenv@fast.net)	___ No

Authorized by: J E Detwiler

EnviroData Group
Accredited Lab Data for Today's Environment

2520 Regency Road
Lexington, KY 40503-2921
Phone: 859-276-3506
Toll Free: 800-489-3506
Fax: 859-278-5665
Email: info@envirodatagroup.com
www.envirodatagroup.com

October 9, 2002

Mr. James Detwiler
CIH Environmental, Inc.
1044 Victory Circle
Reading, PA 19065

RE: Data Package and Narrative
COC 16044

Dear Mr. Detwiler:

Enclosed is the case narrative, which summarizes any issues encountered with the analyses for the samples referenced below.

General

Twenty-one (21) samples were received by EnviroData Group (EDG) on October 7, 2002. The samples were received at 25 °C and intact. The temperature of the samples was measured upon receipt and was noted on the Chain of Custody Form #16044.

The individual client sample name and laboratory sample name cross-reference list is provided, as follows:

EnviroData Group Lab Number	Client Sample ID
163541	99PABET02OCT04001DT
163542	99PABET02OCT04002DT
163543	99PABET02OCT04003DT
163544	99PABET02OCT04004DT
163545	99PABET02OCT04005DT
163546	99PABET02OCT04006DT
163547	99PABET02OCT04007DT
163548	99PABET02OCT04008DT
163549	99PABET02OCT04009DT
163550	99PABET02OCT04010DT
163551	99PABET02OCT04011DT
163552	99PABET02OCT04012DT
163553	99PABET02OCT04013DT
163554	99PABET02OCT04014DT

163555	99PABET02OCT04015DT
163556	99PABET02OCT04016DT
163557	99PABET02OCT04017DT
163558	99PABET02OCT04018DT
163559	99PABET02OCT04019DT
163560	99PABET02OCT04020DT
163561	99PABET02OCT04021DT

Metals- Lead

Samples 163541-163561 were analyzed for Total Lead by Method SW6010B on 10/08/2002.

Instrument Calibration: The calibration criteria were within the corresponding QC limits.

Initial Calibration Verification (ICV): The ICV was within the corresponding QC limits for all project analytes.

Initial Calibration Blanks (ICB): The ICB was below the corresponding reporting limits for all project analytes.

ICS A/ICS AB: The ICS A and AB at the beginning and end of the run were within acceptable limits.

Continuing Calibration Verification (CCV): All CCVs were within the corresponding QC limits for all project analytes.

Continuing Calibration Blanks (CCB): All CCBs were below the corresponding reporting limits for all project analytes.

Method Blank (MB): The MB sample result was below the corresponding reporting limit for all project analytes

Laboratory Control Sample (LCS): The LCS percent recovery was within the corresponding QC limits for all project analytes.

Matrix Spike/Matrix Spike Duplicate (MS/MSD): The MS/MSD samples' percent recoveries and relative percent differences were within corresponding QC limits for project analytes.

Post Digestion Spike (PDS): The Post Digestion Spikes were outside the acceptance criteria for the target analyte.

If you have any questions regarding the enclosed information, please contact Lisa Sexton at (859) 276-3506 ext. 57.

Sincerely,
EnviroData Group

Lisa Sexton
Project Manager

EnviroData Group
Accredited Lab Data for Today's Environment

2520 Regency Rd
Lexington, KY 4050
Phone: 859-276-350
Toll Free: 800-489-350
Fax: 859-278-566
E-mail: info@envirodatagroup.com

Analytical Results

CIH Environmental, Inc.
Attn: Mr. James Detwiler
1044 Victory Circle
Reading, PA 19605

Project Name: Lead Wipes
Project Number:
Chain of Custody: 16044

cc:

Date Received: 10/07/2002 Collector: Client Temperature Received: 25
Project Manager: Lisa Sexton

	Result	Units	Client Limit	RL	Qualifiers	Analyzed/Analyst	Extracted
Laboratory Sample #: 163541 Client Sample ID: 99PABET02OCT04001DT Sampled: 10/04/2002							
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**57**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163542 Client Sample ID: 99PABET02OCT04002DT Sampled: 10/04/2002							
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**11**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163543 Client Sample ID: 99PABET02OCT04003DT Sampled: 10/04/2002							
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**43**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163544 Client Sample ID: 99PABET02OCT04004DT Sampled: 10/04/2002							
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**120**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163545 Client Sample ID: 99PABET02OCT04005DT Sampled: 10/04/2002							
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163546 Client Sample ID: 99PABET02OCT04006DT Sampled: 10/04/2002							
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**3.11**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163547 Client Sample ID: 99PABET02OCT04007DT Sampled: 10/04/2002							
Client Sample #:							

Results reported on a Wet Weight Basis

Printed: 10/08/2002

EnviroData Group

Chain of Custody: 16044
Project Name: Lead Wipes
Project Number:

	Result	Units	Client Limit	RL	Qualifier	Analyzed/Analyst	Extracted
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**216**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163548 Client Sample ID: 99PABET02OCT04008DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163549 Client Sample ID: 99PABET02OCT04009DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163550 Client Sample ID: 99PABET02OCT04010DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163551 Client Sample ID: 99PABET02OCT04011DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163552 Client Sample ID: 99PABET02OCT04012DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163553 Client Sample ID: 99PABET02OCT04013DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163554 Client Sample ID: 99PABET02OCT04014DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163555 Client Sample ID: 99PABET02OCT04015DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163556 Client Sample ID: 99PABET02OCT04016DT						Sampled: 10/04/2002	
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**36**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002

EnviroData Group

Chain of Custody: 16044
Project Name: Lead Wipes
Project Number:

	Result	Units	Client Limit	RL	Qualifier	Analyzed/Analyst	Extracted
Laboratory Sample #: 163557 Client Sample ID: 99PABET02OCT04017DT							Sampled: 10/04/2002
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163558 Client Sample ID: 99PABET02OCT04018DT							Sampled: 10/04/2002
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163559 Client Sample ID: 99PABET02OCT04019DT							Sampled: 10/04/2002
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163560 Client Sample ID: 99PABET02OCT04020DT							Sampled: 10/04/2002
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002
Laboratory Sample #: 163561 Client Sample ID: 99PABET02OCT04021DT							Sampled: 10/04/2002
Client Sample #:							
ICP TOTAL		**Method: SW6010B**				**Prep. Method: SW 3050B**	
Total Lead	**200**	ug/Wipe	N/A	2.50		10/08/2002 / JDS	10/07/2002

All samples were received intact and properly preserved unless otherwise noted.
The results reported relate only to the samples tested.
This report shall not be reproduced except in full, without written approval of this laboratory.

ACCREDITED IN ACCORDANCE WITH nelac
Lab# E87286

ACCREDITED
Lab#: 100343

Submitted by: Lisa Sexton
Project Manager: Lisa Sexton

Results reported on a Wet Weight Basis

Printed: 10/08/2002

APPENDIX D
Clearance Sample Sampling Form and Analytical Result, IT Corporation and EnviroData Group, October 2002

Figure 3-2
Dust Sampling Form

Installation USARC Army POC N/A

Building Address or Location 2940 Airport Rd, Bethlehem, Pa. 18017

Range Unit No. N/A

Date Cleanup Completed 10/15/02 Time Cleanup Completed 9:30 A.M. Date and Time Sampling Initiated 10:30 A.M. 10/15/02

Clearance Categories:

1. Interior treatment without containment
2. Interior treatment with containment
3. Exterior work (including soil)
4. Routine Maintenance

Sample No.	Sample Location	Clearance Category No.	Sample Area Dimensions	Sample Area (ft^2)	Lab Results ($\mu g/ft^2$)	Pass or Fail
001DT	Trap Area back Wall	1	12×12	1 Sq. ft		

Comments Wall Sample

Date of Sample Collection 10/15/02 Date Shipped to Lab

(Attach a Copy of the Chain of Custody to this Form)

Name of Lab and Phone No. Enviro Data Group 859-276-3506

Name of Clearance Examiner (print) CHUCK PULTZ

License Number(s)

(EPA, State, or both, if applicable)

Signature Charles W. Pultz Date 10/15/02

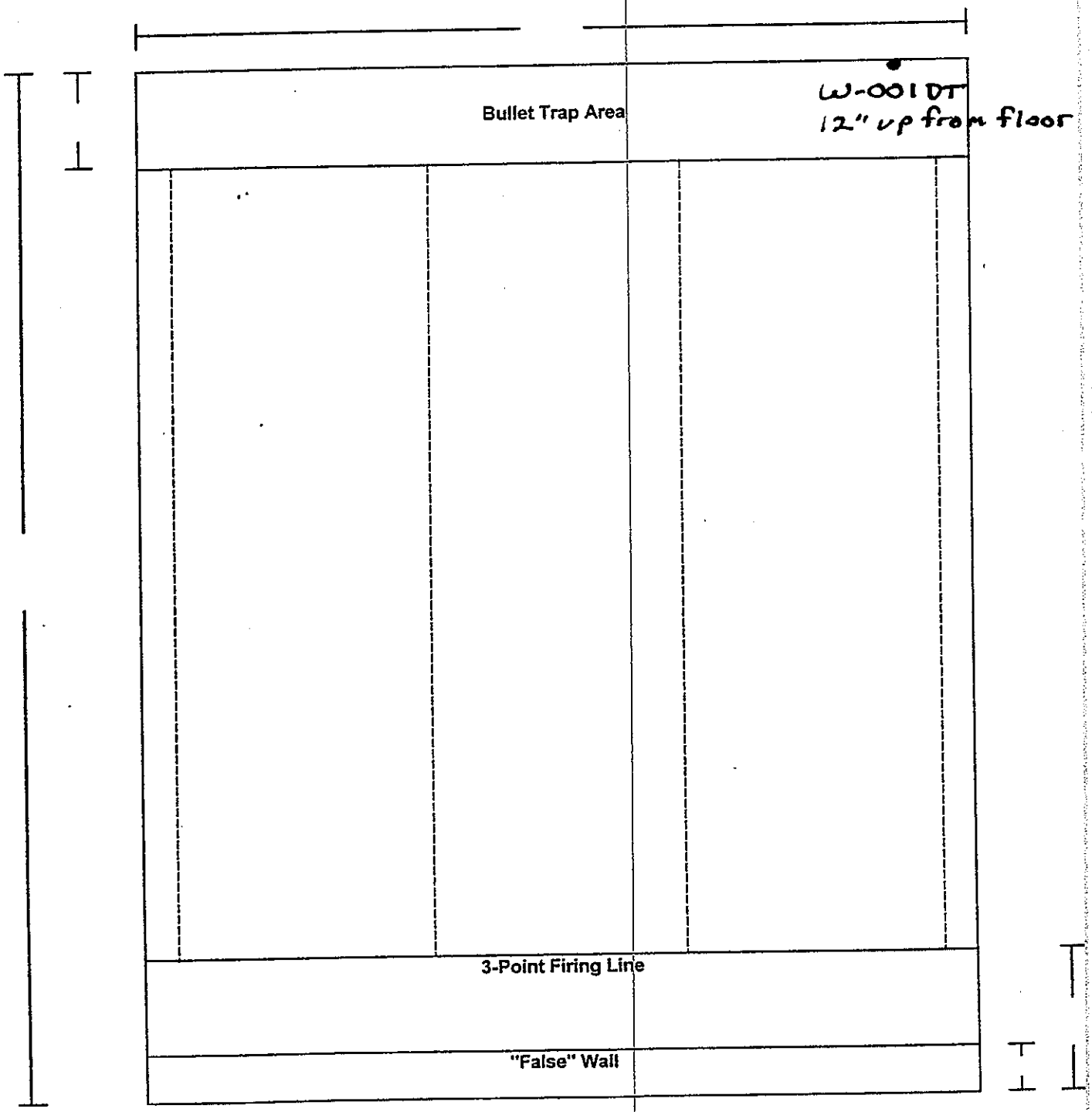
N:\BSCOVILLE\GUNRANGE\DOT\Plans\wrkplm-r2.doc

TOTAL P.02

Gunrange Location Bethlehem, Pa. (city, state)

Date 10-15-02

Drawn By Charles Pultz



1. Provide range dimensions.
2. Identify and dimension sampling locations.
3. Use additional sheet for other information, as needed.

N
Indicate north using an arrow

EnviroData Group
Accredited Lab Data for Today's Environment

2520 Regency Road
Lexington, KY 40503-2921
Phone: 859-276-3506
Toll Free: 800-489-3506
Fax: 859-278-5665
Email: info@envirodatagroup.com
www.envirodatagroup.com

October 29, 2002

Mr. Bill Scoville
Shaw Environmental & Infrastructure
11499 Chester Road
Cincinnati, OH 45246

RE: Data Package and Narrative
Project: 838945
COC 16457

Dear Mr. Scoville:

Enclosed is the case narrative, which summarizes any issues encountered with the analyses for the samples referenced below.

General

EnviroData Group (EDG) received one (1) sample on October 23, 2002. The sample was received at 25 °C and intact. The temperature of the samples was measured upon receipt and was noted on the Chain of Custody Form #16457.

The individual client sample name and laboratory sample name cross-reference list is provided, as follows:

EnviroData Group Lab Number	Client Sample ID
168119	99PABLM02OCT15001DT

Metals- Lead

Sample 168119 was analyzed for total lead by method SW6010B on 10/24/2002.

Instrument Calibration: The calibration criteria were within the corresponding QC limits.

Initial Calibration Verification (ICV): The ICV was within the corresponding QC limits for all project analytes.

Initial Calibration Blanks (ICB): The ICB was below the corresponding reporting limits for all project analytes.

ICS A/ICS AB: The ICS A and AB at the beginning and end of the run were within acceptable limits.

Continuing Calibration Verification (CCV): All CCVs were within the corresponding QC limits for all project analytes.

Continuing Calibration Blanks (CCB): All CCBs were below the corresponding reporting limits for all project analytes.

Method Blank (MB): The MB sample result was below the corresponding reporting limit for all project analytes.

Laboratory Control Sample (LCS): The LCS percent recovery was within the corresponding QC limits for all project analytes.

Matrix Spike/Matrix Spike Duplicate (MS/MSD): The MS/MSD samples' percent recoveries and relative percent differences were within corresponding QC limits for all project analytes.

Post Digestion Spike (PDS): The PDS percent recovery was within the corresponding QC limits for all project analytes.

If you have any questions regarding the enclosed information, please contact Lisa Sexton at (859) 276-3506 ext. 57.

Sincerely,
EnviroData Group

Lisa Sexton
Project Manager

Cc:
Dr. Maqsud Rahman
Shaw Environmental & Infrastructure
11499 Chester Road
Cincinnati, OH 45246

EnviroData Group
Accredited Lab Data for Today's Environment

2520 Regency Rd
Lexington, KY 40503
Phone: 859-276-3506
Toll Free: 800-489-3506
Fax: 859-278-5665
E-mail: info@envirodatagroup.com

Analytical Results

Shaw Environmental & Infrastructure, Inc.
Attn: Bill Scoville
11499 Chester Road
Cincinnati, OH 45246

Project Name: Bethlehem, PA
Project Number: 838945
Chain of Custody: 16457

cc:

Date Received: 10/23/2002 Collector: Client Temperature Received: 25
Project Manager: Lisa Sexton

	Result	Units	Client Limit	RL	Qualifiers	Analyzed/Analyst	Extracted
Laboratory Sample #: 168119 Client Sample ID: 99PABLM02OCT15001DT						Sampled: 10/15/2002 10:30	
Client Sample #:							
ICP TOTAL	**Method: SW6010B**					**Prep. Method: SW 3050B**	
Total Lead	**< 2.50**	ug/Wipe	N/A	2.50		10/24/2002 / JDS	10/23/2002

All samples were received intact and properly preserved unless otherwise noted.
The results reported relate only to the samples tested.
This report shall not be reproduced except in full, without written approval of this laboratory.

ACCREDITED IN ACCORDANCE WITH nelac
Lab# E87286

ACCREDITED
Lab#: 100343

Submitted by: Lisa Sexton
Project Manager: Lisa Sexton

Results reported on a Wet Weight Basis

Printed:

EnviroData Group
Accredited Lab Data for Today's Environment

Data Qualifiers

2520 Regency Rd.
Lexington, KY 40503
Phone: 859-276-3506
Toll Free: 800-489-3506
Fax: 859-278-5665
E-mail: info@envirodatagroup.com

Qualifier	Description
A	E. coli Present.
A'	E. coli absent.
B	Analyte detected in associated Method Blank.
C	Sample Result confirmed.
D	Results reported from dilution.
E	Analyte concentration exceeds calibration range.
F	Unable to analyze due to sample matrix interference.
H	Sample was received or analyzed past the established holding time.
J	Estimated concentration.
K	Sample contained lighter hydrocarbon fractions.
L	Sample contained heavier hydrocarbon fractions.
M	Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Presumptive evidence of analyte present.
O	Sample hydrocarbon pattern does not match calibration standard pattern.
P	Percent difference between primary and secondary column concentrations exceeds acceptance limit.
Q	Laboratory Control Sample outside acceptance limits.
R	Data unusable.
S	Surrogate outside acceptance limits on initial and reanalysis.
S'	Surrogates diluted below detection.
T	Sample received improperly preserved.
U	Analyte not detected.
W	Raised Quantitation or Reporting Limit due to limited sample volume.
Y	Replicate/Duplicate precision outside acceptance limits.
Z'	Calibration criteria exceeded but for this situation acceptable by method.
Z	Calibration criteria exceeded.
M'	Result from Method of Standard Additions (MSA).
Q'	LCS/LCD analyzed due to insufficient sample for MS/MSD.

The uncertainty of analytical results can be calculated using the following equation:

$$n = t^*s/1.414$$

where

t=12.706 (Students t value for 95% confidence interval of two replicates)
s= standard deviation of sample and duplicate data
1.414 is square root of the number of replicates (two)

the igroup

168119
COC 16457

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 566658
Page 1 of 1

Project Name/No. [1] Bethlehem, Pa.
Sample Team Members [2] Charles Pultz
Profit Center No. [3]
Project Manager [4] Bill Scoville
Purchase Order No. [6] 838945
Required Report Date [11] 10/25/02

Samples Shipment Date [7] 10/17/02
Lab Destination [8] Envirotech
Lab Contact [9] Sessoo
Project Contact/Phone [12] Bill Scoville 513-782-4964
Carrier/Waybill No. [13] UPS

Bill to: [5] Shaw Environmental
312 Directors DR.
Knoxville, TN.
ATTN- Accounts Payable

Report to: [10] Shaw Environmental
11499 Chester Rd.
Cincinnati, Ohio, 45246
ATTN- Bill Scoville

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
99PABLM02 OCT15001DT	Dust Sample	10/15/02 10:30 A.M	Bag	WIPE	-	Lead-EPA 600	FOR LAB USE ONLY	
							FOR LAB USE ONLY	

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☒ Archive _____ (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☒ 48 h - TAT

QC Level: [27]
I. ☐ II. ☐ III. ☐ Project Specific (specify): As Per Contract

1. Relinquished by [28] (Signature/Affiliation) Charles Pultz QC officer	Date: 10/17/02 Time: 4:00 P.M.	1. Received by [28] (Signature/Affiliation) [signature] ITEQ	Date: 10/22/02 Time: 1200
2. Relinquished by (Signature/Affiliation) [signature] ITEQ	Date: 10/22/02 Time: 1200	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation) UPS	Date: 10/23/02 Time: 920	3. Received by (Signature/Affiliation) [signature] 25	Date: 10/23/02 Time: 920

Comments: [29]
FAX DATA TO Bill Scoville 513-782-4663

*See back of form for special instructions.

MCA 3/15/91

APPENDIX E
Hazardous Waste Management Records

IT Corporation
11499 Chester Road
Cincinnati, OH 45246-4012
Tel. 513.782.4700
Fax. 513.782.4807

A Member of The IT Group

To: Heritage Environmental Services, LLC

CC: File PN826183-03991801

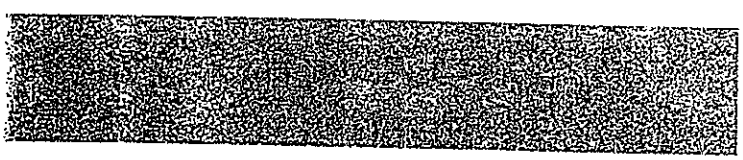
From: Anthony W. Ashcraft

Date: 08/30/01

Re: Profiles for the USARC Indoor Firing Ranges

Please let this serve as authorization for Heritage personnel to copy the profiles for all indoor firing range projects. It is understood that the waste streams for this project are constant and consistent from one range to the next. If IT Corporation generates any additional waste stream(s) IT Corporation will notify Heritage and complete a separate profile to cover the additional waste stream(s).

Anthony W. Ashcraft
8/30/01



HERITAGE ENVIRONMENTAL SERVICES, LLC
WASTESTREAM SURVEY FORM
(877)436-8778
Heritage Form HERWS01

Heritage Use Only	
Quote #	Approval Fee
Ws#	P.O.
Sample #	Heritage Contact

Preferred Service Location:
Indianapolis, IN ☒ Charlotte, NC ☐ Kansas City, MO ☐ Lemont, IL ☐ Coolidge, AZ ☐ Williston, VT ☐ Louisville, KY ☐
Heritage Hazardous Landfill (Roachdale, IN) ☐ Heritage Non-Hazardous Landfill (Roachdale, IN) ☐ Toledo, OH ☐

1. GENERATOR INFORMATION

Heritage Generator Number (if known)	
Generator Name	USARC
Address	
City, State, Zip	
Tech. Contact	
Phone	Fax
E-mail	
US EPA ID	
State ID Numbers	
Generator Status	

LQG ☐ SQG ☐ CESQG ☒ Non-hazardous ☐

2. BILLING INFORMATION

Quote to: Generator ☐ Customer ☒ Other ☐

Customer	IT Corporation
Address	312 Directors Drive
City, State, Zip	Knoxville, TN 37923-4799
Contact Name	Tony Ashcraft
Phone 513-782-4557	Fax 513-782-4807
E-mail	

3. MANIFEST MAIL ADDRESS *Generator* ☐ *Billing* ☒

Contact Name	Tony Ashcraft
Company	IT Corporation
Address	11499 Chester Road
City, State, Zip	Cincinnati, OH 45246-4012

4. SIC Code wastestream was generated under (If code is 2911, 28—,or 3312 complete form HERWS03) 9711

5. Common Name Lead Contaminated Rinse Water

6. Process Generating Waste Demo / Cleaning of Indoor Firing Range

7. DOT Description (*if available*) Hazardous Waste, liquid, n.o.s., 9, NA3082, PG III, (D008) ERG#171

8. Chemical Composition: Using specific chemical names, list all constituents present in the wastestream. Attach available analyses or MSDSs. Remember to identify Form R/TRI Toxic Chemicals. **Total composition must equal or exceed 100%.**

Constituent	Range	Units
Water	98-100	%
Lead	0-2	%

9. Identify US EPA waste codes D008

10. US EPA Form Code B110 US EPA Source Code A03

11. Identify state waste codes NA

12. Color Clear Appearance Liquid Odor none

13. %Solids 0 %Liquids 100

14. Physical State at 70 °F Solid ☐ Liquid ☒ Sludge ☐ Semi-solid ☐ Powder ☐ Gas ☐
If solid, are there free liquids? Yes ☐ No ☐ (If no, will waste dump from the drum? Yes ☐ No ☐)
Is the wastestream pumpable? Yes ☒ No ☐

15. pH or pH range (*If wastestream is solid, give pH of 10% slurry*): 5-9
Flash Point : <100°F ☐ 100-140°F ☐ 141-200°F ☐ >200°F ☒
Boiling Point: <100°F ☐ >100°F ☒
Fuel Value (Btu/lb): <2000 ☒ 2000-6000 ☐ 6000-10,000 ☐ > 10,000 ☐

16. Is the waste generated from, or associated with, metal finishing or other plating activities? Yes ☐ No ☒

Common Name (same as Item #5):

17. If the waste is federally hazardous, is this waste subject to Subpart CC regulation at 40 CFR 265.1080-1091 (i.e. contains greater than 500 ppm VOCs) ? Yes ☐ No ☐ NA ☒

18. Does this material meet the definition of a used oil (40 CFR 279)? Yes ☐ No ☒ If yes, has the waste been mixed with hazardous waste? Yes ☐ No ☐

19. Does the wastestream contain asbestos? Yes ☐ No ☒ If Yes, is the asbestos friable? Yes ☐ No ☐
Does the wastestream contain human sanitary, biological, or infectious waste? Yes ☐ No ☒
Does the wastestream contain dioxins or furans or dioxin-precursors? Yes ☐ No ☒
Does the wastestream contain radioactive wastes? Yes ☐ No ☒
Does the wastestream contain PCBs? Yes ☐ No ☒ If Yes, what concentration? _____ ppm
Is the wastestream air reactive, autoignitable, pyrophoric or spontaneously combustible? Yes ☐ No ☒
Is the wastestream water reactive? Yes ☐ No ☒
Does the wastestream present other compatibility concerns? Yes ☐ No ☒ If yes, specify _____
Is the wastestream dusty? Yes ☐ No ☒

20. List all Attachments

21 a. Transporter: Heritage Transport ☒ Other ☐
24 Hour Emergency Number _____
If transporter is not Heritage Transport, complete the following:
Transporter Name _____
Address _____
City, State, Zip _____
Contact/Phone _____
US EPA ID No. _____

21b. Packaging:
Bulk Solid ☐ Bulk Liquid ☐
Container ☒
Container Type DF
Container Size 55 gallon
Annual Volume (units) _____

22. **CERTIFICATION** *Sign and date the certification.*
I hereby certify that all information submitted herein and attached contains true, accurate and complete descriptions of this waste. Any sample submitted for analysis is representative of the waste material being offered for approval. All relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. I have reviewed the physical facilities, administrative practices, and operational procedures (or have directed the completion of such a review) and based on this review do willingly make this certification. I authorize Heritage to obtain a sample from any waste shipment for purposes of recertification. I will notify Heritage Environmental Services, LLC if the generator status or any other information on this form changes.

Signature _____ Date 8/30/01 Company ITCorp

23. If wastestream carries F001, F002, F003, F004, and/or F005, identify concentration in mg/l or mg/kg for each constituent, if constituent is present, but concentrations are unknown, check the line.

Acetone		2-Ethoxyethanol		2-Nitropropane	
Benzene		Ethyl Acetate		Pyridine	
n-Butyl Alcohol		Ethyl Benzene		Tetrachloroethylene	
Carbon Disulfide		Ethyl Ether		Toluene	
Carbon Tetrachloride		Isobutanol		1,1,1-Trichloroethane	
Chlorobenzene		Methanol		1,1,2-Trichloroethane	
Cresol (m and p)		Methylene Chloride		Trichloroethylene	
o-Cresol		Methyl Ethyl Ketone		1,1,2-Trichloro-1,2,2-trifluoroethane	
Cyclohexanone		Methyl Isobutyl Ketone		Trichlorofluoroethane	
1,2-Dichlorobenzene		Nitrobenzene		Xylenes (total)	

24. Complete for Williston, VT Coolidge, AZ

System Type	*M141*	Total Alkalinity	TOC	Halogens	Sulfides	Zn
Hex Chrome		Total Acidity	HOC	Cyanides	Ni	

Toxicity Characteristic Constituents *Provide the TCLP results for the following constituents in mg/l:*

D004 Arsenic		D014 Methoxychlor		D024 m-Cresol		D034 Hexachloroethane	
D005 Barium		D015 Toxaphene		D025 p-Cresol		D035 Methyl Ethyl Ketone	
D006 Cadmium		D016 2,4-D		D026 Cresol		D036 Nitrobenzene	
D007 Chromium		D017 2,4,5-TP(Silvex)		D027 1,4-Dichlorobenzene		D037 Pentachlorophenol	
D008 Lead		D018 Benzene		D028 1,2 –Dichloroethane		D038 Pyridine	
D009 Mercury		D019 Carbon Tetrachloride		D029 1,1-Dichloroethylene		D039 Tetrachloroethylene	
D010 Selenium		D020 Chlordane		D030 2,4-Dinitrotoluene		D040 Trichloroethylene	
D011 Silver		D021 Chlorobenzene		D031 Heptachlor		D041 2,4,5-Trichlorophenol	
D012 Endrin		D022 Chloroform		D032 Hexachlorobenzene		D042 2,4,6-Trichlorophenol	
D013 Lindane		D023 o-Cresol		D033Hexachlorobutadiene		D043 Vinyl Chloride	

Bureau of Land Recycling and Waste Management
P.O. Box 8550
Harrisburg, PA 17105-8550
OFFICIAL PENNSYLVANIA MANIFEST FORM

2500-FM-LRWM0051 REV. 7/99

Form approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: PA8210422293 — Manifest Document No.: 12172

2. Page 1 of — Information within the bold red border is not required by Federal law but may be required by State law.

3. Generator's Name and Mailing Address:
USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

4. Generator's Phone ( ) 610 974-9601

A. State Manifest Document Number: PAG 398406

B. State Gen. ID:

5. Transporter 1 Company Name: HERITAGE TRANSPORT, LLC

6. US EPA ID Number: IND058484114

C. State Trans. ID: PA-AH AH 0200 (317)381-6048

7. Transporter 2 Company Name:

8. US EPA ID Number:

D. Transporter's Phone ( )

E. State Trans. ID: PA-AH

9. Designated Facility Name and Site Address:
HERITAGE ENVIRONMENTAL SERVICES LLC
7901 WEST MORRIS STREET
INDIANAPOLIS, IN 46231

10. US EPA ID Number: IND093219012

F. Transporter's Phone ( )

G. State Facility's ID:

H. Facility's Phone ( ) (317)243-0811

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, HAZARDOUS WASTE, LIQUID, N.O.S., 9, NA3082, PG III, (LEAD) (D008)ERG# 171		004	DM	00220	G	D00
b. RQ, HAZARDOUS WASTE, LIQUID, N.O.S., 9, NA3082 PG(III), (LEAD) (D008) ERG# 171		001	DF	00055	G	D008
c.						
d.						

J. Additional Descriptions for Materials Listed Above: A. 74884-1

K. Handling Codes for Wastes Listed Above: a. 11a. T21 b. c. d.

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY PHONE #:
(610) 865-7142

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: KENDRA L BORKA — Signature: Kendra L Borka — MONTH 12 DAY 17 YEAR 02

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: BRIAN C BROWN — Signature: [signature] — MONTH 12 DAY 17 YEAR 02

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: — Signature: — MONTH DAY YEAR

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: [signature] — Signature: [signature] — MONTH 01 DAY 06 YEAR 03

GENERATOR — TRANSPORTER — FACILITY

In case of an emergency or spill immediately call the National Response Center (800) 424-8802 and the PA DEP (717) 787-4343

PAG 398406

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete

4

COPY 4 - TSD FACILITY: RETAIN THIS COPY

Feb 27 03 01:04p HTC 317-486-2580 p.8

NOTICE AND CERTIFICATION

(1) Waste Does Not Meet Applicable Treatment Standards - This is a restricted waste that does not meet the applicable treatment standards set forth in Subpart D of 40 CFR Part 268.

I certify that the information provided on this and any additional pages of this LDR notification is true, accurate and complete.

Authorized Signature: Kendra L Borka Print or Type Name: KENDRA L BORKA

Company/Title: 90TH RSC ENVIRONMENTAL PROT SPEC Date: 12/17/02

Heritage does not warrant the acceptability of this form for any specific purpose, waste or treatment method and does not warrant that its use will constitute compliance with applicable law and expressly disclaims responsibility or liability, for any penalties, damages or other costs which may arise out of or be related to use of this document.

(HESLDK1)

Generator Name: USARC

EPA I.D. No: PA6210422293

Manifest Doc. No: 12172

State Manifest No: PAG 398406

(1) Manifest Page/Line Item	(2) Hazardous Waste Code (One per line)	(3) Waste Water	(4) Non-Waste Water	(5) Subcategory (if applicable)	(6) Underlying Constituents?	(7) Applicable Certification (One per line)
1/A	D008		Y	1	NA	1

Subcategory Description

1) D008 TC WASTE MANAGED IN CWA SYSTEM

APPENDIX F
Non-hazardous Waste Management Records

Straight Bill of Lading

Carrier No. _____

Page 1 of 1 — IT Corp. (Name of carrier) (SCAC) — Date 9/24/02

Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.

TO:
Consignee Catasauqua Scrap Yard
Street 16 W. Race St.
City Catasauqua State Pa. Zip Code 18032

FROM:
Shipper USARC
Street 2940 Airport Road
City Bethlehem State Pa. Zip Code 18017

24 hr. Emergency Contact Tel. No. _____

Route _____ Vehicle Number _____

No. of Units & Container Type	HM	BASIC DESCRIPTON Proper Shipping Name, Hazard Class, Identification Number (UN or NA), Packing Group, per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
Pick-up		Exhaust Fan, Steel Slats from Ceiling				

PLACARDS TENDERED: YES ☐ NO ☐

Note – (1) Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property, as follows: "The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____." (2) Where the applicable tariff provisions specify a limitation of the carrier's liability absent a release or a value declaration by the shipper and the shipper does not release the carrier's liability or declare a value, the carrier's liability shall be limited to the extent provided by such provisions. See NMFC Item 172. (3)Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation. See section 2(e) Item 360, Bills of Lading, Freight Bills and Statements of Charges and Section 1(a) the Contract Terms and Conditions for a list of such articles.

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

_____ Signature

REMIT C.O.D. TO: ADDRESS

COD Amt: $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

_____ (Signature of Consignor)

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID (except when box at right is checked) ☐ Check box if charges are to be collect

RECEIVED, subject to classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER N/A — CARRIER N/A

PER — PER

DATE — DATE

1

CATASAUQUA SCRAP YARD

Timothy Proctor, Prop.

DEALER IN

IRON - STEEL - METALS

16 W. RACE ST. CATASAUQUA, PA 18032
PHONE 610 - 264-1393

Customer's Order No. _____ Date 9/24 1997

Name USARMY Reserve Center

Address 2940 Airport Road, Bethlehem, Pa.

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE RETD.	PAID OUT	

QUAN.	DESCRIPTION	PRICE	AMOUNT
1160	Recycled Metals		N/C
	T. Proctor		
	TAX		
	TOTAL		

All claims and returned goods MUST be accompanied by this bill

A 17050

Rec'd by X

BFI

BUCKS-MONT DISTRICT

731 E. RELIANCE ROAD
TELFORD, PA 18969-9904
215-723-3862 ext. 3019
Fax: 215-723-6401

To: Tony

Date: 2/26/03

Fax #: 513-782-4807

Pages: , including this cover sheet.

From: Michele Grant
Inside Sales Representative

COMMENTS:

Tony
Copy of tonnage for Roll off container

Thanks
mickee

__ NEXT CMS - SERVICE TICKET HISTORY 02/27/03

ACCOUNT: 1339563 LOC: 400 SYSTEM: _____ FROM DT: 00/00 TO DT: 00/00
WILSON KRAMER USARC
2940 AIRPORT RD
BETHLEHEM, PA 18017
(419) 295-9601

SYS	QTY	SIZE	VC	F Q	C P	O C	RTE	DAY	RTE	DAY
004	1	12	YD		N	Y				

SERV DATE	SYSTEM	CONT SZ	# HAUL	DS	LOAD VOL	DV	SERV TIME	DRIVER	RTE
9/26/02	0100402	12.0	1	I65	0.25	TN		4288	409
9/19/02	0100402	12.0	1	DEL	0.00	TN			409

AVG LOAD VOL: 0.25

GETNXSCH CSS100DC

7002 PLEASE ENTER INFORMATION

APPENDIX G
Clearance Certification Letter

IT Corporation
11499 Chester Road
Cincinnati, OH 45246-4012
Tel. 513.782.4700
Fax. 513.782.4807
A Member of The IT Group

October 28, 2002

Salvatore Zangari
Facility Management Specialist
Wilson-KramerUS Army Reserve Center
2940 Airport Road
Bethlehem, PA 18017

RE: Range Cleaning Clearance Certification – Facility ID PA008, 99th RSC
USARC Nationwide Indoor Rifle Range Cleanup Project
Contract No. DACA 27-99-D-0021, Delivery Order No. 14

Dear Mr. Zangari:

With this letter, IT Corporation certifies that the recent range cleaning activities have successfully attained the project clearance objectives and the range is approved for your reoccupancy. Range clearance procedures consisted of the following:

- A surface-by-surface visual examination to verify that:
  - The lead hazard control work was completed as required
  - No known or suspected lead-dust surfaces are still present in the range at levels that exceed the project clearance level of 200 µg/sf.
- Clearance sampling consisting of collecting wipe samples from floor, wall, and ceiling surfaces and analyzing the samples for lead.

A formal project report for the range cleanup will be submitted upon completion of all waste disposal activities and receipt of disposal certificates.

Please note that although the range has been cleaned to below the project clearance levels, small amounts of lead dust may be present in the range. Any remodeling activities that may cause a release of dust on wall and floor surfaces should be undertaken in consideration of the Occupational Safety and Health Administration (OSHA) Construction Industry Standard for Lead (29 CFR 1926.62). This OSHA standard should be reviewed before any remodeling activities are conducted. The OSHA standard requires certain controls to reduce or maintain worker exposures less than the Permissible Exposure Limit (PEL) of 50 µg of lead per cubic meter (m^3). The employer must protect the worker from lead.

We appreciated your cooperation and support during the range cleanup. Should you have any questions, please contact the undersigned at (513) 782-4700.

Sincerely,

IT CORPORATION

William H. Scoville, P.E.
Project Manager

cc: David Dierken, U.S. Army Corps of Engineers, Louisville District
Brent Moss, 99th RSC
Glenn Speerstra, 99th RSC

US Army Corps
of Engineers
Baltimore District

79th Army Reserve Command
Cultural Resource Management Plan

Prepared for:	79th Army Reserve Command
Prepared under contract to:	U.S. Army Corps of Engineers, Baltimore District (Contract No. DACW31-89-D-0054) Delivery Order No. 32
Prepared by:	KFS Historic Preservation Group Kise Franks & Straw Inc. Philadelphia, Pennsylvania
In Association with:	Hunter Research, Inc. Trenton, New Jersey
	July 1995

IV. INVENTORY

A. Introduction

This chapter describes the process by which historic architectural resources and archeological site potential were identified and evaluated. Background research and site visits were conducted for each of the thirty-two facilities. The information derived from these tasks is presented on the facility data forms in Appendix C. Data entered on the forms include a research checklist of records examined, information on previous assessments, results of the current survey, and a summary description of the facility and its surroundings. The site visits were divided among three organizations: the Army Corps of Engineers, Baltimore District (ACOE), Hunter Research, Inc. (HRI), and Kise Franks & Straw (KFS).

B. Historic Architectural Resources

No historic architectural resources were identified at any of the thirty-two facilities. Facility construction dates range from 1951 to 1994. A large percentage of the facilities consist of two buildings, the reserve center and maintenance shop. Facility architecture is utilitarian, consisting of, for the most part, one and two-story rectangular brick and/or concrete block buildings with metal windows and built-up roofing. Architectural resources should be evaluated for the National Register when they attain fifty years of age.

Three of the facilities (Bristol, Edgemont, and Worcester) were established on the site of former Nike missile facilities. Most of the buildings and structures associated with the missile program were removed after the Nike program was terminated in the 1960s. In general, the only vestiges of the Nike tenancy at the facilities are underground storage silos, sewage treatment plants, and utility systems, such as sanitary sewer, storm sewer, electrical lines, water lines, and water well. In some instances, the storage silos have been converted to fire protection water storage or have been backfilled with building demolition debris. The large loss of buildings precludes these facilities from being considered significant as representatives of the Nike program. Nevertheless, the Pennsylvania SHPO only considers resources that are fifty years or older, thereby precluding resources related to the Cold War, such as the Nike missile program.[1]

Although there are no eligible or potentially eligible resources on the facilities, there are adjacent or surrounding resources, namely buildings and districts, that may fall within an undertaking's area of potential effects. Adjacent resources at Bellefonte, Edgemont, and Gettysburg were previously listed on the National Register of Historic Places. In the course of field survey for the preparation of this plan, potentially eligible resources were identified neighboring the Chester and Harrisburg facilities. Facility managers should be cognizant of these issues when planning an undertaking. The specific resources are the following:

Bellefonte: Bellefonte Armory, located east of the facility, is listed on the National Register of Historic Places (NRHP).

Chester: Bell Mansion, located northeast of the facility, appears potentially eligible for the NRHP.

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[1]U.S. Department of Defense, Legacy Cold War Project, *Coming in from the Cold; Military Heritage in the Cold War* (Washington, 1994), 59.

Edgemont: Ridley Creek State Park Historic District, located south of the facility, is listed on the NRHP.

Gettysburg: Facility is located in the Gettysburg Historic District, listed on the NRHP.

Harrisburg: Facility is located in a residential district that appears potentially eligible for the NRHP.

C. Archeological Site Potential

Background research at the Bureau for Historic Preservation (BHP) in Harrisburg and pedestrian reconnaissance surveys of the thirty-two facilities revealed that eight of the facilities appear to have archeological site potential. Seven of the facilities are considered to have low archeological potential: Ashley, Edgemont, Gettysburg, Schuylkill Haven, State College, West Hazleton, Williamsport. Greencastle is considered to have high archeological potential. All of the facilities except Schuylkill Haven are considered to have prehistoric archeological potential. Schuylkill Haven, Greencastle and Gettysburg are considered to have historic archeological potential.

Phase 1b testing should be undertaken at facilities considered to have archeological site potential. The Phase 1b survey constitutes the next step in the determination of eligibility process. The Phase 1b results will determine if the specific location appears eligible for inclusion in the National Register of Historic Places. Appendix E contains archeological procedures for reference if archeological resources are discovered at any of the facilities, including those considered to have no potential.

The following summaries provide a fuller description of the nature of archeological potential at the facilities. The facilities are arranged by study units and references to quadrangle maps refer to archeological maps on file at the BHP.

Pennsylvania Study Unit I-- Piedmont and Coastal Plain:

Bristol: No archeological sites have been identified in the vicinity of the facility. A Phase I archeological survey (G on the U.S.G.S. Beverly quadrangle map) has been undertaken, and no archeological sites were found.

Chester: Survey records maintained by the Bureau for Historic Preservation in Harrisburg indicate that an archeological site (36DE30) containing 19th and 20th century artifacts is located near the facility.

Edgemont: Archeological site survey records maintained by the Bureau for Historic Preservation in Harrisburg indicate that three prehistoric sites in Delaware County (36DE15, 16 and 17) and two undefined sites in Chester County (36CH120 and 276) lie in the vicinity of the facility. The Delaware County sites yielded lithics and ceramics, the latter indicative of Woodland occupation. An 18th-century farmstead is located to the north of the facility. The facility is considered to have low archeological potential.

Germantown: Two archeological sites -- the Gardette Site (36PH50) and the Atwater Kent Factory Site (36PH51) -- are located in the vicinity of the facility.

Gettysburg: No archeological sites are known in the immediate vicinity, but an area of medium potential for prehistoric occupation was identified near wetlands in the southwest corner of the facility. Since the facility occupies a portion of the site of the Battle of

Gettysburg, the presence of Civil War artifacts within the property boundaries seems likely. The facility is considered to have low archeological potential.

Horsham: No archeological sites have been identified in the vicinity of the facility. An 18th-century structure stands to the south.

Lancaster: Archeological site survey records indicate that numerous prehistoric sites may be found in the vicinity of the facility. The sites (36LA421-423, 36LA655-680) are open-air loci yielding lithic artifacts.

Marcus Hook: No archeological sites have been identified in the vicinity of the facility. Since the entire site was constructed on fill placed along the Delaware River bank after 1870, no archeological sites are present within this fill. It should be noted, however, that deep excavations may encounter old river bottom with the potential for prehistoric and historic maritime artifacts.

Norristown: No archeological sites have been identified in the vicinity of the facility.

Willow Grove: No archeological sites have been identified in the vicinity of the facility.

Philadelphia (Woodhaven): No archeological sites have been identified in the vicinity of the facility.

Worcester: No archeological sites have been identified in the vicinity of the facility.

York: No archeological sites have been identified in the vicinity of the facility.

Pennsylvania Study Unit II-- Ridge and Valley:

Ashley: No archeological sites have been identified within the immediate vicinity of the facility. The presence of a wetland to the west of the facility suggests that evidence of prehistoric occupation could be found, but grading and filling throughout most of the facility have probably removed most of that potential. The facility is considered to have low archeological potential.

Bellefonte: No archeological sites have been identified in the immediate vicinity of the facility.

Bethlehem: No archeological sites have been identified in the vicinity of the Bethlehem facility.

Bloomsburg: No archeological sites have been identified in the vicinity of the facility. An archeological survey (D on the U.S.G.S. Bloomsburg quadrangle map) has been undertaken, but the report which described that survey was not available for study at the Bureau for Historic Preservation in Harrisburg.

Chambersburg: No archeological sites have been located in the vicinity of the facility.

Greencastle: A review of the Pennsylvania Archeological Site Survey files in Harrisburg indicates that numerous prehistoric sites (36FR205-222) may be found in the general vicinity of the facility. These sites date from the Early Archaic to the Late Woodland periods and have yielded lithic projectile points and other tools, ceramics, pipe fragments, a shell bead, and possibly human bone. The occupants of these sites utilized the local rhyolite outcrops for lithic raw material almost exclusively.

The northern fenced portion of the facility appears to be completely disturbed, but the southern wooded portion contains rhyolite outcrops, and one shovel test excavation yielded a prehistoric rhyolite flake. A surface scatter of historic artifacts is also present in the southern portion. The facility is considered to have high archeological potential.

Harrisburg: No archeological sites have been located in the vicinity of the facility.

Lewisburg: The Pennsylvania SHPO has previously determined the Lewisburg facility contained no archeological potential and did not warrant archeological survey (see Appendix B).

Lewistown: No archeological sites have been located in the immediate vicinity of the facility.

New Cumberland: One prehistoric archeological site is located north of the facility on the Susquehanna River. There are no archeological sites in the general vicinity of the reserve center.

Reading: The Pennsylvania SHPO has previously determined the Reading facility contained no archeological potential and did not warrant archeological survey (see Appendix B).

Schuylkill Haven: The facility is located on or near the site of a late 19th-early 20th century almshouse. The site of a cemetery associated with the almshouse is reportedly immediately beyond the western boundary fence of the facility. No archeological sites are indicated in the vicinity of the facility. The facility is considered to have low archeological potential.

Scranton: A series of prehistoric rock shelters (36LW008) are located in the general vicinity of the facility. No specific temporal affiliations were indicated in the Pennsylvania Archeological Site Survey files.

State College: Three prehistoric sites (36CE281, 336 and 337) are located in the immediate vicinity of the facility. The sites, ranging in date from Early to Late Archaic, contain jasper flakes and chert projectile points. The proximity of these sites suggests evidence of prehistoric occupation may have existed within the boundaries of the facility, although construction associated with the buildings and parking areas have resulted in a certain degree of disturbance. The facility is considered to have low archeological potential.

West Hazleton: Pennsylvania Archeological Site Survey records in Harrisburg record that a prehistoric shell midden with associated pottery indicative of Woodland occupation (36LU175) is located near the facility. A historic site related to a 19th-20th century building (36LU126) is also located in the vicinity. The facility is considered to have low archeological potential.

Wilkes-Barre (Highway 315): No archeological sites have been recorded for the immediate vicinity of the facility.

Wilkes-Barre (AMSA #32, 100 Stephens Road): No archeological sites have been recorded for the immediate vicinity of the facility.

Williamsport: No archeological sites have been reported for the vicinity of the facility. The proximity of Miller's Run Creek, which forms the northern and eastern boundary of the facility, suggests that evidence of prehistoric occupation may be found within the grounds of the facility. The facility is considered to have low archeological potential.

Pennsylvania Study Unit III-- Appalachian Plateau:

Lock Haven: The Pennsylvania SHPO has previously determined the Lock Haven facility contained no archeological potential and did not warrant archeological survey (see Appendix B).

FINAL
ASBESTOS-CONTAINING MATERIALS
BUILDING INSPECTION REPORT
BETHLEHEM
UNITED STATES ARMY RESERVE CENTER
REWEI Project 94348-B

Prepared for

United States Army Corps of Engineers
Baltimore District
10 South Howard Street
Baltimore, MD 21201

By

R. E. WRIGHT ENVIRONMENTAL, INC.
3240 Schoolhouse Road
Middletown, PA 17057
(717) 944-5501

September 1995

Respectfully submitted,

Kathleen G. Horvath
Building Inspector

Reviewed by:

Charles A. Kuzma
Project Director

Joan E. Killian
Asbestos Specialist

94348TLE.TOC

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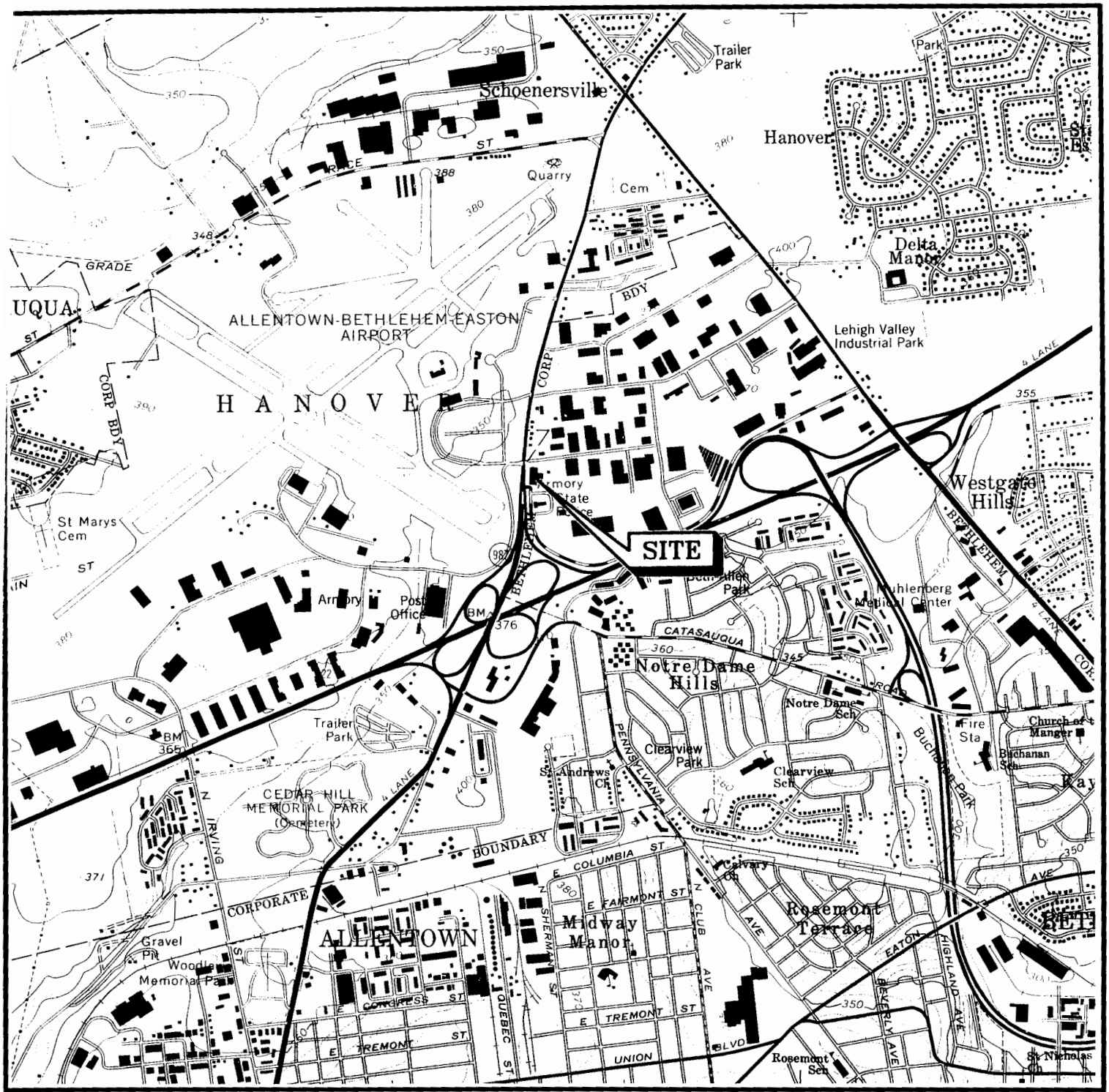
1.0 INTRODUCTION

R. E. Wright Environmental, Inc. (REWEI) conducted an asbestos-containing material (ACM) survey at the Bethlehem United States Army Reserve Center (USARC) located in Bethlehem, Lehigh County, Pennsylvania (Figure 1). The purpose of the survey was to locate and identify friable and non-friable ACMs within the building. Specifically, REWEI was contracted to provide the following services:

1. Review the 1987 Biospherics, Inc. building survey performed at the Bethlehem USARC. Perform a visual inspection to provide information on data gaps from the Biospherics, Inc. report, and confirm the existence or absence of ACMs previously identified.

2. Collect samples of accessible suspect ACMs within the referenced project area according to the United States Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulations.

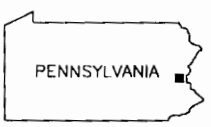
3. Analyze all bulk samples collected utilizing polarized light microscopy (PLM).



NOTE: BASE MAP FROM THE CATASAUQUA, PA., USGS 7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE 1964.

2000' 0 2000'

SCALE IN FEET



QUADRANGLE LOCATION

FIGURE 1

U.S. ARMY CORPS OF ENGINEERS
BETHLEHEM U.S. ARMY RESERVE CENTER
BETHLEHEM, LEHIGH CO., PA

SITE LOCATION MAP

TOTAL ENVIRONMENTAL	drawn SS	checked KGH	drawing no. 94348-004-AA
	date 04/27/95	approved JEK	

r.e. wright environmental, inc.
total environmental solutions
middletown, pa wayne, pa westminster, md norfolk, va

4. Compile a final report which details all sample results, identifies REWEI sample locations, and provides recommendations based upon the results.

The EPA distinguishes between friable and non-friable forms of ACM. Friable ACM can be "crumbled or reduced to powder by hand pressure." Friable materials are considered the most hazardous type of ACM because the asbestos fibers can easily become airborne and be inhaled.

It is possible to suspect that a material or product contains asbestos by visual observation, but a positive identification can only be made by laboratory analysis. The EPA requires that asbestos content of suspect materials be determined by collecting bulk samples and analyzing them by PLM utilizing dispersion staining techniques. The PLM technique determines both the percent and type of asbestos in a bulk material.

The EPA identifies three categories of ACM used in buildings:

1. **Surfacing Materials** - ACM sprayed or troweled on surfaces (walls, ceilings, structural members) for acoustical, decorative, or fireproofing purposes. This includes plaster and fireproofing insulation.

2. **Thermal System Insulation** - Insulation used to inhibit heat transfer or prevent condensation on pipes, boilers, tanks, ducts, and various other components of hot and cold water systems and heating, ventilating, and air conditioning systems. Thermal system insulation includes pipe lagging, pipe wrap, blanket insulation, mudded joint compounds, and a variety of other products.

3. **Miscellaneous Materials** - Other asbestos-containing products and materials such as floor tile, ceiling tile, roofing felt, concrete pipe, outdoor siding, gaskets, fabrics, etc.

For the purpose of this investigation, these categories were used to identify separate homogenous areas and to assign unique sample identification numbers. Surfacing materials are identified with a **S** prefix; thermal system insulation is identified with a **TSI** prefix; and miscellaneous materials are identified with a **M** prefix. The number following the prefix indicates the unique homogeneous area of the sample. The last number in the sample identification represents the sample number collected within the homogeneous area.

2.0 REGULATORY STANDARDS

This building inspection was completed in accordance with protocols developed in the EPA AHERA regulation (40 CFR 763). This regulation addresses issues of identifying, evaluating, and maintaining ACMs and dictates the training standards to which all asbestos professionals must be trained.

The EPA National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulation (40 CFR 61) established procedures for controlling asbestos fiber emissions during demolition and renovation projects in public and private buildings. The NESHAP requires building owners to conduct ACM surveys to identify friable materials within their facility prior to demolition or significant renovation that would break up the material or preclude access to the material for subsequent removal.

3.0 SITE CHARACTERISTICS

On Thursday, April 13, 1995, and Monday, May 8, 1995, Ms. Joan Killian (REWEI's Asbestos Specialist) and Ms. Kathleen Horvath (REWEI's Building Inspector) conducted a building inspection to identify ACMs in the Bethlehem USARC located in Bethlehem, Lehigh County, Pennsylvania. Ms. Killian is an EPA-accredited and Pennsylvania-licensed Building Inspector and Management Planner (Pennsylvania Department of Labor and Industry [DLI] No. 001625). Ms. Horvath is an EPA-accredited, Pennsylvania licensed Building Inspector (DLI No. 016308). During the inspection, REWEI personnel were accompanied by Mr. Tom LaBlanc, Commander at Bethlehem USARC.

The Bethlehem USARC contains approximately 27,600 square feet of finished office space and is constructed of steel and masonry. The structure was reportedly built in the 1940s, with a newer addition constructed in the 1970s (Rooms 101A-D, 112, and 146A-B). A detached garage on-site is also constructed of steel and masonry.

4.0 SURVEY METHODOLOGY

The Bethlehem USARC was visually inspected for the presence of material that is suspected to contain asbestos. Prior to collecting any samples, distinct homogeneous sampling areas and specific sampling sites were determined according to AHERA protocol. A homogeneous sampling area can be described as any material that is identical in appearance, identical in color, and has the same installation date. As these materials were identified, bulk samples were obtained and placed into individual containers for transportation to the laboratory. If suspect materials were identified as being positive or negative for asbestos content in the Biospherics, Inc. report, sampling was not done in order to avoid data duplication.

Each bulk sample collected was assigned an unique sample identification number and its location and material description noted. Each material was classified as either friable or non-friable.

In assessing the fiber release potential, the current condition of all suspect ACM was noted. Evidence of deterioration, physical or water damage, air erosion of the materials due to proximity to an air plenum, high vibration or contact potential was evaluated.

Materials visually identified as non-asbestos (fiberglass, foam, rubber, wood, etc.) were not sampled.

5.0 LABORATORY ANALYSIS

All bulk samples collected by REWEI were analyzed for asbestos content at Scientific Laboratories, Inc. (Sci Lab) of New York, New York, by PLM according to EPA Interim Method 600/M4-82-020. This type of analysis requires a microscopist to treat a portion of the bulk sample with an oil of specific refractive index. This prepared slide is then subjected to a variety of tests, while being viewed under varying polarizations of light. Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains over one percent of any type of asbestos is considered an ACM and must be handled according to the Occupational Safety and Health Administration (OSHA) and EPA regulations if disturbed.

Sci Lab is a minority-owned business which is accredited for analysis of bulk asbestos samples by the National Voluntary Laboratory Accreditation Program (NVLAP). Sci Lab's NVLAP laboratory code is 1904-01. Sci Lab's microscopists successfully participate in the American Industrial Hygiene Association (AIHA) Proficiency in Analytical Testing (PAT) program.

6.0 INSPECTION AND SAMPLING RESULTS

A review of sampling results performed by Biospherics, Inc. (DACA 31-87-D-0016, Delivery Order No. 001), indicated ACMs had been located in the Boiler Room (Room 125) and consisted of exhaust duct insulation, straight pipe insulation, and pipe elbow laggings. ACM was also identified in the detached garage and consisted of insulation around pipe fittings. ACMs in the general building space included steam pipe insulation, pipe elbow insulation, and black 9-inch by 9-inch floor tiles. Laboratory results from the Biospherics, Inc., survey are attached in Appendix A.

No suspect materials were observed in the Boiler Room (Room 125) during REWEI's inspection. All thermal insulation, including elbows and sections, appeared to be newly installed fiberglass and in good condition. Obvious signs of asbestos abatement in this room included encapsulated (painted) bare piping.

The detached garage was visually inspected by REWEI, and no suspect materials were observed. Obvious evidence of abatement at locations where suspect material had been located were observed.

A total of 14 bulk samples were collected by REWEI and analyzed by PLM. Bulk sample results are included in Appendix B. The following materials were identified during the building inspection.

6.1 Friable ACM

Laboratory testing from the Biospherics, Inc., survey identified six sources of friable ACM in the building and included pipe elbows and block straight pipe section insulation, both associated with thermal system insulation. REWEI's visual inspection confirmed the amounts and locations of the friable ACM identified during Biospherics' survey. Friable ACMs are listed on Table 1 and shown on Figure 2.

6.2 Non-Friable ACM

Non-friable ACM identified at the Bethlehem USARC during sampling by Biospherics, Inc., includes 9-inch by 9-inch floor tiles and black mastics (sampled by REWEI) used to secure floor tiles. Since there is no way to distinguish between different homogeneous areas of mastic, all black mastic should be considered an ACM. The amounts and locations of those floor tiles and mastic are listed on Table 1 and shown on Figure 3.

TABLE 1

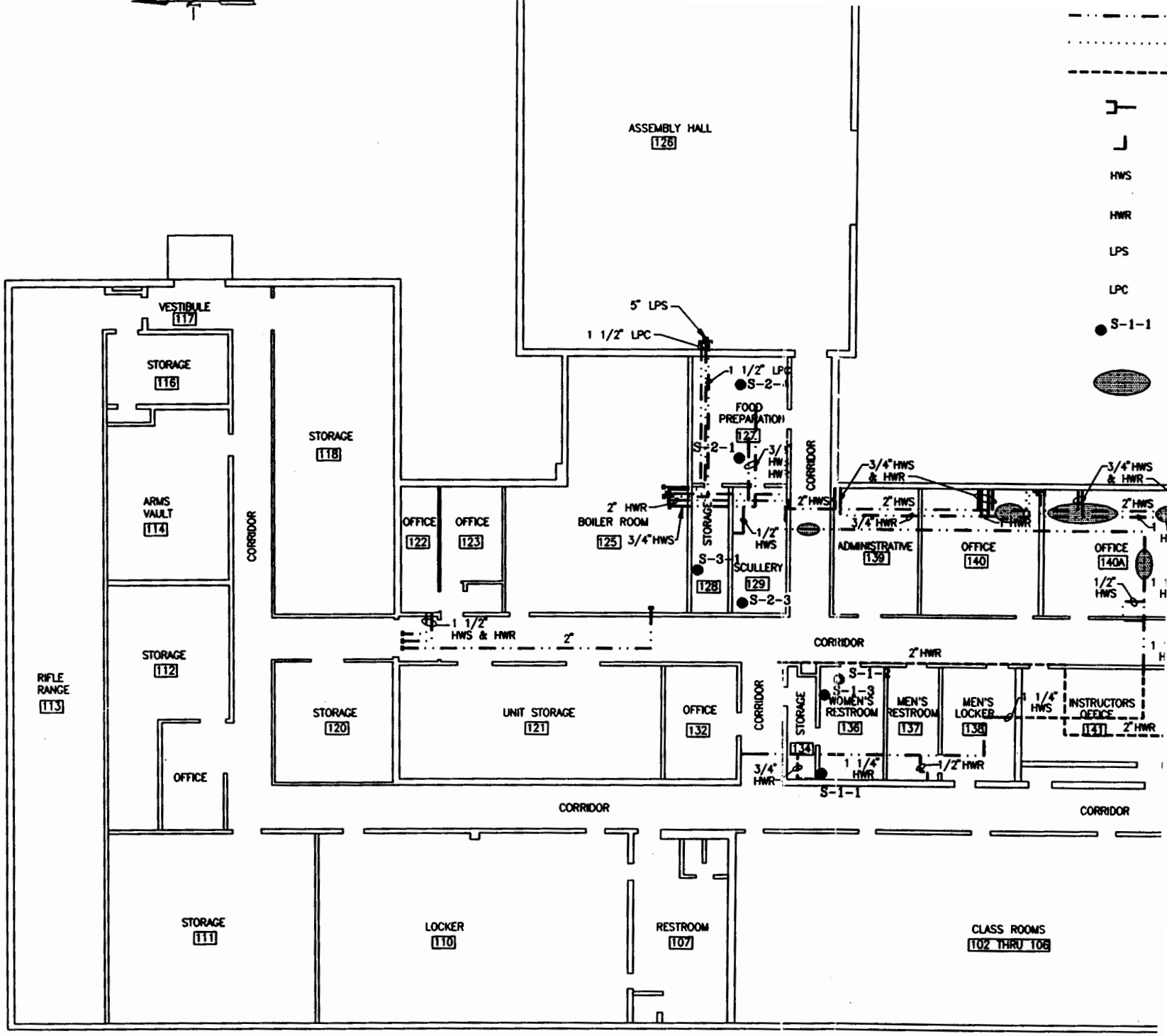
ACMS IDENTIFIED AT BETHLEHEM USARC

REWEI Project 94348

Material	Percent Asbestos	Location	Estimated Amount
Friable ACMs			
Gray fibrous pipe elbow laggings on hot water return pipe (approximately 4 inches outside diameter [O.D.]) and steam pipe to boilers (approximately 3 inches and 8 inches O.D.)*	15-35	See Figure 2	40 linear feet
White fibrous block pipe insulation on straight runs with cloth cover; sampled on main steam line (approximately 5 inches O.D.), steam supply line (approximately 8 inches O.D.), and hot water circulating system (approximately 4 inches O.D.)*	25-50	See Figure 2	450 linear feet
Non-Friable ACMs			
9-inch by 9-inch black floor tiles with white mottles and gray floor tiles with white mottles in a checkerboard pattern*	1-2	See Figure 3	3,072 square feet
Black mastic beneath floor tiles	5-10	See Figure 3	20,667 square feet

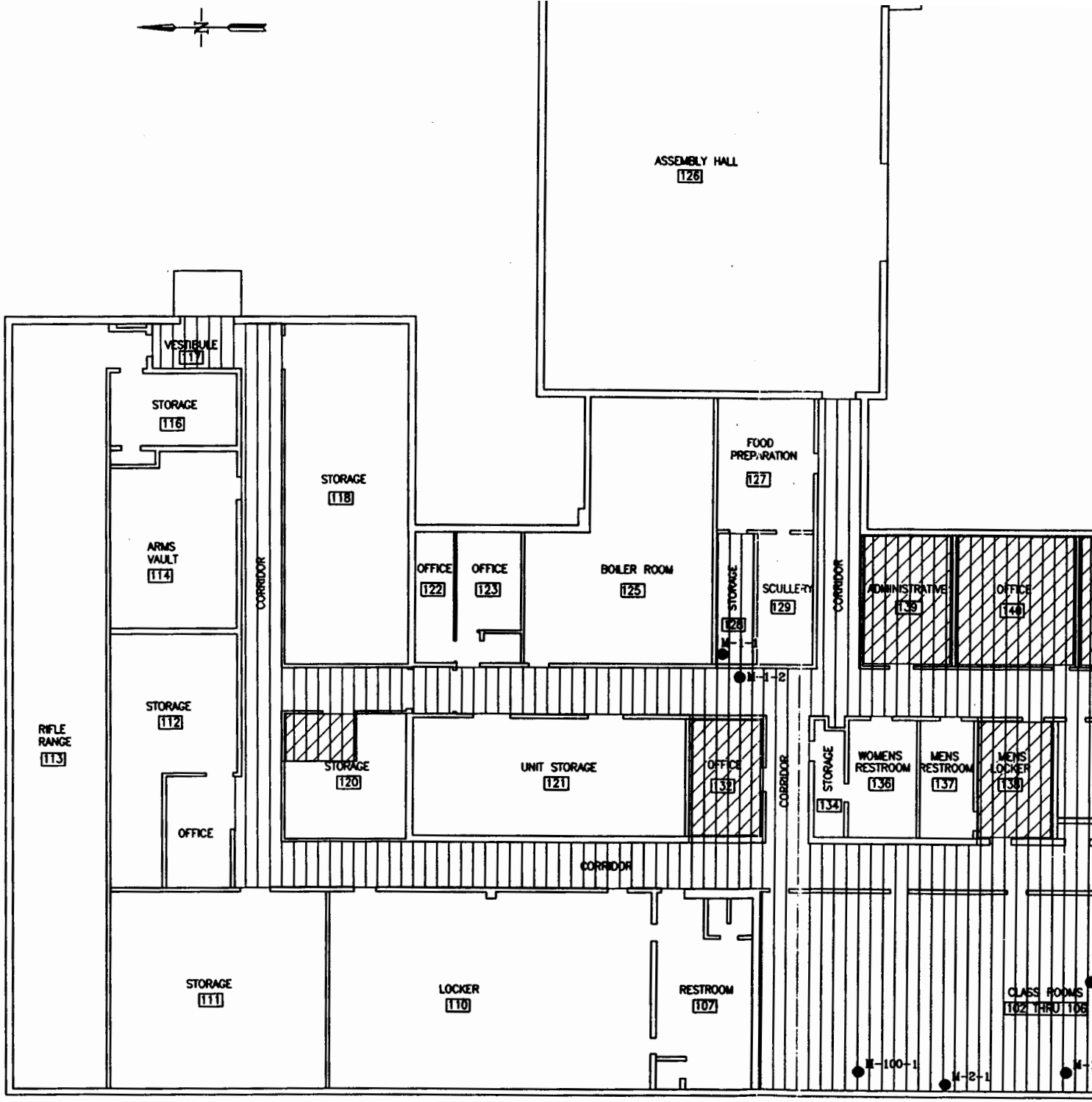
* Sampled by Biospherics, Inc.

r.e. wright environmental, inc.



MAIN BUILDING FLOOR PLAN

10' 0 10'
SCALE IN FEET



MAIN BUILDING FLOOR PLAN

6.3 Non-ACM

The remaining samples were found to be non-ACM:

1. 12-inch by 12-inch interlocking ceiling tiles with gouge pattern (sampled by Biospherics, Inc.)
2. 2-foot by 2-foot white ceiling tile with pinhole pattern (sampled by Biospherics, Inc.)
3. 12-inch by 12-inch beige floor tiles with brown streaks (sampled by REWEI)
4. 12-inch by 12-inch gray/white mottled floor tiles (sampled by REWEI)
5. 12-inch by 12-inch blue/white mottled floor tiles (sampled by REWEI)
6. Ceiling and wall plaster (sampled by REWEI)

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

ACMs identified at the Bethlehem USARC building include mudded pipe elbow insulation, pre-formed block insulation on straight pipe lines, 9-inch by 9-inch black floor tiles, and black mastic. Most of the material observed was in good to fair condition. Some areas of pipe insulation showed significant damage, and debris from the insulation was observed on the ceiling tiles in Rooms 140 and 140A. If the building is to be either renovated or demolished, laws require the removal of ACM prior to the start of either activity.

Laws and regulations do not require the removal of ACM that is not currently presenting a significant hazard. Non-friable floor tiles and mastic pose limited health threat to building occupants unless they are disturbed or damaged. Damage to the 9-inch by 9-inch floor tiles and black mastic should be avoided during any maintenance, renovation, or other activities. This material may remain in place but should not be buffed, sanded, stripped, or treated in any way that produces dust.

7.2 Recommendations

All pipe insulation which does not visually appear to be fiberglass should be considered asbestos containing. The ACM on most pipes indicated on Figure 2 appears to be in good condition, except where indicated on Figure 2. Any disturbance of this material creates the potential for fiber release and exposure in this area. REWEI recommends that all of the friable pipe insulation in the building be removed by a qualified asbestos abatement contractor and replaced with a non-asbestos pipe insulation.

Floor tile and mastic which contains asbestos is considered by the EPA to be non-friable material. It may remain in place as long as it is maintained in good condition and is not damaged by sanding, scraping, or otherwise abrading the surface of the tiles since such activities may cause release of asbestos fibers.

All the black 9-inch by 9-inch floor tiles in the facility were identified as ACM, and samples of black mastic were also identified as an ACM. The floor tiles and mastic must be treated as asbestos and should be incorporated into an operations and maintenance (O&M) program. If floor tiles or mastic are to be removed, proper precaution should be taken just as with any asbestos abatement project.

Asbestos abatement is very labor intensive and there are numerous state, federal, and local regulations which apply to the asbestos abatement industry. To help limit legal liability, an experienced, qualified firm should be employed to design remediation, write removal specifications, and monitor the abatement project. A firm with properly certified individuals can help ensure that proper government authorities are contacted, that asbestos removal specifications are written in conformance with EPA and OSHA regulations, and EPA and OSHA regulations are followed during asbestos abatement and disposal, and that identified ACM is removed safely from the facility. REWEI recommends that all abatement be performed by an EPA-accredited, Pennsylvania-licensed asbestos removal contractor.

REWEI understands that completion of this contract includes development of a site-specific O&M program which addresses maintenance of non-friable ACMs which are to remain in the facility following removal of all friable ACM. The purpose of the O&M program is to avoid ACM disturbance or damage and establish procedures to accomplish this goal. The O&M program will include recommendations for building occupant awareness, specialized training for custodial and maintenance personnel, cleaning of any debris, periodic visual inspections, and periodic air monitoring. Design of this O&M program is ongoing. A draft document will be submitted for USACE review at a later date.

Every effort was made to identify all accessible ACM within the facility. As a result of this survey, and to the best of our knowledge, understanding, and belief, all ACMs have been identified and locations are listed in this report.

8.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions which were observed during the inspections of April 13, 1995, and May 8, 1995. REWEI and this report make no representation or assumptions as to past conditions or future occurrences.

This inspection was non-destructive in nature. Any conditions or materials which were not able to be visually observed on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials which lay beneath the surface. Our selection of sample locations and frequency is based on our observation and the assumption that like materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. This report should not be used as a bidding document or as a project specification document.

APPENDIX A

Laboratory Results, Biospherics, Inc.

r.e. wright environmental, inc.

DACA 31-87-D-0016
Delivery Order No. 001

BIOSPHERICS® INCORPORATED

SECTION 2.19

2.19.1 U.S. ARMY RESERVE CENTER, BETHLEHEM, FIRST FLOOR

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

1. 2' x 2', white ceiling tile

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED:

1. White and grey, fibrous insulation boiler exhaust flue
2. White, fibrous, block insulation
3. Grey, fibrous or powdery, pipe fitting lagging
4. Grey, air-cell insulation
5. 9" x 9", black floor tile
6. Two coat plaster ceilings
7. 12" x 12", blue floor tile white mottle

FUNCTIONAL AREAS

A. Mechanical Room Areas (Boiler room; drawing ref.: AS-BLT 29-06-46 SH. 42)

- Severely damaged white and grey, fibrous exhaust duct insulation and debris is ACM. Pipe straight section insulation is white, fibrous, block and grey, air-cell. Both insulation types have exposed endings and the block insulation is cracking. Grey, fibrous pipe elbow laggings have exposed ends.

Hazard Assessment
Rating I - High to Very High

B. General Building Space (All other rooms and corridors; drawing ref.: AS-BLT 29-06-46 SH. 42)

- ACM TSI - White, fibrous, steam pipe insulation, grey, powdery or fibrous, pipe elbow lagging located above suspended ceilings. Fittings as noted on floor plans. Debris located above ceilings in rooms 140, 141, 145, and 146.

- Black, 9" x 9" floor tiles are ACM.

- 12" x 12", blue floor tile with white mottle should be considered ACM in the absence of further sampling

- Plaster ceilings and walls noted on floor plans should be treated as ACM until further sampling is performed to show otherwise.

Hazard Assessment
Rating II - Moderate to High

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS® INCORPORATED

TABLE 2.19.1

Results of Bulk Asbestos Analyses of Samples Collected for EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center at Bethlehem, Pennsylvania (First Floor)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME %)
87-12-029-220	11/25/87	White and grey, fibrous over chicken wire boiler exhaust flue insulation; boiler room	Chrysotile	60-65%
87-12-345-221	11/25/87	White, fibrous, block pipe straight section insulation; boiler room	Chrysotile Amosite	5-10% 25-30%
87-12-029-222	11/25/87	Grey, fibrous pipe elbow lagging; boiler room	Chrysotile	15-20%
87-12-029-223	11/25/87	White, fibrous, block condensate pipe insulation straight section; boiler room	Chrysotile Amosite	35-40% 5-10%
87-12-029-224	11/25/87	White, fibrous, block steam supply line insulation; boiler room	Chrysotile Amosite	20-25% 20-25%
87-12-029-225	11/25/87	Grey, fibrous pipe elbow lagging on steam supply line; boiler room	Chrysotile Amosite	30-35% 5-10%
87-12-029-226	11/25/87	Grey, air-cell steam pipe insulation straight section; boiler room	Chrysotile	35-40%
87-12-029-227	11/25/87	Grey, fibrous steam pipe elbow lagging; boiler room	Chrysotile	35-40%

*NAFD -- No Asbestos Fibers Detected

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TABLE 2.19.1

Results of Bulk Asbestos Analyses of Samples Collected for EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center at Bethlehem, Pennsylvania (First Floor), continued

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME %)
87-12-029-228	11/25/87	White, fibrous, block insulation on suspended H.E.U.; boiler room	Chrysotile Amosite	15-20% 15-20%
87-12-029-229	11/25/87	12" x 12", blue floor tile with white mottle; corridor outside room 123	Chrysotile	<1%
87-12-029-230	11/25/87	White, 2' x 2' ceiling tile with pinhole pattern; corridor outside room 121	NAFD*	---
87-12-029-231	11/25/87	White, fibrous block main steam pipe insulation straight section; corridor by room 121	Chrysotile Amosite	25-30% 5-10%
87-12-029-232	11/25/87	Grey, fibrous hot water return pipe elbow lagging; main corridor outside room 123	Chrysotile	15-20%
87-12-029-234	11/25/87	Grey, powdery pipe elbow lagging; assembly room	Chrysotile	15-20%
87-12-029-235	11/25/87	Black, 9" x 9" floor tile with white mottle; room 139	Chrysotile	1-2%

*NAFD -- No Asbestos Fibers Detected

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2.19.2 U.S. ARMY RESERVE CENTER, BETHLEHEM, NEW ADDITION

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

1. 12" x 12", white interlocking ceiling tile

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED:

- None

FUNCTIONAL AREAS

A. General Building Space (All rooms and corridors; drawing ref.: Bethlehem, new addition)

- No asbestos containing materials were observed.

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TABLE 2.19.2

Results of Bulk Asbestos Analyses of Samples Collected for EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center at Bethlehem, Pennsylvania (New Addition)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME %)
87-12-029-233	11/25/87	White, 12" x 12", interlocking ceiling tile with gouge pattern; rifle range	NAFD*	---

*NAFD -- No Asbestos Fibers Detected

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2.19.3 U.S. ARMY RESERVE CENTER, BETHLEHEM, SHED-MOTOR VEHICLE STORAGE

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

- None

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED:

1. Grey, fibrous pipe elbow lagging

FUNCTIONAL AREAS

A. Enitre Garage Area (drawing ref.: AS-BLT 39-15-02 SH. 11)

- ACM TSI -Observed eight fittings in garage area. Material similar to those sampled in the main building (refer to sample B/234).

Hazard Assessment
Rating III - Low to Moderate

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BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/220

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-220

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [ ]	P [X]	L [ ]	L [X]	L [ ]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [X]	F [X]	M [ ]	M [ ]	M [X]
Troweled [X]	Other [ ]		H [ ]	G [ ]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: White and grey, fibrous over chicken wire, boiler exhaust flue insulation.

LOCATION: Boiler room.

SIMILAR MATERIALS: Entire exhaust flue.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Severely damaged/cracking; debris on floor.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/221

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-221

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./sq.ft): ~4" O.D.

DESCRIPTION: White, fibrous, block pipe straight section insulation on hot water circulating system from pump number one with cloth cover.

LOCATION: Boiler room.

SIMILAR MATERIALS: Other piping in boiler room.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed section ending.

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BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/222

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-222

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [X]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging on hot water circulating system from pump number two.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other pipe elbows.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

DACA 31-87-D-0016
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BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/223

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-223

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: White, fibrous, block, condensate pipe straight section with cloth cover (subordinate line).

LOCATION: Boiler room.

SIMILAR MATERIALS: Other pipe straight section insulaton.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/224

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-224

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [X]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [ ]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~8" O.D.

DESCRIPTION: White, fibrous, block with cloth cover on steam supply line to boiler number one.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other steam supply lines.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Cracking in some places.

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BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/225

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-225

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [X]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~8" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging on steam supply line to boiler number one.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other steam supply pipe elbows.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Some smaller pipe elbows are fiberglass reinsulated.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/226

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-226

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~8" O.D.

DESCRIPTION: Grey, air-cell insulation on steam pipe straight section to boiler number two.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other pipe straight sections.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/227

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-227

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [X]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~3" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging on steam pipe to boiler number two.

LOCATION: Boiler room.

SIMILAR MATERIALS: Other pipe fittings in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/228

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-228

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [ ]	Other [X]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~12" O.D. x 5 L.F.

DESCRIPTION: White, fibrous, block on suspended H.E.U. with cloth cover.

LOCATION: Boiler room.

SIMILAR MATERIALS: Other insulation in boiler room.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/229

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-229

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [ ]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [X]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: 12" x 12", blue floor tile with white mottle.

LOCATION: Corridor outside room 123.

SIMILAR MATERIALS: Other floor tile throughout building.

SAMPLE LOCATION MARKED: Tape & I.D. [ ]
Sample location was not marked [X]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/230

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-230

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [ ]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [X]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: White, 2' x 2', suspended ceiling tile with pinhole pattern.

LOCATION: Corridor outside room 121.

SIMILAR MATERIALS: Other ceiling tile in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [ ]
Sample location was not marked [X]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/231

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-231

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [X]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~5" O.D.

DESCRIPTION: White, fibrous, block pipe insulation straight section on main steam line with cloth cover.

LOCATION: Corridor by room 121.

SIMILAR MATERIALS: Other pipe straight section insulation.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Under suspended ceiling.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/232

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-232

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [X]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging with cloth cover on hot water return pipe.

LOCATION: Main corridor outside room 123.

SIMILAR MATERIALS: Other pipe fittings in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Above suspended ceiling; ACM insulations end at or before additions.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

	EHSC,		
CLIENT/CONTACT	Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/233
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-233
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [ ]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [X]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: White, 12" x 12", interlocking ceiling tile with gouge pattern.

LOCATION: Room 232, rifle range.

SIMILAR MATERIALS: Other tiles throughout range area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

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BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/234

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-234

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [X]	M [ ]	M [X]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [ ]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~2" O.D.

DESCRIPTION: Grey, powdery pipe elbow lagging.

LOCATION: Assembly room.

SIMILAR MATERIALS: Other pipe fittings in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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DACA 31-87-D-0016
Delivery Order No. 0001

BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA — FIELD I.D.# 11-25-FIG-JK-B/235
FACILITY SAMPLED Bethlehem — BIOS # 87-12-029-235
SAMPLING DATE November 25, 1987 — SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: Black, 9' x 9' floor tile with white mottle.

LOCATION: Room 139.

SIMILAR MATERIALS: Floor tiles in other rooms in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [ ]
Sample location was not marked [X]

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APPENDIX B

Laboratory Results, R. E. Wright Environmental, Inc.

SciLab

Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.
42 West 24th Street New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 4/20/95 **SciLab Job No.** 04952332
Date Examined 4/23/95 **P.O. #** N/A
Page 1 **of** 1

RE: Army Corps of Engineers; #94348-Hbg. & Beth USARC

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
M-100-1	04952332-01	*No*	NAD

Location: Bethlehem USARC; 12x12 VFT

Description: Beige, Homogeneous, Floor Tile
Asbestos Types:
Other Material: Non-fibrous 100. %

M-100-2	04952332-02	*No*	NAD

Location: Bethlehem USARC; Bethlehem USARC; 12x12 VFT

Description: Beige, Homogeneous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 100. %

M-200-1	04952332-03	*No*	NAD

Location: Bethlehem USARC; 12x12 VFT

Description: Grey, Homogeneous, Floor Tile
Asbestos Types:
Other Material: Non-fibrous 100. %

Reporting Notes:

Analyzed by: Ranga Yeragudipati

*NAD/NSD = no asbestos detected; NA = not analyzed; Bulk Asbestos Analysis per 40 CFR 763, Subpart F, Appendix A and ELAP Analysis Protocols 198.1/198.4 for New York samples; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This report relates ONLY to the items tested.

NBS Signatory:_____

SciLab

Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.

42 West 24th Street New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 5/10/95
Date Examined 5/12/95

SciLab Job No. 05952175
P.O. # N/A
Page 1 **of** 3

RE: Bethleham USARC; Project#94348

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
S-1-1	05952175-01	*No*	NAD
1	**Location:** Rm 136 at Exhaust Fan on Wall		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100. %		
S-1-2	05952175-02	*No*	NAD
1	**Location:** Rm 136 Ceiling		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100. %		
S-1-3	05952175-03	*No*	NAD
1	**Location:** Rm 136 Wall at Sinks		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100. %		
S-2-1	05952175-04	*No*	NAD
2	**Location:** Rm 127 Ceiling		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Cellulose 10. %, Non-fibrous 90. %		
S-3-1	05952175-05	*No*	NA[r]
3	**Location:** Rm 128 Ceiling		
	Description: Off White, Homogeneous, Dry Wall		
	Asbestos Types:		
	Other Material: Cellulose 40. %, Non-fibrous 60. %		

SciLab
Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.
42 West 24th Street New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 5/10/95 **SciLab Job No.** 05952175
Date Examined 5/12/95 **P.O. #** N/A

RE: Bethleham USARC; Project#94348

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
S-2-3	05952175-06	*No*	NAD
2	**Location:** Rm 129 Ceiling		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Cellulose Trace, Non-fibrous 99. %		
S-2-4	05952175-07	*No*	NAD
2	**Location:** Rm 127 Ceiling		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Cellulose Trace, Non-fibrous 99. %		
1-1-1	05952175-08	*Yes*	5 %
	Location: Rm 128 Beneath Blue 12X12		
	Description: Black, Homogeneous, Mastic		
	Asbestos Types: Chrysotile 5. %		
	Other Material: Cellulose Trace, Non-fibrous 94. %		
1-1-2	05952175-09		NA/PS
	Location: Hall at Rm 128 Beneath Blue 12X12		
	Description: Mastic		
	Asbestos Types:		
	Other Material:		
2-1	05952175-10	*Yes*	10 %
	Location: Rm 104		
	Description: Black, Homogeneous, Mastic		
	Asbestos Types: Chrysotile 10. %		
	Other Material: Non-fibrous 90. %		

SciLab
Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.
42 West 24th Street New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 5/10/95
Date Examined 5/12/95
SciLab Job No. 05952175
P.O. # N/A

RE: Bethleham USARC; Project#94348

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
M-2-2	05952175-11		NA/PS
5	**Location:** Rm 104		
	Description: Mastic		
	Asbestos Types:		
	Other Material:		

Reporting Notes:
Analyzed by: Bella Chernis Bella Chernis

*NAD/NSD = no asbestos detected; NA = not analyzed; Bulk Asbestos Analysis per 40 CFR 763, Subpart F, Appendix A and ELAP Analysis Protocols 198.1/198.4 for New York samples; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This report relates ONLY to the items tested.

NBS Signatory: PWEL

UST CLOSURE REPORT
FOR
WILSON KRAMER USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017-2166
CONTRACT NO. DACA31-95-D-0106
DELIVERY ORDER NO. 0004

OIL TANK REMOVAL - OCT 96

Prepared by:

Engineering Technologies Associates, Inc.
3458 Ellicott Center Dr.
Ellicott City, MD 21043

November 1996

TABLE OF CONTENTS:

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APPENDIX C- SOIL SAMPLE RESULTS	
APPENDIX D- AS BUILT DRAWING	
APPENDIX E- UST SUMMARY CLOSURE REPORT FORM	

1.0 INTRODUCTION

This closure report has been completed in response to the removal of a 5,000 gallon underground storage tank at the Wilson Kramer United States Army Reserve Center in Bethlehem, PA. The tank was used to store #2 fuel oil for the purpose of space heating, thereby exempting the tank from state or federal regulation. The removal was done as part of an ongoing contract with the Corps of Engineers (COE), Contract No. DACA31-95-D-0106.

2.0 RELEASE INVESTIGATION AND CONFIRMATION STEPS

2.1 EVIDENCE OF RELEASE AND RELEASE DETECTION

Release detection monitoring was not conducted prior to excavation and removal of the tanks.

2.2 ACTIONS TAKEN TO REMOVE THE TANK

The tank was removed for permanent closure on October 30, 1996.

Approximately 1,610 gallons of fuel oil and 60 gallons of sludge was removed from this tank prior to excavation of the tank. Hazleton oil was used to supply Vac-trucks to remove all liquid from the tank. Copies of the Non-hazardous waste manifest are included in Appendix B.

The tank was removed using a backhoe. Copper supply and return lines were removed, and the pump in the boiler room was dismantled and removed. The tank and lines were inspected for holes (none were evident), loaded onto a flatbed and transported by Sensenig Salvage to their recycling facility in Chambersburg, PA. A two foot thick concrete hold down pad was present below the tank, and was left in place.

3.0 SAMPLING

No groundwater was encountered in either excavation, the only required sampling was of soil.

Soil samples were taken in the excavation and in the stockpiled soil, prior to backfill operations. Samples were analyzed for Naphthalene, Fluorene, Phenanthrene, Benzo(a)anthracene, Benzo(a)pyrene by EPA method 8270B. The new PADER sampling criteria, which took effect August 1, 1996, was used even though the tanks are not regulated by the state of Pennsylvania.

Soil sample results are included in Appendix C. Sample results are all well below regulatory action levels.

All sampling and laboratory analysis were completed using written quality assurance and quality control (QA/QC) standards overseen by the CQC manager. Laboratory analysis were performed in accordance with USEPA method 8270B and as specified in the WLSI Quality Assurance Plan.

4.0 TANK AND PIPING DISPOSAL

The tank and piping were hauled off-site to be scrapped by Sensenig Salvage in Chambersburg, PA. A copy of the "Certificate of Storage Tank Disposal" is included in Appendix E.

5.0 CLOSURE REPORT REQUIREMENTS

This tank, having been used to store fuel oil for the purpose of space heating, is exempt from regulation by the state or federal government. This closure report is supplied to the Corps of Engineers as a part of the contract agreement, and does not serve to fulfill any regulatory requirements.

6.0 SITE RESTORATION

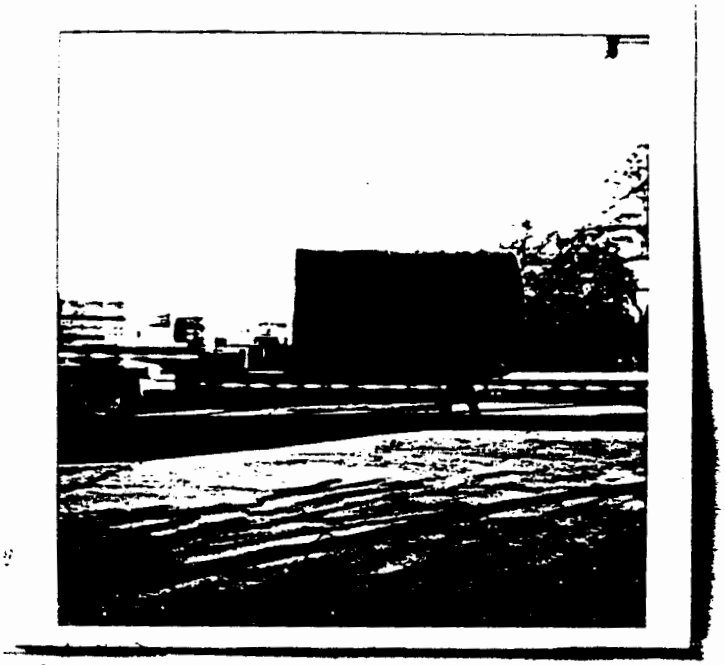
The excavations was backfilled with crushed stone and soil. Topsoil, seed and straw were placed over all the disturbed areas.

APPENDIX A

10/30/96–UST EXPOSED TO TOP PRIOR TO REMOVAL

10/30/96–EXCAVATION FOLLOWING TANK REMOVAL

DESIGNED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC.	WILSON KRAMER USARC PHOTOGRAPHIC SHEET 1
DRAWN R.G. 11/6/96 DATE	ENGINEERS • PLANNERS • SURVEYORS	
CHECKED ____ DATE	3408 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043	
APPROVED ____ DATE		SCALE: NA | CONTRACT NO.: DAAL01-95-D-0106 | DATE: 11/5/96 | SHEET:



10/31/96–TANK LOADED ONTO FLATBED READY FOR TRANSPORTATION

DESIGNED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC.	WILSON KRAMER USARC PHOTOGRAPHIC SHEET 2	
DRAWN R.G. 11/5/96 DATE	ENGINEERS • PLANNERS • SURVEYORS		
CHECKED ____ DATE	3468 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043		
APPROVED ____ DATE		SCALE: NA	DATE: 11/5/96

APPENDIX B

"Certificate of Storage Tank Disposal"

Transfer of Responsibility to

Sensenig Salvage

Chambersburg, Pennsylvania

PHONE: (717) 369-4283 DATE _____

The undersigned Salvage Facility accepts responsibility for the disposal of the tank(s) listed below in accordance with current Federal, State and Local regulations.

Having been permanently removed from service, these tanks ARE NOT . . . . .

1. Vapor free
2. Suitable for storage of Food Liquids intended for Human or Animal consumption.
3. Suitable for Underground storage of FLAMMABLE/COMBUSTIBLE/HAZARDOUS Liquids or materials.

5000	Gallon tank	Former Contents	heating oil
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	

Owner Location
Name: USARC
Address: 2940 Airport Rd
Bethlehem, Pa
Signature: [signature]
Date: 10-31-96

*** CONTRACTOR ***

E.T.A.

Salvage Facility
Sensenig Salvage
792 Coble Road
Chambersburg, PA 17201
Signature: Keith Sensenig
Date: 10-31-96

E.....#1...0005...58

HAZLETON OIL SALVAGE LTD.

P.O. Box No. 2339 Hazleton, PA 18201
Phone# 800-458-3496 EPA#PA0000101816

H.O.S. LTD. TAKES FULL RESPONSIBILITY
For The Pickup, Transportation And Disposition Of All Waste Effluent Accepted By Our Company
YOU CAN TRUST US WITH *ALL* YOUR DISPOSAL NEEDS

WORK ORDER # 023421

Customer PO # _____

Phone _____

Bill To: Engineering Technologies Assoc Inc

Address 3458 Ellicott center Dr

City: State Ellicott city MD Zip 21043

Date 10/30/96 Driver / Vehicle Ken / F3

Job Site USARC

Address [redacted] City Bethlehem

Time Arrived _____ Time Finished _____

IF PRICED: USE AS YOUR INVOICE

QUANTITY	UNITS		UNIT PRICE	TOTALS
1610	gal	Waste #2 oil pumped from underground 5K tank		

TANK CLEANING	Yes	No	EXCESS TANK TIME	hrs.	min.		
Driver Signature if COD		CK. #	Cash?	**NET 15 DAYS**		*Sum Total*	

GENERATOR CERTIFIES HIS PRODUCT AS NON-HAZARDOUS

Accepted by ***SIGN*** _____ Accepted by ***PRINT*** _____ Representitive of: _____

HAZLETON OIL SALVAGE LTD.

P.O. Box No. 2339 Hazleton, PA 18201
Phone# 800-458-3496 EPA#PA0000101816

H.O.S. LTD. TAKES FULL RESPONSIBILITY
For The Pickup, Transportation And Disposition Of All Waste Effluent Accepted By Our Company
YOU CAN TRUST US WITH *ALL* YOUR DISPOSAL NEEDS

WORK ORDER # 023644

Customer PO # _____

Phone _____

Bill To: [illegible]

Address 2455 Ellicott Cent. [illegible]

City: State Ellicott City Zip Maryland 21043

Date 10/30/[illegible] Driver [illegible] Vehicle [illegible]

Job Site USARC

Address Beth Bloom City [illegible]

Time Arrived _____ Time Finished _____

QUANTITY	UNITS	IF PRICED: USE AS YOUR INVOICE	UNIT PRICE	TOTALS
[illegible]	gals	#2 oil tank bottoms (USARC Beth)	$ [illegible]	$48.00
		USARC Bloom		$312.00
		Vac Tk Service		300

TANK CLEANING	Yes	No	EXCESS TANK TIME	hrs. min.		
Driver Signature if COD		CK.#	Cash?	NET 15 DAYS	Sum Total	$660.00

GENERATOR CERTIFIES HIS PRODUCT AS NON-HAZARDOUS

Accepted by *SIGN* [illegible] Accepted by *PRINT* 29 [illegible] Representitive of:

APPENDIX C

NOV-05-1996 10:01 7179480143 94% P.25

11/05/1996 11:13 7179480143 WRIGHT LAB SVCS PAGE 25

PHONE ORDER TAKEN BY: _____

DATE ORDERED: / /

Wright Laboratory Services, Inc.
CHAIN OF CUSTODY RECORD

DATE REQUESTED: / /

REPORT TO: Engineering Technologies Associates.	CONTACT Robert Gribben	PHONE NO. (301) 606-3815 x110	SALESMAN
	PROJECT NAME Kramer USARC	PROJECT NO.	P.O. NO.
	DATE SAMPLED 10-30-96	SAMPLER(S) Bill Brigham	
BILL TO:			

	SAMPLE DESCRIPTION/LOCATION	TIME OF SAMPLING	TOTAL NO. OF CONTAINERS	EPA Method 8270 B *	REMARKS
1	Soil / Beth - 1	1424	1	1	Supply & Tank Far End Stock Pile
2	Soil / Beth - 2	1426	1	1	
3	Soil / Beth - 3	1428	1	1	
4	Soil / Beth - 4	1430	1	1	
5					
6					
7					
8					
9					
10					

REMARKS: * Naphthalene, Fluorene, Phenanthrene, Benzo (a) anthracene, Benzo(a) pyrene (8290B)

Due 11-07-96 08 10:34 98

SHIPPING CARRIER:

SHIPPING TICKET NUMBER:

CHAIN-OF-CUSTODY SEAL: INTACT BROKEN ABSENT

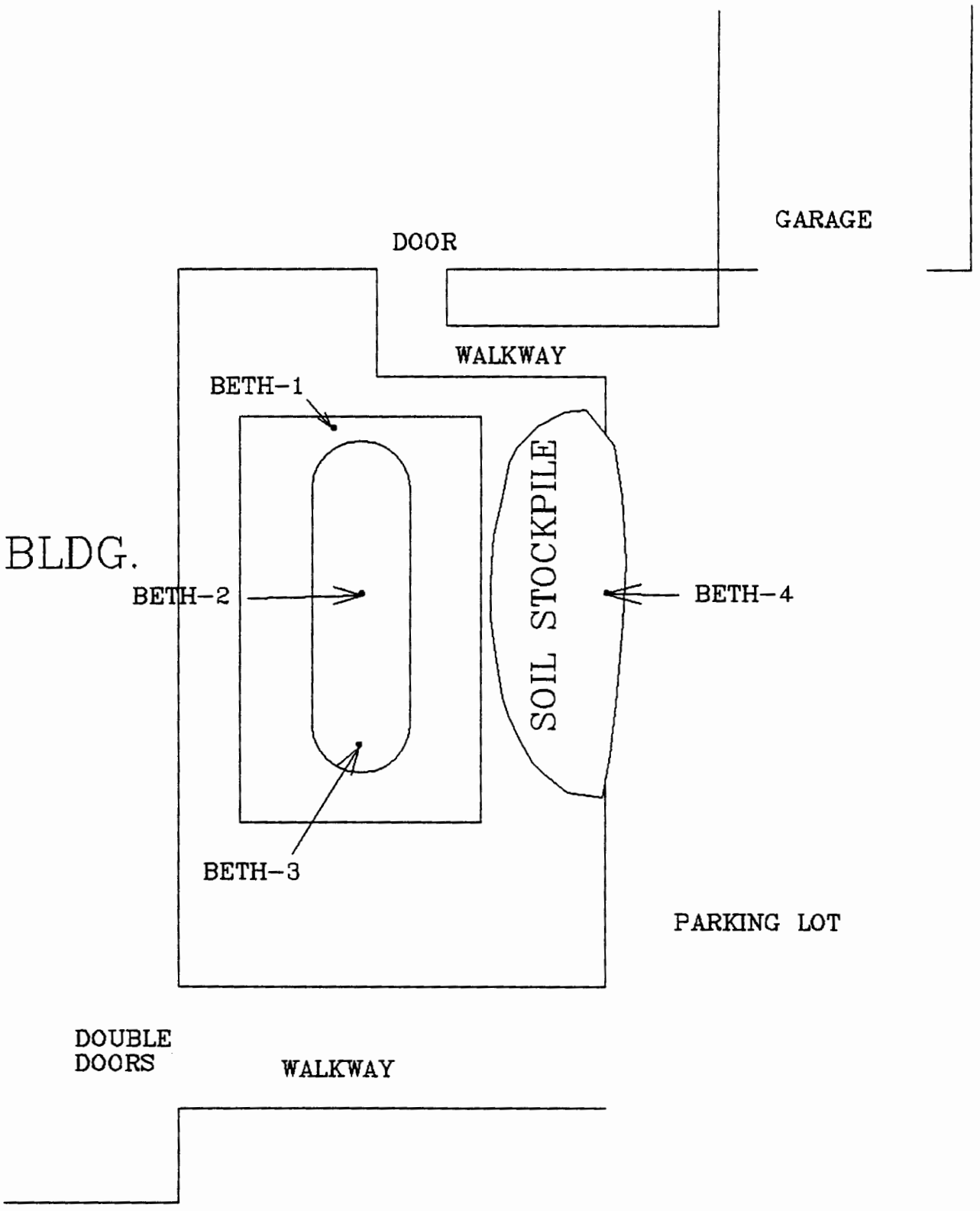
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME
[signature]	10/30	1420	[signature]	10/30	1438	[signature]	10/31	1615
RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
			[signature]			[signature]		
RELINQUISHED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
						JHK	10-30-96	1810

WHITE - ORIGINAL CANARY - CUSTOMER MAILING PINK - FILE GOLDENROD - CUSTOMER

SAMPLE TRACKING NOTEBOOK

SITE LOCATION KRAMERUSARC

SAMPLE NUMBER	SAMPLE MATRIX	NUMBER OF BOTTLES	SAMPLE CONTAINER SIZE	REMOVED BY	REMOVED DATE + TIME	RETURNED BY	RETURNED BY DATE + TIME	SAMPLE LOCATION (TANK EXC, PIPELINE EXC EXCAVATION SOIL)
BETH - 1	EPA 8220 B	1	4 oz	W.T. Brigham	12/30/96 1424			TANK Supply
BETH - 2	↓	1	↓	↓	↓ 1426			↓ ℄
BETH - 3	↓	1	↓	↓	↓ 1428			↓ FAR END
BETH - 4	↓	1	↓	↓	↓ 1420			↓ Stockpile



DESIGNED ____ DATE DRAWN R.G. 11/5/96 DATE CHECKED ____ DATE APPROVED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS • PLANNERS • SURVEYORS 3455 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 SALTO. 401-5020 WASH. 621-4690	WILSON KRAMER USARC SAMPLING LOCATIONS	
		SCALE: NA	CONTRACT NO.: DACA31-95-D-0106 DATE: 11/5/96 SHEET:

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-1

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:24 PM
Location	: Beth 1	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	84	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	420	ug/kg	70	8270B
Benzo(a)pyrene	360	ug/kg	70	8270B
Fluorene	140	ug/kg	100	8270B
Naphthalene	N.D.	ug/kg	100	8270B
Phenanthrene	880	ug/kg	100	8270B
Benzo(a)anthracene	500	ug/kg	Dry Weight	
Benzo(a)pyrene	430	ug/kg	Dry Weight	
Fluorene	170	ug/kg	Dry Weight	
Naphthalene	< 120	ug/kg	Dry Weight	
Phenanthrene	1000	ug/kg	Dry Weight	

N.D. - Not Detected

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-1

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT		
GAS CHROMATOGRAPH MASS SPEC.			
BASE NEUTRAL COMPOUNDS			
2-Fluorobiphenyl	68	% Recovery	Surrogate
Nitrobenzene-d5	58	% Recovery	Surrogate
Terphenyl-d14	100	% Recovery	Surrogate
WATER QUALITY			
Total Solids	87	%	Duplicate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	21:05
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-2

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:26 PM
Location	: Beth 2	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	83	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	430	ug/kg	70	8270B
Benzo(a)pyrene	390	ug/kg	70	8270B
Fluorene	N.D.	ug/kg	100	8270B
Naphthalene	N.D.	ug/kg	100	8270B
Phenanthrene	160	ug/kg	100	8270B
Benzo(a)anthracene	520	ug/kg	Dry Weight	
Benzo(a)pyrene	470	ug/kg	Dry Weight	
Fluorene	< 120	ug/kg	Dry Weight	
Naphthalene	< 120	ug/kg	Dry Weight	
Phenanthrene	190	ug/kg	Dry Weight	

N.D. - Not Detected

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-2

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT	
GAS CHROMATOGRAPH MASS SPEC.		
BASE NEUTRAL COMPOUNDS		
2-Fluorobiphenyl	85	% Recovery Surrogate
Nitrobenzene-d5	78	% Recovery Surrogate
Terphenyl-d14	99	% Recovery Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	21:32
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-3

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:28 PM
Location	: Beth 3	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	83	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	370	ug/kg	70	8270B
Benzo(a)pyrene	320	ug/kg	70	8270B
Fluorene	180	ug/kg	100	8270B
Naphthalene	110	ug/kg	100	8270B
Phenanthrene	740	ug/kg	100	8270B
Benzo(a)anthracene	450	ug/kg	Dry Weight	
Benzo(a)pyrene	390	ug/kg	Dry Weight	
Fluorene	220	ug/kg	Dry Weight	
Naphthalene	130	ug/kg	Dry Weight	
Phenanthrene	890	ug/kg	Dry Weight	

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 89579-3

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT	
GAS CHROMATOGRAPH MASS SPEC.		
BASE NEUTRAL COMPOUNDS		
2-Fluorobiphenyl	83	% Recovery Surrogate
Nitrobenzene-d5	72	% Recovery Surrogate
Terphenyl-d14	99	% Recovery Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	21:59
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

34 Dogwood Lane • Middletown, PA 17057
Philadelphia • (610) 640-1323 (717) 944-5541 • FAX (717) 944-1430 Maryland • (410) 244-8889

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-4

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:30 PM
Location	: Beth 4	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	80	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	N.D.	ug/kg	70	8270B
Benzo(a)pyrene	N.D.	ug/kg	70	8270B
Fluorene	N.D.	ug/kg	100	8270B
Naphthalene	N.D.	ug/kg	100	8270B
Phenanthrene	N.D.	ug/kg	100	8270B
Benzo(a)anthracene	< 88	ug/kg	Dry Weight	
Benzo(a)pyrene	< 88	ug/kg	Dry Weight	
Fluorene	< 130	ug/kg	Dry Weight	
Naphthalene	< 130	ug/kg	Dry Weight	
Phenanthrene	< 130	ug/kg	Dry Weight	

N.D. - Not Detected

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Page # 2
Sample # 89579-4

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

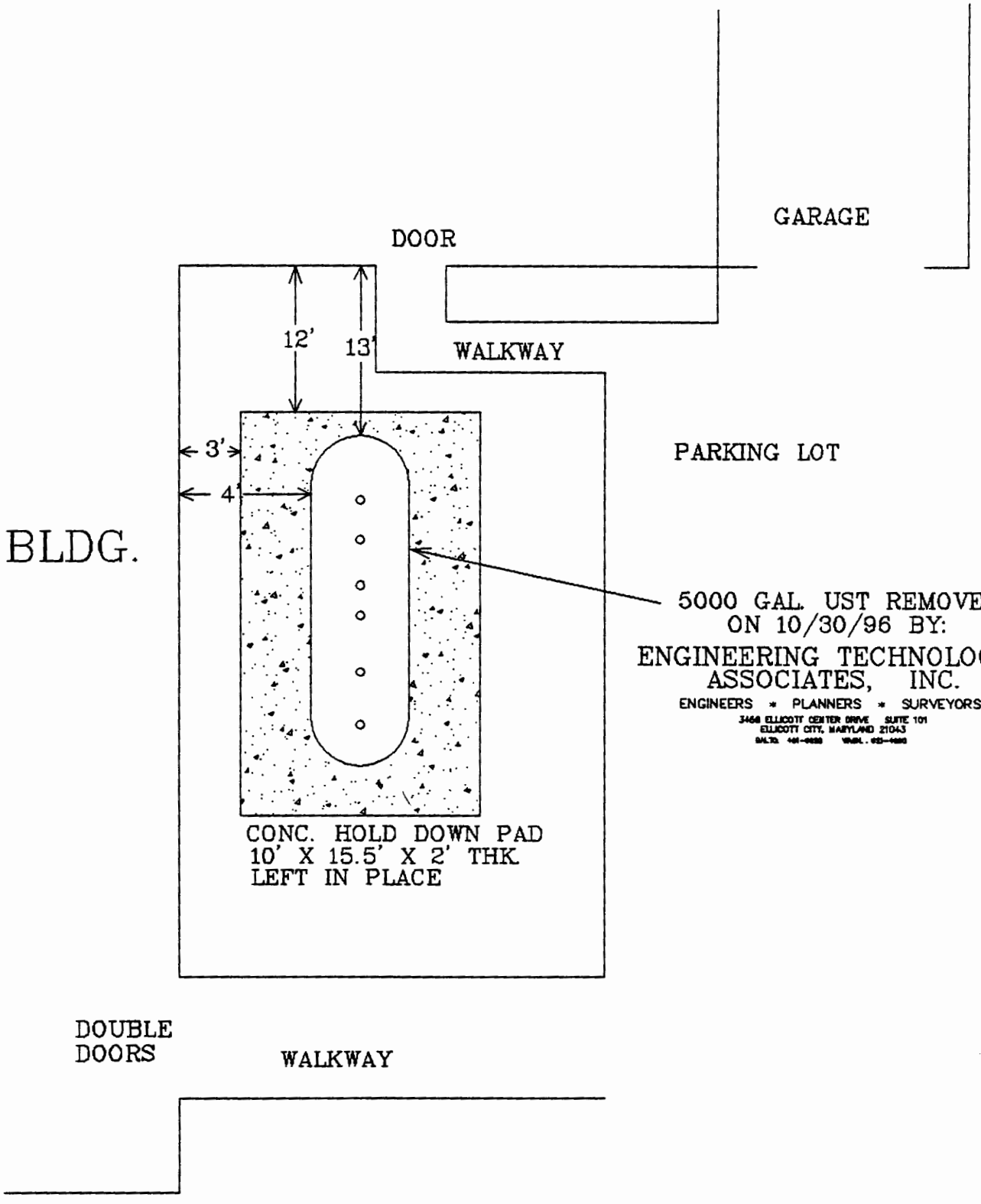
Q/A PARAMETER	RESULT	
GAS CHROMATOGRAPH MASS SPEC.		
BASE NEUTRAL COMPOUNDS		
2-Fluorobiphenyl	75	% Recovery Surrogate
Nitrobenzene-d5	68	% Recovery Surrogate
Terphenyl-d14	101	% Recovery Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	22:26
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

APPENDIX D



DESIGNED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC.	WILSON KRAMER USARC AS BUILT DRAWING	
DRAWN R.G. 11/5/96 DATE	ENGINEERS * PLANNERS * SURVEYORS		
CHECKED ____ DATE	3468 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043		
APPROVED ____ DATE		SCALE: NA	CONTRACT NO.: DACA41-96-D-0106 DATE: 11/5/96 SHEET:

APPENDIX E

ENGINEERING TECHNOLOGIES ASSOC., INC.
UST CLOSURE REPORT FORM

Prepared by:	Robert Gribbon	Date:	11/5/96
Owner Name	Facility Egr. Ft. Indiantown	Facility Name	Wilson Kramer USARC
Address	1119 Utility Rd. Annville, PA	Address	2940 Airport Rd. Bethlehem, PA 18017
Contact Person	Mr. Jim Troese	Contact Person	Mr. Berk
Telephone No.	(717) 782-3750	Telephone No.	(610) 974-8209
ID No.		ID No.	

Description of UST

Tank No.	1						
Contents	#2 F/O						
Capacity (gal.)	5000						
Material (steel, etc.)	Steel						
Contents volume (gal.	1,670						
Installation Year	1975						

Closure Method

Removal	✓						
Abandon in Place							

Samples

# tank content sample	0						
# pit soil samples	3						
# stockpile soil sampl	1						
#wash water samples	—						
# groundwater sample	—						

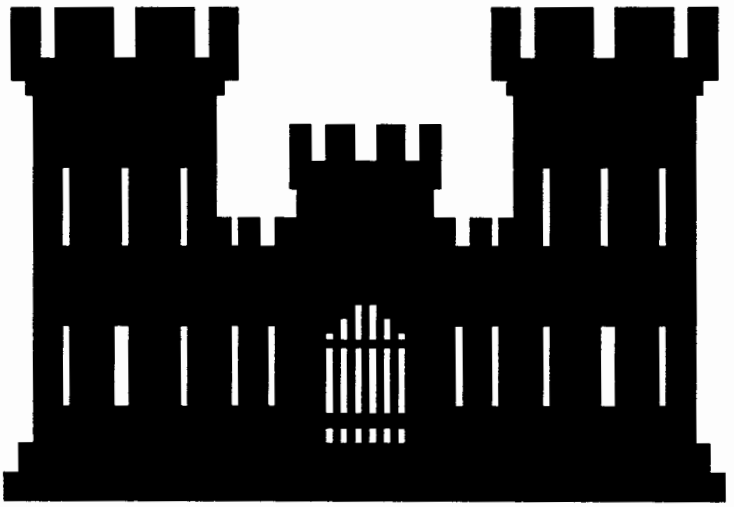
Contamination Information

Depth to groundwater (feet) —
Groundwater contamination (Y?N) No
Soil contamination quantity (cy) 0
Describe excavated soil (sandy, clay, etc.) Clay, clean
Other pertinent information:

Remediation Actions

Soil Transportation (by whom) —
Soil disposal (operator & location) —
Soil Treatment (where/method) —
Groundwater treatment method —
Effluent discharge location —
Monitoring wells (Qty., depth & diameter) —
Wash water Transportation (by whom) —
Wash water disposal (operator & location) —
Wash water treatment method —
Tank contents transportation (by whom) Hazleton Oil
Tank contents disposal (operator& Location) Lancaster Oil - Lancaster, PA
Tank content Recycling (operator & Location) Lancaster Oil - Lancaster, PA

DEPARTMENT OF THE ARMY
HEADQUARTERS, 416TH ENGINEER COMMAND
FACILITIES ENGINEER GROUP
10 S.100 SOUTH FRONTAGE ROAD
DARIEN, IL 60561-1780



ENGINEERING AND ENVIRONMENTAL FACILITY ASSESSMENT

For

WILSON-KRAMER USAR CENTER AND OMS

Bethlehem, Pennsylvania
Facility I.D. No. PA008
Date of Visit: 02-03 November 1999

416th ENGINEER COMMAND

Wilson-Kramer USAR Center and OMS

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B. FACILITY CONDITION SURVEY

C. REAL PROPERTY MAINTENANCE ACTIVITIES PROJECT DOCUMENTATION

D. ARMS VAULT CERTIFICATION

E. SPACE UTILIZATION

F. FACILITY MOBILIZATION ACTIONS FILE

SECTION 1: EXECUTIVE SUMMARY

1. The Fort Indiantown Gap Facility Engineer Team assessed the Wilson-Kramer USAR Center and OMS on 2-3 November 1999. The facility consists of two buildings: the main administrative building (approximately 26,850 gross square feet) and a two-bay Organizational Maintenance Shop (OMS / approximately 2,524 gross square feet). The main building and OMS were constructed in 1960 and an expansion of the center was completed 1975. Both buildings are constructed of brick veneer and moderate-slope roofs with ballasted, single ply EPDM roofing installed in 1992/1994. The OMS still has the original built-up roof. The buildings are fully utilized along with the military equipment parking (MEP) although overcrowding was not evident. The surrounding area is developed property. The Lehigh Valley International Airport is directly across the highway, the State Police Barracks adjoins on the south side, and commercial/light industry is located on the North and East sides. The entire complex comprises of approximately five acres. The 744th Military Police Battalion and the 130th Chemical Company occupy the facility. The overall condition of the facility is good. In general the areas observed were clean and well maintained, with some minor house cleaning efforts required in the supply rooms and OMS.

2. This E2FA identified 18 new RPMA projects to include replacement of the OMS roof and sealing/striping the POV parking areas. Eleven items have been identified for the facility management specialist for accomplishment through small purchases with the use of the IMPAC program or as self-help projects. Areas of major concern revolve around the lack of emphasis on facility maintenance for the more sophisticated systems in the building– electrical/mechanical/roofing. We are further concerned that the RSC has approved work requests to replace the HVAC system and the roofs on these buildings. Information on these work requests that relate to the age of the HVAC and Roofing systems is not accurate. The DA Form 4283's are not reflective of the actual conditions or requirements and may have been inadvertently submitted for the wrong facility. Components of the HVAC and roof (newer installation) are still under manufacture's warranty. Consequently, we recommend that two existing work requests for the replacement of the roofs and HVAC systems be dropped at this time and that an effort be made to perform routine maintenance and repairs and to pursue warranty support where applicable.

2.a. We have prepared a separate description of work requirements for the replacement of the OMS roof as part of this E2FA as well as detailed descriptions of maintenance and repairs to the EPDM membranes of the center roof.

2.b. Like the roofing systems, we recommend the replacement of the HVAC system also be dropped. Maintenance issues associated with the HVAC system and controls for the USAR Center building and the OMS can be resolved through maintenance and repair. There is far more evidence of inadequate maintenance on the HVAC systems than system failure due to poor design, construction or failure due to age. Reports of fin tube radiation sweating during the summer months, as well as water stains at this type of heating only unit, indicate that the conversion from heating to AC failed to shut down the building zones that are not air-conditioned. Filters throughout the center require changing, part of the controls system on the make-up air unit in the OMS is non-operative, and it is questionable if the unoccupied setbacks were working on the center system. This does not appear to be a one-time situation, as was

pointed out in the 1996 TFA that due to poor maintenance or no maintenance at all, the AC system was subject to severe damage in the winter of 1996 when the interface between water and refrigerant [shell and tube exchanger and chilled water piping] was damaged possibly as a direct result of improper changeover from summer to winter.

2.c. Over the life of the center the electrical system has been modified for numerous reasons (from the construction of the new section, to new lighting installation in part of the original center, to miscellaneous installations of exit lights, receptacles, HVAC system, etc.). Drawings have not been updated, some electrical switches no longer seem to control anything, ground fault interrupt circuits (GFIC) are installed in wet areas, and circuit breaker labeling is missing, non-legible and /or inaccurate. NEC changes have outpaced repairs and automation and new equipment is overloading some circuits. Consequently, as in the FY96 TFA, we are recommending that an NEC/Electrical Study be conducted and recommendations be made on repairs, and that NEC violations and upgrades be identified.

2.d. These systems represent the most costly to properly operate and maintain, and in most cases represent the areas that provide the most technically challenging maintenance problems, but are also critical to a quality work environment – recruitment, health and safety, retention and overall attitude of fulltime and reserve personnel.

3. The E2FA identified two Class I Regulatory findings, no Class II Regulatory, seven Class III management findings, and four negative Health and Safety finding. Suspected asbestos containing material was identified (re. ECAS photo 1 and RPMA Enclosure C). Significant findings included missing documentation concerning rifle range lead abatement clean-up, sub-surface conditions/test results at the time of the UST removal, oil/water separator system last service date, no asbestos management plan available for review, and no Hazardous Waste Plan in effect. Troops were unaware of what procedures to follow for disposal of hazardous waste or materials. A radon survey was performed in 1996; however, no records indicate that a secondary test was performed.

4. The condition of the Arms Room was determined to be satisfactory with no changes or upgrades necessary. A new DA Form 4604-R Security Construction Statement was issued for the storage of Category II arms at the facility.

5. 5. A Facility Condition Survey for both the main Center and the OMS was completed. The information has been forwarded directly via e-mail to LTC Gary Jackson, USARC-DCSENG. See Enclosure B.

James L. Hugar
LTC, EN, USAR
Team Leader

SECTION 2: FACILITY IDENTIFICATION

INSTALLATION NAME: **Wilson-Kramer USAR Center and OMS**
INSTALLATION NUMBER: **PA008**
STREET ADDRESS: **2940 Airport Road**
CITY/TOWN: **Bethlehem**
STATE: **PA**
ZIP CODE: **18017-2166**
RSC/RSG: **99th RSC, HQs Oakdale, PA 15071-5001**
FACILITY TYPE:

A. USARC:	X	B. AFRC:	___	C. OMS:	X	D. FLIGHT:	___
E. DS/GS:	___	F. MED:	___	G. WET:	___	H. FLIGHT:	___
I. ECS:	___	J. CTF:	___	K. OTHER:			

ASSESSMENT PERFORMED BY: **Fort Indiantown Gap Facility Engineer Team**
FACILITY ENGINEER TEAM INCLUDED:

LTC Jim Hugar

1LT Eric Burkholder

SFC Joseph Baran

REFER TO FOR INFORMATION:

LTC James L Hugar
Work: (717) 770-5582 DSN 977-5582 email: jhugar@usapc-emh1.army.mil
Home: (717) 866-2792

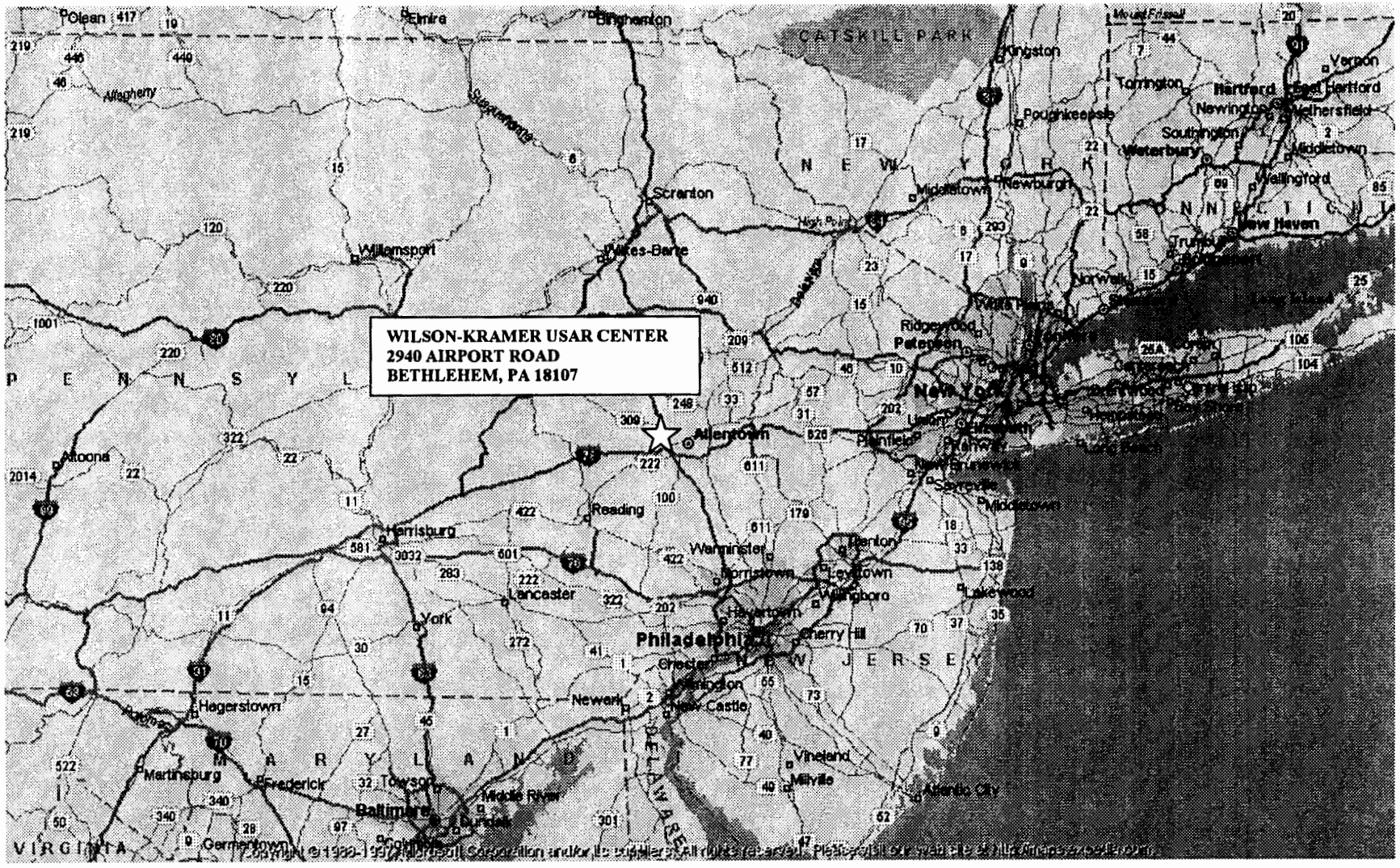
PERSONNEL CONTACTED ON SITE:

NAME/GRADE	DUTY POSITION	PHONE NUMBER
Mr. Joseph A. Burke	**Facility Coordinator**	**(610) 574-8207**

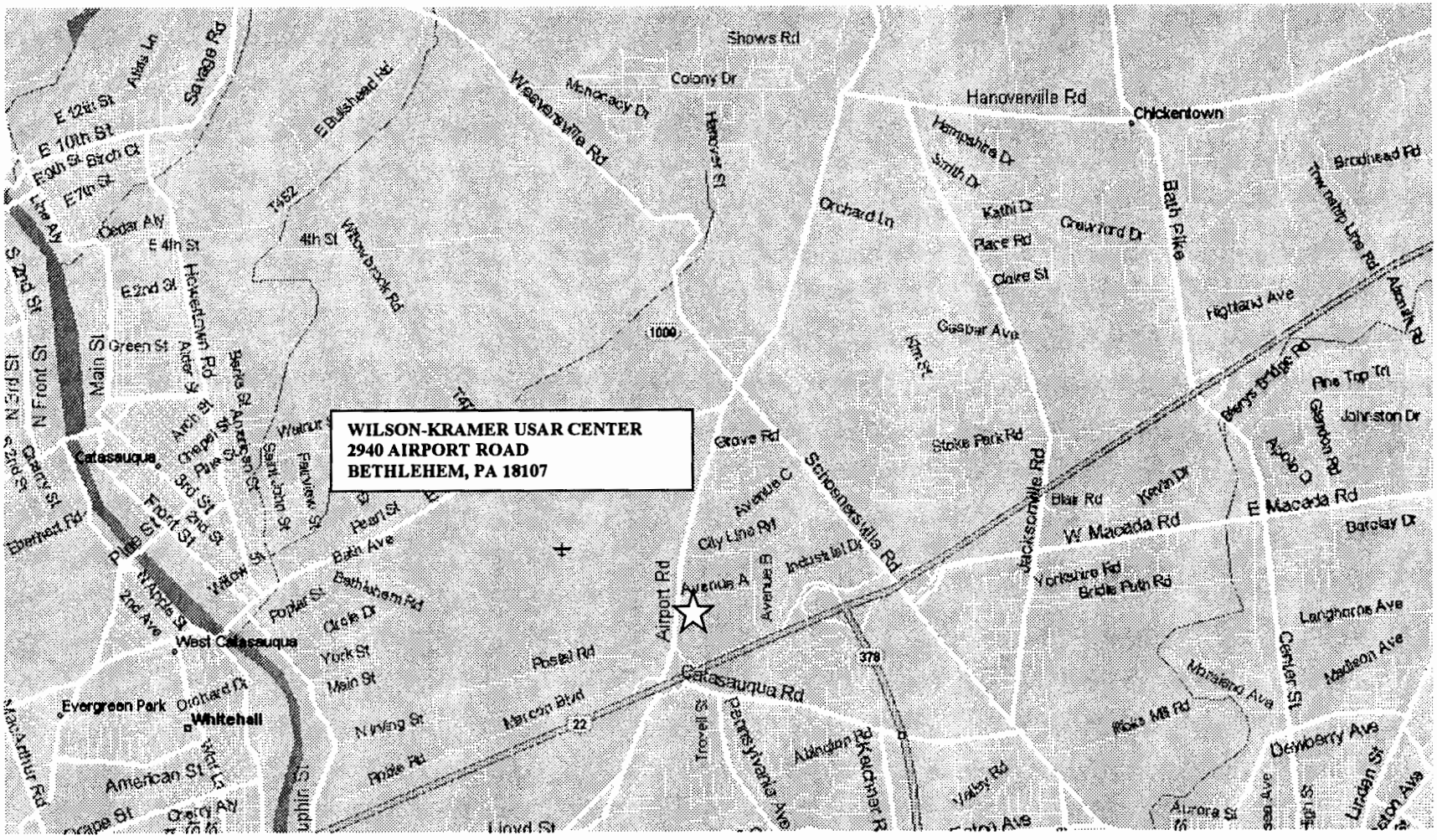
ASSESSMENT CONDUCTED FROM: **02 Nov 1999/0900** TO: **03 Nov 1999/1530**
DATE OF LAST ASSESSMENT: **24 October 1996 (Facility TFA)**

SECTION 4: GRAPHICAL DATA

SECTION 4.A - VICINITY MAP

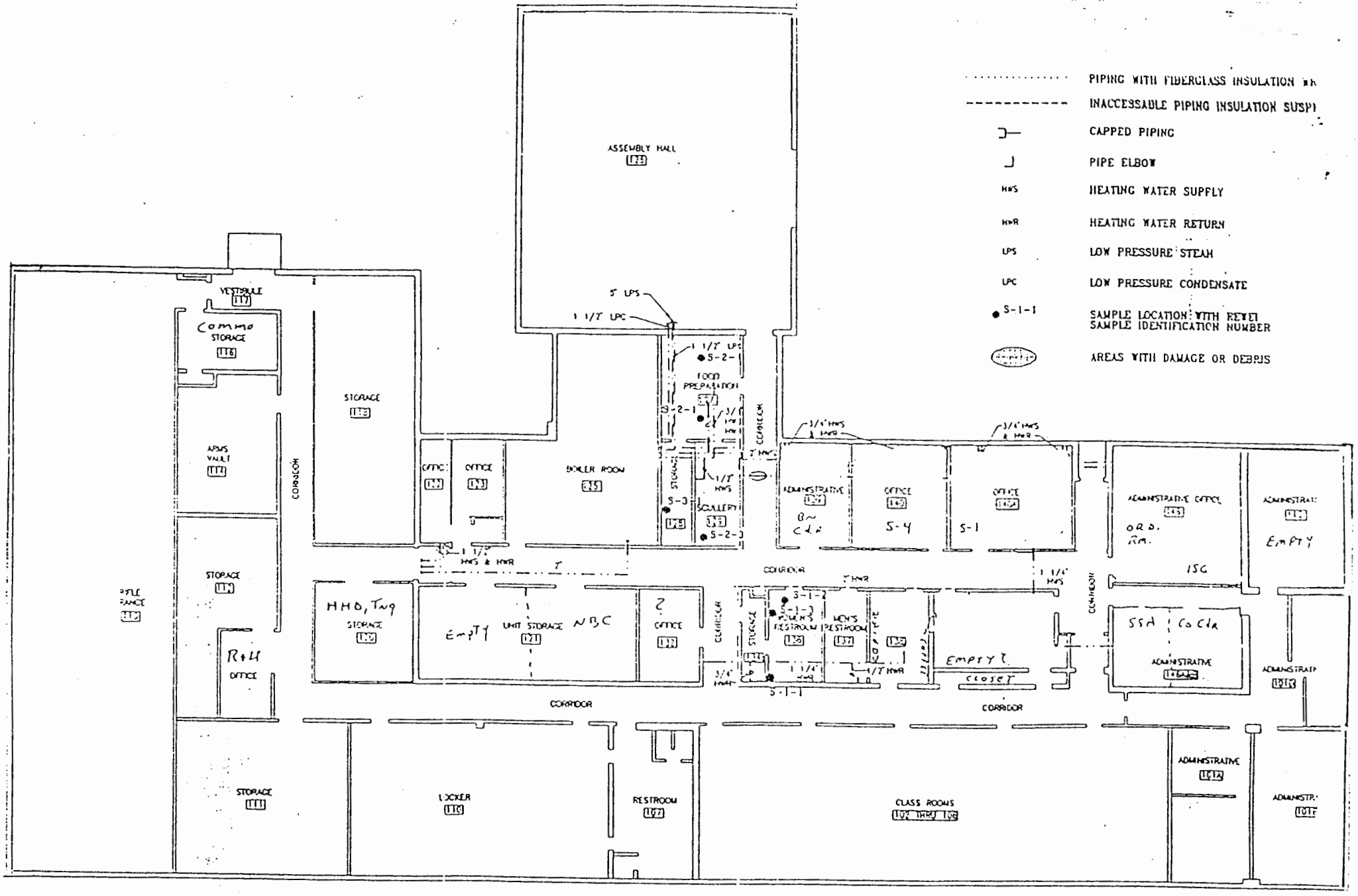


SECTION 4.B - LOCATION MAP



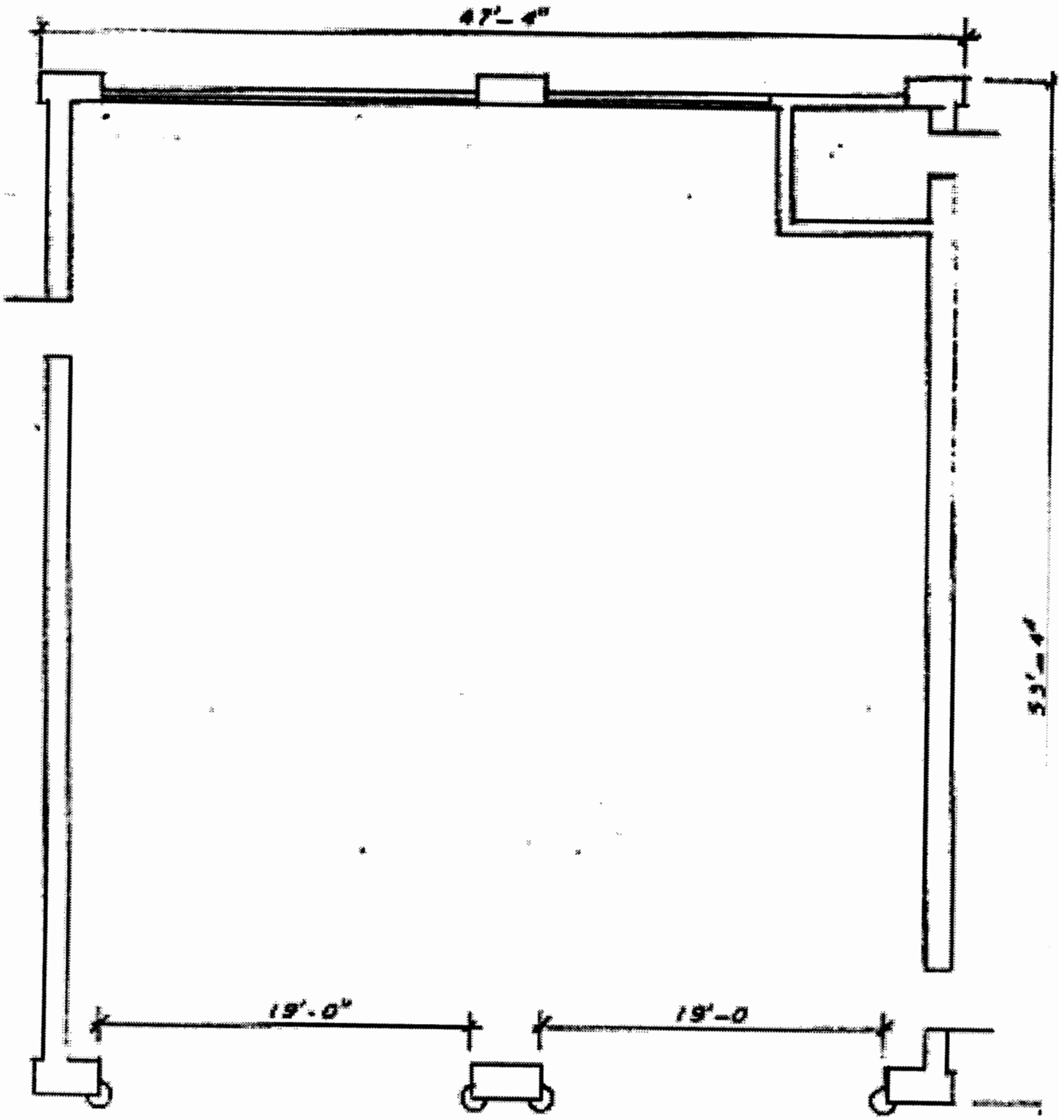
SECTION 4.C - SITE MAP

SECTION 4.D - BUILDING FLOOR PLAN



MAIN BUILDING FLOOR PLAN

SECTION 4.E - AMSA FLOOR PLAN



MAINTENANCE BLDG. FLOOR PLAN

N.T.S.

BETHLEHEM - OMS

SECTION 5: PHOTOGRAPHS

SECTION 5.A - EXTERIOR PHOTOGRAPHS

Photo 1: Front (West side) of the Wilson Kramer Memorial Reserve Center as seen from the entrance to the POV/MEP Parking Area (on right side).

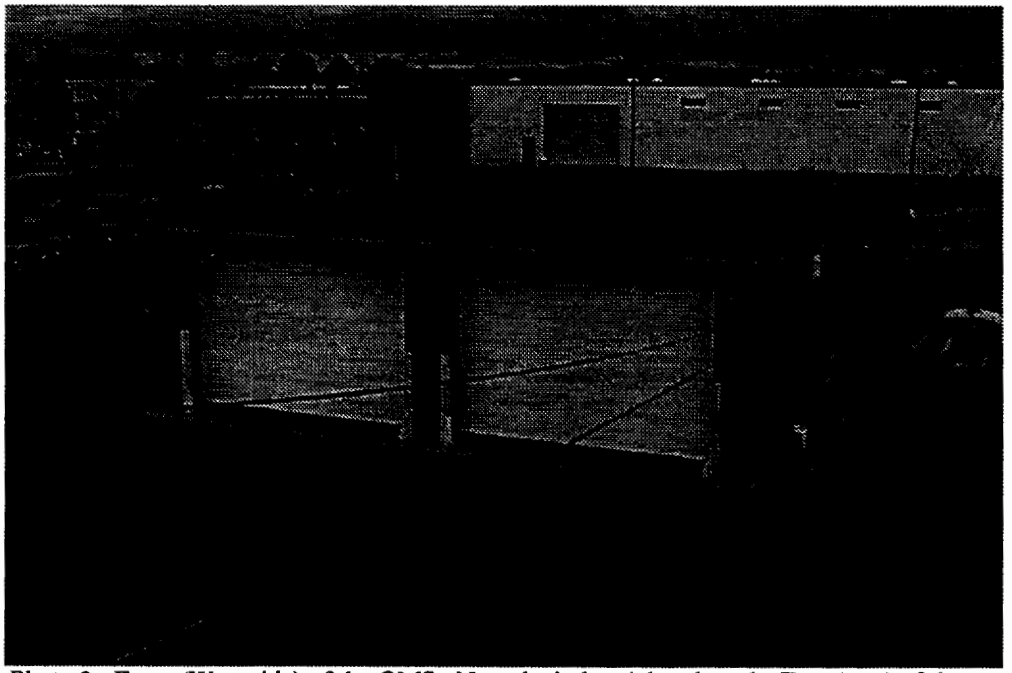
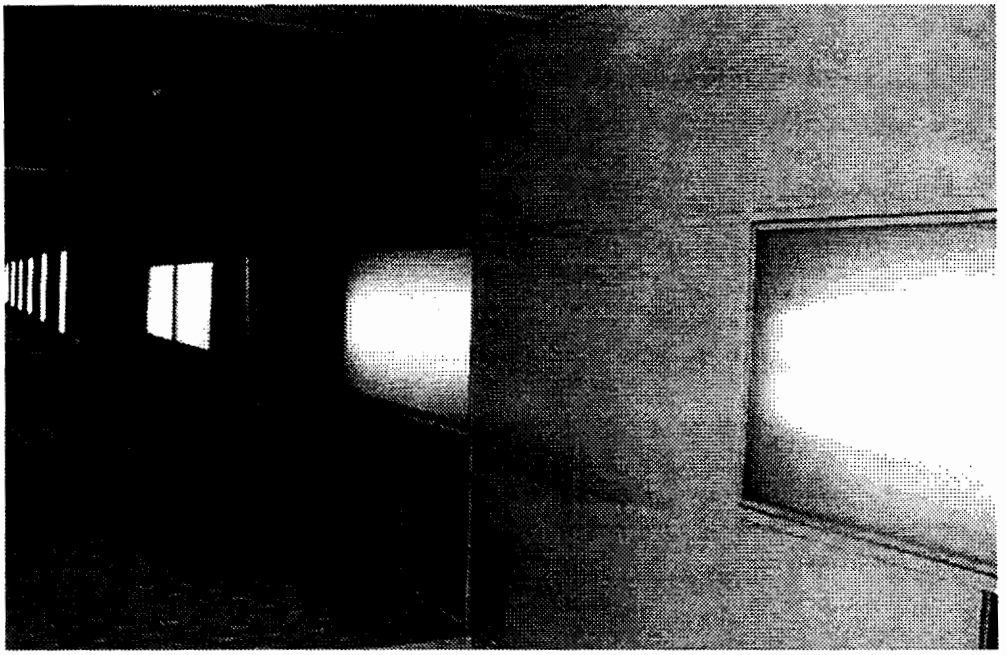


Photo 2: Front (West side) of the OMS. Note the industrial park to the East (rear) of the shop.

Photo 3: View of the East side (rear) of the Administrative building and POV lot.

SECTION 5.B - INTERIOR PHOTOGRAPHS

Interior Photo 1: Main corridor of the originally constructed administration building (View from left of page).



USAR FACILITY
ENVIRONMENTAL COMPLIANCE ASSESSMENT

for the

WILSON-KRAMER USARC FACILITY
PA008

Bethlehem, PA

Prepared by the

416TH ENCOM FE TDA

FT. MEADE, MD: ESG-E

Fort Indiantown Gap FET

Performed on

2,3 NOV 1999

416th ENGINEER COMMAND
USAR FACILITY
TOTAL FACILITY ASSESSMENT

ENVIRONMENTAL COMPLIANCE ASSESSMENT

TABLE OF CONTENTS

SECTION	DESCRIPTION
1.	EXECUTIVE SUMMARY
2.	FACILITY IDENTIFICATION
3.	INSTALLATION / ASSESSMENT
4.	SUMMARY OF FINDINGS
5.	FINDING SHEETS

SECTION 1: EXECUTIVE SUMMARY

1. As part of the Total Facility Assessment (TFA) at the USAR facility, an environmental compliance assessment was conducted. The Wilson-Kramer USAR Center is located in close proximity to the Bethlehem Airport and sits beside the State Police Barracks along Delaware Avenue in Bethlehem, PA. PA008 USARC consists of 2 buildings, the main building or reserve center and the OMS. The OMS and military vehicle parking lot are within a closed perimeter consisting of a continuous seven feet high chain link fence. The surrounding area consists of a busy intersection and major highway with constant air traffic overhead.

2. The TFA identified two Class I Regulatory findings, no Class II Regulatory, seven Class III management findings, and four negative Health and Safety finding.

Finding Category	Finding ID	Law/Reg	Finding Summary
03	A.4.1.R	AR200-1	No documentation on-site for Range closure.
03	HW.1.2	OSHA	Hazardous Waste Plan needs improved.
03	HW.1.4.R	AR200-1	Annual HW inventory needs established.
HS	HM.1.2	CFR	No MSDS sheets for any substance.
HS	HM.35.9	CFR	Poor housekeeping/Improper storage of flammables.
01	HM.3.2	CFR	Inventory control for planning needs developed.
03	PO.5.2.R	AR200-1	Current SPCC Plan not available.
01	ST.95.3	CFR	UST removal documentation not available.
03	WA25.2	CFR	Oil/Water Separators not serviced regularly.
03	WQ.3.1	EO/USC	Backflow preventors not installed on all faucets.
HS	T2.1.4.R	AR200-1	No asbestos management plan.
03	T3.1.12.R	AR200-1	Radon survey outdated and not complete.
HS	HM.10.1	CFR	Hazardous communication prgrm needs established.

3. Significant findings are summarized in the comments below.

- No documentation on-site for the rifle range lead abatement clean-up. A lead testing company visited PA008 on 3Nov99 to collect samples from the rifle range. This company was contracted from the Huntsville COE. Also, there were no records to prove closure of the range that was previously in the assembly area.

SECTION 1: EXECUTIVE SUMMARY (CONT)

- The Oil/Water separator system has not been serviced since approximately 1997. No documentation available to prove that the system was unclogged by Safety Klean.
- A UST had been removed at PA008. The inspection team did not find records to document the subsurface conditions at the time of these removals.
- Suspected asbestos containing material was identified (re. ECAS photo 1). No asbestos management plan was available for review.
- No Hazardous Waste Plan is in effect. Troops do not know what procedures to follow for disposal.
- A radon survey was performed in 1996; however, no records indicate that a secondary test was performed (boiler room). Ecosphere Corp installed Radon Away system in room 101(b).

4. The Facility Coordinator was extremely frustrated with what he perceived as the lack of support his reserve center receives. He expressed his concerns about the lack of funds for general maintenance, yet, was dismayed to learn that his facility would be updating the men's and women's latrines for ADA purposes. Upon review of his comments to see if they were warranted in the environmental area, I compared the ECAS portions of the 1992, 1996, and this report's findings. Regrettably, Mr. Burke's honesty has much merit. The following is a quote from a 1992 ECAS report. "A library of applicable laws and regulations should be established at the facility, and additional support and assistance is required from the supporting installation in training, permits, hazardous waste/material, DRMO contract support, SPCC planning, and in environmental projects programming (1383 reports). Sufficient environmental support coordination is not being provided at the facility." Eight years later, this quote appears to still apply in many areas. Despite efforts to keep the Facility Coordinators informed on environmental matters, this may be an area of concern. As we advance through the third round of ECAS, we will try to pinpoint specific areas that may relate to this. We will also try to maximize our support where ever possible.

5. The TFA inspection team contacted Sgt Doanne (Unit motor sergeant) via fax, and answered many of his questions about the disposal of hazardous waste.

James L. Huga
LTC, EN, USAR
FIG FET, Team Leader

SECTION 2: FACILITY IDENTIFICATION

FACILITY IDENTIFICATION
INSTALLATION NAME: Wilson-Kramer USAR Center and OMS
INSTALLATION NUMBER: PA008
STREET ADDRESS: 2940 Airport Road
CITY/TOWN: Bethlehem
STATE: PA
ZIP CODE: 18017-2166
RSC/RSG: 99th RSC, HQs Oakdale, PA 15071-5001
FACILITY TYPE:

A.	USARC:	X	B.	AFRC:	___	C.	OMS:	X	D.	FLIGHT:	___
E.	DS/GS:	___	F.	MED:	___	G.	WET:	___	H.	FLIGHT:	___
I.	ECS:	___	J.	CTF:	___	K.	OTHER:				

ASSESSMENT PERFORMED BY: Fort Indiantown Gap Facility Engineer Team
FACILITY ENGINEER TEAM INCLUDED:
LTC Jim Hugar

1LT Eric Burkholder

SFC Joseph Baran

REFER TO FOR INFORMATION:
LTC James L Hugar
Work: (717) 770-5582 DSN 977-5582 email: jhugar@usapc-emh1.army.mil
Home: (717) 866-2792

PERSONNEL CONTACTED ON SITE:

NAME/GRADE	DUTY POSITION	PHONE NUMBER
Mr. Joseph A. Burke	Facility Coordinator	(610) 574-8207

ASSESSMENT CONDUCTED FROM: 02 Nov 1999/0900 TO: 03 Nov 1999/1530
DATE OF LAST ASSESSMENT: 24 October 1996

SECTION 3: INSTALLATION / ASSESSMENT

INSTALLATION SCREEN

*FFID: PA-2104PA008
*Installation Name: WILSON-KRAMER USARC
Installation Category: R
MACOM: USARC

MUSARC:
BASOPS ARCOM: 99TH
Support Installation: FORT INDIANTOWN GAP
Facility / Activity Type: 1) RM 2) OM 3) 4) 5)

EPA Region: 3
Congressional District:
Address: 2940 AIRPORT ROAD

City: BETHLEHEM
State: PA
Country: USA
Zip Code: 18017-0216

ASSESSMENT SCREEN

*Fiscal Year: 2000 *Assessment Date (MM/DD/YYYY): 11/02/1999
*Assessment Type: E
*Manual Used: T

Manual Supplement Used: S

Local Manual (OCONUS: MACOM Specific Manual)
Date (MM/YYYY): /
Author:
Title:

State Manual (OCONUS: Country Specific Manual)
Date (MM/YYYY): 05/1997
Author: CAROLYN O'ROURKE
State Postal Code or Country Code: PA

*Assessor Name: 1LT ERIC BURKHOLDER
Point of Contact: LTC JAMES HUGAR

Address: BLDG 4-96, FT INDIANTOWN GAP

City: ANNVILLE
State: PA
Zip Code: 17003-5029
Phone: (717)861-2384

For Contract ECAS

Contract Number:
Delivery Order Number:
Contracting Office:

SECTION 4: SUMMARY OF FINDINGS

TABLE 1-1

SUMMARY OF FINDINGS

INSTALLATION: WILSON-KRAMER USARC Fiscal Year: 2000
FFID: PA-2104PA008

SECTION NO.	TITLE	REGULATORY I	REGULATORY II	REGULATORY HS	MANAGEMENT POS	MANAGEMENT III	MANAGEMENT HS	TOTAL
A	Air Emissions	0	0	0	0	1	0	1
C	Cultural Resources	0	0	0	0	0	0	0
HM	Hazardous Materials	1	0	2	0	0	1	4
HW	Hazardous Waste	0	0	0	0	2	0	2
NR	Natural Resource	0	0	0	0	0	0	0
O1	Environmental Impacts	0	0	0	0	0	0	0
O2	Environmental Noise	0	0	0	0	0	0	0
O3	IRP	0	0	0	0	0	0	0
O4	Pollution Prevention	0	0	0	0	0	0	0
O5	Program Management	0	0	0	0	0	0	0
PM	Pesticide	0	0	0	0	0	0	0
PO	POL	0	0	0	0	1	0	1
SO	Solid Waste	0	0	0	0	0	0	0
ST	Storage Tanks	1	0	0	0	0	0	1
T1	PCB	0	0	0	0	0	0	0
T2	Asbestos	0	0	1	0	0	0	1
T3	Radon	0	0	0	0	1	0	1
T4	Lead Based Paint	0	0	0	0	0	0	0
WA	Wastewater	0	0	0	0	1	0	1
WQ	Water Quality	0	0	0	0	1	0	1
	TOTALS	2	0	3	0	7	1	13

Data File Name Prefix: C:\ECAS\PA008
Date Summary Report Produced: 02/02/0

SECTION 5: FINDING SHEETS

INSTALLATION NAME: Wilson-Kramer USARC Facility

INSTALLATION NUMBER: PA008 DATE: 2,3 Nov 1999

A.4.1.R #1 III FEDERAL FINDING Air Emissions

FINDING ID: A1-001
MANUAL QUESTION NUMBER: A-004-001-R
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: MAIN BLDG AND ASSEMBLY AREA
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: NO DOCUMENTATION WAS FOUND ON-SITE FOR ANY PREVIOUS RANGE CLEAN-UP AND/OR CLOSURES. 3NOV99, A LEAD-TESTING COMPANY COLLECTED SAMPLES TO RECONFIRM THAT THE RANGE MEETS ACCEPTABLE LEAD LEVELS. THIS FIRM WAS CONTRACTED THROUGH THE HUNTSVILLE COE.

CRITERIA: Lead exposure for personnel should be within specific limits (MP).

FINDING COMMENTS:

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): CST-1 HAS THE CLOSURE DOCUMENTATION FOR THIS FACILITY; HOWEVER, THE FACILITY NEEDS A COPY FOR THEIR RECORDS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.30.2 #1 I FEDERAL FINDING Hazardous Materials

FINDING ID: HM-002
MANUAL QUESTION NUMBER: HM-030-002
FINDING CATEGORY: CLASS I
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: MAIN BLDG AND OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: HAZARDOUS CHEMICALS UNDER OSHA ARE REQUIRED TO MEET SPECIFIC MSDS REPORTING REQUIREMENTS FOR PLANNING PURPOSES. FURTHER INVESTIGATION IS NEEDED TO VALIDATE IF SARA III, TIER I/II REQUIREMENTS ARE MEET.

CRITERIA: Installations/CW facilities, that are required to prepare or have available a MSDS sheet for a hazardous chemical under OSHA, are required to meet specific inventory reporting requirements for planning purposes (EO 12856; 40 CFR 370.20, 370.25, and 370.28).

FINDING COMMENTS: REQUIRE AN INVENTORY OF ALL HAZARDOUS CHEMICALS ON HAND. THIS DEFICIENCY HAS BEEN IDENTIFIED IN PREVIOUS VISITS AND NOTED ON ECAS REPORTS.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): PERFORM AN INVENTORY OF ALL HAZARDOUS CHEMICAL ON HAND, HAVE QUANTITY AND STORAGE LOCATIONS IDENTIFIED, OBTAIN THE MSDS FORMS, PROVIDE INFO TO COPY TO LOCAL EMERGENCY SUPPORT GROUP SUCH AS FIRE DEPT, EMS, ETC...

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.1.2 #1 HS FEDERAL FINDING Hazardous Materials

FINDING ID: HM-001
MANUAL QUESTION NUMBER: HM-001-002
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: MAIN BLDG AND OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: THE USARC DOES NOT HAVE ON FILE THE REQUIRED MSDS FOR EACH HAZARDOUS CHEMICAL USED OR STORED.

CRITERIA: Installations/CW facilities are required to have on file an MSDS for each hazardous chemical stored and used at the installation/CW facility (29 CFR 1910.1200(b)(3)(ii), 1910.1200(b)(4)(ii), 1910.1200(b)(6), 1910.1200(g)(1), and 1910.1200(g)(8)).

FINDING COMMENTS: NO MSDS ON-SITE. MOTOR SGT IN PROCESS OF ESTABLISHING FILE.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): ESTABLISH A CONTROL INVENTORY FILE ON HAZARDOUS CHEMICAL BEING USED OR STORED. UNIT IS AWARE OF DEFICIENCY AS THE MOTOR SGT IS IN THE PROCESS OF OBTAINING AN INCOMPLETE/MISSING MSDS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.10.1 #1 HS FEDERAL FINDING Hazardous Materials

FINDING ID: HM-004
MANUAL QUESTION NUMBER: HM-010-001
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: USARC AND OMS FACILITY
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: THE OMS DID NOT HAVE A FORMAL WRITTEN HAZARDOUS COMMUNICATION PROGRAM.

CRITERIA: Installations/CW facilities are required to have a written hazard communication program that is designed to provide all employees with information about the hazardous chemicals to which they are exposed (29 CFR 1910.1200(b)(1) and 1910.1200(e)(1)) [February 1995].

FINDING COMMENTS: PREVIOUS ECAS REPORTS HAVE DOCUMENTED THIS DEFICIENCY. COORDINATION NEEDS TO BE ESTABLISHED BETWEEN THE USARC'S AND THEIR SUPPORT HEADQUARTERS TO KEEP DOCUMENTATION ON-SITE.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE CST / 99TH RSC SHOULD DEVELOP A WRITTEN HAZARDOUS COMMUNICATION PROGRAM FOR THIS FACILITY.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.35.9 #1 HS FEDERAL FINDING Hazardous Materials

FINDING ID: HM-003
MANUAL QUESTION NUMBER: HM-035-009
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: ROOMS 111 & 112 OF MAIN BLDG
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: VARIOUS FLAMMABLE CHEMICALS WERE STORED IN A LOCKED OFFICE (ROOMS 111 & 112). SPRAY PAINT CONTAINERS, BLEACH, AND INSECTICIDE SPRAYS WERE MIXED TOGETHER IN A NONAPPROVED AREA.

CRITERIA: Areas where flammable/combustibles are stored must meet certain fire protection standards (29 CFR 1910.106 (d)(7)) [April 1995].

FINDING COMMENTS:

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): SEPARATE CHEMICALS BY INCOMPATIBLES (OXIDIZERS VS FLAMMABLES) AND STORE IN FIRE PROOF CABINETS OR IN APPROPRIATE STORAGE AREAS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HW.1.2 #1 III ARMY/DOD FINDING Hazardous Waste

FINDING ID: HW-001
MANUAL QUESTION NUMBER: HW-001-002
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: USARC
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: A HAZARDOUS WASTE MANAGEMENT PLAN WAS COMPLETED IN SEPT95 AND DOCUMENTED ON OUR PREVIOUS REPORTS; HOWEVER, NO ONE AFFILIATED WITH THE HAZARDOUS WASTE IS AWARE THAT THE PLAN EXISTS NOR DO THEY KNOW WHAT TO DO WITH THE WASTE.

CRITERIA: Specific persons should be designated responsible for areas where hazardous waste is stored for all sizes of generators and TSDFs, and the precise nature of their responsibilities should be specified (MP).

FINDING COMMENTS: NO PROGRAM EXISTED EXCEPT FOR THE PAPER DOCUMENT. EXECUTION OF THE HAZARDOUS WASTE MANAGEMENT PROGRAM NEEDS TO BE PLACED INTO EFFECT. ALSO, TRAINING RECORDS NEED TO BE FILED AND KEPT AT THE FACILITY (HW 25.2, SQG).

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): COMMUNICATION AND SUPERVISON IS NEEDED AT THIS FACILITY TO GET THE HAZARDOUS WASTE PROGRAM INTO EFFECT. FURTHER TRAINING AND SPECIFIC GUIDANCE SHOULD BE GIVEN FOR A PROPER FUNCTIONING OMS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HW.1.4.R #1 III ARMY/DOD FINDING Hazardous Waste

FINDING ID: HW-002
MANUAL QUESTION NUMBER: HW-001-004-R
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: NO EVIDENCE WAS FOUND OF ANNUAL HAZARDOUS WASTE INVENTORIES.

CRITERIA: Each facility will conduct an annual inventory of hazardous waste (AR 200-1, para 6-4c).

FINDING COMMENTS: PREVIOUS DOCUMENTATION SUPPORTS THE FINDING OF INSUFFICIENT ENVIROMENTAL SUPPORT COORDINATION NOT BEING PROVIDED AT THIS FACILITY WHICH INDIRECTLY AFFECTS THE LACK OF KNOWLEDGE ON THE AMOUNT OF HW INVENTORY.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): ADEQUATE SUPPORT IS NOT BEING GIVEN TO THIS USARC. A MANAGEMENT PLAN HAS BEEN ESTABLISHED BUT THE LACK OF AWARENESS, TRAINING, AND SUPERVISION HAS CREATED CONFUSION. ONCE A PROPER DISPOSAL SYSTEM HAS BEEN ESTABLISHED, ANNUAL INVENTORIES OF ALL WASTE MUST BE DONE.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

ST.95.3 #1 I FEDERAL FINDING Storage Tanks

FINDING ID: ST-001
MANUAL QUESTION NUMBER: ST-095-003
FINDING CATEGORY: CLASS I
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: UST LOCATED OUTSIDE FRONT ENTRANCE OF USARC
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: NO CLOSURE, TESTING, OR INSPECTION DOCUMENTATION EXISTS FOR THE REMOVAL OF A UST IN NOV97.

CRITERIA: UST closure must be done according to specific requirements (40 CFR 280.10(c) and 280.71(b)) [March 1995].

FINDING COMMENTS: UST REMOVED, NOV97, NO DOCUMENTATION TO SUPPORT CLOSURE. PERIODIC INTEGRITY TESTING (ST.5.4) SHOULD ALSO HAVE BEEN CONDUCTED ON AN ANNUAL BASIS THAT WOULD SUPPORT THE CLOSING OF THE UST.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE FACILITY MANAGER SHOULD CONTACT CST-1 FOR CLOSURE DOCUMENTATION AND HAVE THE CST SCHEDULE AN INSPECTION AND/OR SAMPLE COLLECTION IF NO CLOSURE REPORT EXISTS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

T2.1.4.R #1 HS ARMY/DOD FINDING Asbestos

FINDING ID: T2-001
MANUAL QUESTION NUMBER: T2-001-004-R
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: ROOM 111, MAIN BLDG
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: NO ASBESTOS MANAGEMENT PLAN ON SITE (T2.2.3.R). TILES IN A STORAGE/SUPPLY ROOM (111) ARE ERODING AND MAY BE PROPAGATING ASBESTOS.

CRITERIA: Facilities are required to prepare, coordinate, and execute an Installation Asbestos Management Plan (AR 200-1, para 10-3).

FINDING COMMENTS: FACILITY MANAGER SHULD ENSURE TO MINIMIZE TROOP MOVEMENT THROUGH ROOM 111 DUE TO THE POSSIBILITY OF ASBESTOS PARTICLES.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): IF FURTHER DAMAGE OCCURS TO TILES IN STORAGE ROOM, ASBESTOS TESTING MAY BE NEEDED TO VALIDATE IF ASBESTOS EXISTS. ASBESTOS HAD BEEN REMOVED IN THE PAST FROM PIPING DURING A PAST HVAC UPGRADE. TILES SHOULD BE MAINTAINED TO AVOID DAMAGE AND COSTLY ASBESTOS INSPECTIONS AND CLEAN-UPS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

T3.1.12.R #1 III ARMY/DOD FINDING Radon

FINDING ID: T3-001
MANUAL QUESTION NUMBER: T3-001-012-R
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: BOILER ROOM / MAIN BLDG
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: DOCUMENTATION EXISTS FOR THE INITIAL RADON TESTING AND RELATIVE LEVELS FOR TESTED AREAS. A SECOND TEST WAS NEEDED IN THE BOILER ROOM BECAUSE OF HIGH RECORDED LEVELS OF RADON. NO RECORDS EXIST TO SHOW THAT A SECOND TEST WAS EVER COMPLETED.

CRITERIA: Facilities are required to perform mitigation of structures as required by measured results (AR 200-1, Table 11-1).

FINDING COMMENTS: COULD NOT FIND DOCUMETATION TO SUPPORT A SECONDARY TEST TO VALIDATE THE LEVELS OBTAINED FROM THE BOILER ROOM FROM THE INITIAL TEST.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE FACILITY MANAGER SHOULD CREATE A WORK ORDER FOR MITIGATION ACTIONS ACCORDING TO THE LEVEL REQUIREMENTS. BOILER ROOM INITIAL MEASUREMENTS DID NOT EXCEED 20PCI/L; HOWEVER, 17PCI/L FOUND IN THE BOILER ROOM DOES FALL INTO A CATEGORY. IF DOCUMENTATION DOES NOT EXIST, VERIFY WITH ECOSPHERE CORPERATION WHOM INSTALLED THE RADONAWAY SYSTEM ON SEPT96 TO DETERMINE IF THEY EVALUATED THE BOILER ROOM FOR THE SECOND TEST.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

WQ.3.1 #1 III STATE FINDING Water Quality

FINDING ID: WQ-001
MANUAL QUESTION NUMBER: WQ-003-001
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: SINK IN OMS.
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: FAUCET IN OMS DID NOT HAVE A VACUUM BREAKER TO PREVENT BACKFLOW.

CRITERIA: Installations/CW facilities are required to comply with state and local water quality regulations (EO 12088, Section 1-1 and 42 USC 300h-7(h)).

FINDING COMMENTS:

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE FACILITY MANAGER SHOULD SUBMIT A WORK ORDER TO INSTALL A VACUUM BREAKER ON THE SINK FAUCET IN THE OMS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960		
PERM	X	SEMI-PERM		TEMP		REHAB		CONVERSION	1975		
INSNO	42805	BLDG_NUM	1	GSF	26,850	NSF	21,119	SITE	4.49AC		
ADD/ALT.	1975							STORY HT	1		

ROOF COMPONENT		Yr_Install	EC	VG	GC	AC	FC	PC
ROOF COVERING	(%)							
ELASTROMERIC (EPDM)	100	1995		X				
BUILT-UP (MULTI-PLY)								
BALLAST (GRAVEL/STONE) Y/N	Y							
OTHER (DESCRIBE)								
METAL ROOFING	(%)							
CORRUGATED								
STANDING SEAM								
FLAT SEAM								
OTHER (DESCRIBE)								
SHINGLES & TILES	(%)							
ASPHALT SHINGLES								
CONCRETE TILES								
OTHER (DESCRIBE)								
ROOF EDGES	(LF)							
SHEET METAL								
COPPER	120							
ALUMINUM	356							
FLASHING	(LF)							
SHEET METAL		1995		X				
COPPER	126							
ALUMINUM	356							
NEOPRENE (RUBBER)								
OTHER (DESCRIBE)								
ROOF DRAINS (EA.)	10							
GUTTERS & DOWNSPOUTS								
ALUMINUM		1995		X				
STEEL GALVANIZED								
COPPER								
OTHER (DESCRIBE)								
ROOF INSULATION								
FIBERBOARD								
FIBERGLASS								
OTHER (DESCRIBE) RIGID		1995		X				
OVERALL CONDITION %	16.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

New EPDM roof installed in 1995.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	
EXTERIOR (STRUCTURAL):				**Yr_Install**	**EC**	**VG**	**GC**	**AC**	**FC**	**PC**
FRAME STEEL										
CONCRETE BLOCK (CMU)			100	1960		X				
PRE-ENGINEERED										
OTHER										
EXTERIOR FINISH:			%							
BRICK VENEER			100	1960/1975			X			
STUCCO										
WOOD										
METAL SIDING										
OTHER (DESCRIBE)										
FOUNDATION			%							
SLAB			100	1960/1975		X				
CRAWL										
BASEMENT										
OTHER (DESCRIBE)										
OVERALL CONDITION %			23.0%							
ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:										

PAINTING EXTERIOR	**%**	**Yr_Install**	**EC**	**VG**	**GC**	**AC**	**FC**	**PC**
FASCIA & TRIM		1990		X				
STUCCO								
WOOD								
CONCRETE								
GUTTERS & DOWNSPOUTS								
DRIP EDGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	21.0%							
ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:								

WINDOWS % or # OPENINGS		**Yr_Install**	**EC**	**VG**	**GC**	**AC**	**FC**	**PC**
ALUMINUM AWNING TYPE		1997	X					
ALUMINUM SINGLE HUNG	100	1997	X					
ALUMINUM FIXED								
STEEL PROJECTED								
STEEL FIXED								
WOOD								
DOUBLE HUNG								
CASEMENT								
WEATHER-STRIPPING		1997	X					
SCREENS		1997	X					
OTHER (DESCRIBE)								
OTHER (DESCRIBE)								
OVERALL CONDITION %	10.0%							
ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:								

New windows installed in 1997.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

SITE			Yr_Install	EC	VG	GC	AC	FC	PC
ASPHALT	SY	10408	1960/95						X
CONCRETE	SY	5	1960					X	
GRAVEL	SY								
LIGHTING	EA	7	1980		X				
FENCE/GATES	LF	707	1960		X				
SIDEWALKS	LF	63	1960					X	
CURB/GUTTER	LF	110	1960					X	
SEWER LINES									
WATER LINES									
DRAINAGE			1960			X			
LANDSCAPING			1960			X			
IRRIGATION									
WASH RACK/PLATFORM			1960					X	
GREASE RACK									
OTHER (DESCRI SIGN			1960			X			
OVERALL CONDITIO TION		30.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

HAZARDOUS STORAGE and UNDERGROUND TANKS

	GSF/GAL	YR_BLT_RE	YES/NO
POL STORAGE			NO
HAZARDOUS WASTE STORAGE			YES
UNDERGRD STORAGE TANKS			NO
ABOVEGRD STORAGE TANKS			NO
STORAGE TANKS UPGRADED			N/A

SIGNS OF POOR COMPONENT CONDITIONS

ROOF: Leakage, missing shingles, or tiles, sagging or decaying roof structures, damaged trusses, plugged roof drains, vibration from mechanical equipment, damaged insulation, etc.

PAINTING: Peeling, cracking, etc.

SITE: Drainage problems, inadequate parking for MEP and/or POV. Large pot- holes or cracks in pavement. Limited site lighting, etc.

EXTERIOR: Peeling paint, cracked or loose mortar joints, oxidized sheet metal, frame lines out of plumb, loose siding, structural cracks, etc.

WINDOWS: Cracked, broken, required glazing, etc.

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

Very Good Condition (VG): All items well maintained, many having been repaired, overhauled or replaced when they show signs of wear and tear. **Rating range: 16% to 23.9%.**

Good Condition (GC): No obvious maintenance required, but neither is everything new. Appearance and utility are above the standard. **Rating range: 24% to 38.9%.**

Average Condition (AC): Some evidence of deferred maintenance and normal obsolescence with age in that a few minor repairs are needed. **Rating range 39% to 58.9%.**

Fair Condition (FC): Evidence of badly worn components. Much repair is needed. Many items need overhauling or replacement. **Rating range 59% to 75.9%.**

Poor Condition (PC): Evidence of components being worn out. Repair and overhaul is needed. Excessive deferred maintenance and abuse. Approaching abandonment, major reconstruction, or replacement. **Rating range: 76% to100%.**

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

INTERIOR		Yr_Install	EC	VG	GC	AC	FC	PC
PARTITIONS	(%)							
BLOCK PARTITIONS	50	1960			X			
DRYWALL/GYPSUM	40	1960/75			X			
FOLDING PARTITIONS	10							
OTHER (DESCRIBE)								
DOORS:	(%)							
ENTRANCE DOORS								
ROLLING OVERHEAD		1960			X			
METAL DOORS (OFFICE)	98	1960			X			
WOOD DOORS (OFFICE)	2							
OTHER (DESCRIBE)								
DOOR SETS/LOCKS		1960			X			
OTHER								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PAINTING & COVERING	%							
DRYWALL & CEILINGS	50	1990		X				
MASONRYWALLS	50	1990		X				
MILLWORK & TRIM		1990		X				
OTHER (DESCRIBE)								
OVERALL CONDITION %	21.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CEILING	%	Yr_Install	EC	VG	GC	AC	FC	PC
PLASTER CEILINGS	5	1960			X			
DRYWALL CEILINGS	60	1975						
ACOUSTICAL CEILINGS	25							
SUSPENDED CEILINGS		1960/1975		X				
OTHER (DESCRIBE) EXPOSED	10							
OVERALL CONDITION %	30.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FLOORING	%	Yr_Install	EC	VG	GC	AC	FC	PC
RESILIENT TILE FLOORING	40	1960/1975			X			
CONCRETE	10							
ASBESTOS TILE	40	1960			X			
CARPET/CARPET TILES	1							
CERAMIC TILES	9	1960/1975			X			
OTHER								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

ELECTRICAL		Yr_Install	EC	VG	GC	AC	FC	PC
TRANSFORMERS POLE MTD								
SINGLE PHASE AMP								
3-PHASE AMP	400	1960/1975			X			
OUTLETS		1960/1975			X			
PANELBOARDS								
CIRCUIT BREAKERS		1960/1975			X			
FLUORESCENT FIXTURES		1960/1975			X			
INCANDESCENT FIXTURES								
HIGH INTENSITY DISCHARGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CONVEYING SYSTEMS		Yr_Install	EC	VG	GC	AC	FC	PC
ELEVATOR								
STAIRS								
OVERALL CONDITION %								

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

HEATING & COOLING		Yr_Install	EC	VG	GC	AC	FC	PC
BOILER FUEL	N.GAS	1993	X					
BOILER MBH RATING	494							
BOILER TYPE								
HOT WATER & STEAM				X				
OTHER (DESCRIBE)								
HEATING SYSTEMS								
UNIT HEATERS-SUSPENDED		1960			X			
HEATING & VENTILATING UNIT								
FIN TUBE RADIATOR		1993	X					
FURNACES- FORCED AIR								
FORCED HOT WATER								
OTHER (DESCRIBE) BASEBOARD		1960		X				
COOLING SYSTEMS								
CHILLED WATER, AIR COOLED		1993	X					
CONDENSER								
ROOFTOP SINGLE ZONE UNITS								
ROOFTOP MULTI-ZONE								
SELF-CONTAINED, WATER								
SELF-CONTAINED, AIR COOL								
SPLIT SYS/AC CONDENSER								
WINDOW UNITS								
OTHER (DESCRIBE)								

BOILER MFG/ADDRESS:		WELL-McCLAIN			
SERIAL # ML-93 03011052		BTUH_HEAT	400000	REFRIG_TYP	
MODEL# 47B SERIES		BTU_COOL		TONNAGE	21.8
OVERALL CONDITION %	18.0%				

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

PLUMBING	FUEL	Yr_Install	EC	VG	GC	AC	FC	PC
WATER HEATER (GAL)	100	1975			X			
RESTROOM & FIXTURES	#							
DRINKING FOUNTAIN	1	1960/1975			X			
SHOWERS	4	1960/1975			X			
LAVATORIES	8	1960/1975			X			
URINALS	5	1960/1975			X			
WATER CLOSETS	7	1960/1975			X			
KITCHEN/FOOD SERVICE								
HANDICAP ACCESSIBLE Y/N	N							
PIPING &VALVES								
COPPER		1960/1975			X			
CAST IRON PIPE		1960/1975			X			
STEEL PIPE		1960/1975			X			
PLASTIC PIPE								
FIRE PROTECTION								
STANDPIPE								
SPRINKLERS								
OTHER PULL STATIONS		1960/1975			X			
OVERALL CONDITION %	36.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PARKING (POV)	SY	6888	(MEP)	6044	KITCHEN	YES/NO	YES
SIDEWALKS	SY	94	LF	182	FIRING RANGE	YES/NO	YES
CURB/GUTTERS	LF	210			FIRING RANGE ACTIVE	YES/NO	NO
ACCESS ROADS	SY	780			FIRE RANGE CONVERTED	YES/NO	YES
DRAINAGE LINES	LF				VAULT	YES/NO	YES
WATER LINES	LF						
SEWER LINES	LF						
FENCING	LF	600					
LIGHTING	EA	10					
IRRIGATION	LF						

GROSS SQ. FT.	26,850	VERIFIED FROM:		EMAAR	X	DATE	11/3/99
STORIES	1			416TH E2FA	X	DATE	
ZIP CODE	18017-2166			FIELD	X	DATE	1/7/97
AS BUILT ON SITE	YES	DATE	1961	DA2877		DATE	
SITE PLAN	YES	DATE	1960	OTHER		DATE	

Team Number: FIG.#1

Team Members: LTC.J HUGAR LT. E. BURKHOLDER , SFC BARAN

Date of Survey: 11/3/99

ADDITIONAL COMMENTS:

HVAC RENOVATIONS DATED 6/4/93 DRAWING #8950 SHEETS 1 OF 7

AS BUILD 29-06-46 BUILT MAY 1961

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

FUNCTIONAL INDICATORS

1. DESIGN CHARACTERISTICS: Appealing or poor or antiquated style or design, traffic and noise levels, maintenance or serviceability, security, antiterrorism, evacuation, market acceptance or resistance, environmentally responsible or safe, eye appeal, symmetry, scale, orientation, interaction or appropriate blend of materials, glazing, durability, colors, etc., suitable for the occupancy, distinctive motif or special purpose use or architectural.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. PHYSICAL LAYOUT: Suitable room layout and orderly flow, overall room or bay size, net versus gross space, volume, column, beam or mechanical run obstructions, appropriate wall heights, lighting levels, natural light and ventilation, ingress-egress, traffic patterns and doors, adequate support facilities, work, storage, cabinet size and placement.

	EC	VG	GC	AC	FC	PC
Ratings		X				

3. MECHANICAL EQUIPMENT: Inadequate or excess number of poorly spaced or antiquated plumbing or electrical and lighting fixtures, HVAC, conveyance, appliances, PA systems and other equipment, service or power requirements, energy consumption or efficiency, actual versus rated capacity or performance, abnormal operating costs, proper leak detection or emission controls, pressure differentials, technological changes, (e.g. electric vs. standing pilot ignition, etc.), appropriate air quality and changes.

	EC	VG	GC	AC	FC	PC
Ratings		X				

4. SITE ASSESSMENT: Land use, size, shape, topography, access, easements or other encroachments, utilities, soil types, stability, drainage and percolation, water table and use, erosion, vegetation, flood plain, wetlands, coastal, brush, or fault areas, presence of hazardous contaminants.

	EC	VG	GC	AC	FC	PC
Ratings		X				

5. FIRE PROTECTION REQUIREMENTS: Proper rating, detection for life safety and security, signaling controls, communications, signs, standpipe, sprinklers, extinguishers, hydrants, vents, draft curtains, fans, pumps, door and smoke controls, standby power, emergency phones, appropriate exits, overhangs, stairways, roofing classification, safety or double glazing.

	EC	VG	GC	AC	FC	PC
Ratings		X				

6. HANDICAPPED REQUIREMENTS: ADA compliance, ramps, elevators, drinking fountains, restroom, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

7. ENVIRONMENTAL CONDITIONS: Water, soil, radon, asbestos, UREA formaldehyde foam insulation, PCB's, CFC's, high-voltage lines, halon, heavy metals or lead contamination, run-off, emissions or sediment containment, septic tanks, demolition constraints, disposal or remediation. Evidence of leakage, absence of plants or animals, sick or stressed plants or animals, discolored soil or water, noxious odors, presence of discarded batteries, abandoned wells, sumps, tanks, barrels or other containers of paints, thinners, heating oil, petroleum or other hazardous chemical substances. Abandoned firing ranges, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

8. WEATHER EXTREMES: Appropriate insulation levels, heat gain or loss, shading, energy equivalency trade-off, window treatments, glass strength, proper trusses, size, spacing, pitch and drainage for rain and snow loading, proper flashing and penetrations, proper connections for hurricane force winds, uplift exposure.

	EC	VG	GC	AC	FC	PC
Ratings		X				

9. EARTHQUAKES: Appropriate bracing, connections to structural shell or foundation, shear walls, overhang exposure, irregular shape, framing stress, torsion, distance from other structures.

	EC	VG	GC	AC	FC	PC
Ratings		X				

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

EXTERNAL INDICATORS

1. PHYSICAL FACTORS: Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, known clean-up sites, nuisances, waste dumps, swamp, toxic industry, floodplain, drainage, water table, sinkholes, fault zones, soil types, landslides, etc., local ecosystem, endangered species, habitat areas.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. INFRASTRUCTURE: Highest and best use, quality, availability and source of utilities, public service, fire stations, street improvements, traffic patterns, public transportation and shipping facilities, parking, retail, recreation, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

3. ECONOMIC: Supply-Demand imbalance, saturation or monopoly, competition or alternatives, industry or major plant relocation's, employment development and growth patterns, utility costs, labor and materials, vacancy and building rates, zoning, land use, air rights, etc.

	EC	VG	GC	AC	FC	PC
Ratings			X			

ADDITIONAL COMMENTS OR REMARKS:

MINOR ROOF LEAK LOCATIONS INDENTIFIED; WORK ORDERS IN SYSTEM TO CORRECT.

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

Very Good Condition (VG): All items well maintained, many having been repaired, overhauled or replaced when they show signs of wear and tear. **Rating range: 16% to 23.9%.**

Good Condition (GC): No obvious maintenance required, but neither is everything new. Appearance and utility are above the standard. **Rating range: 24% to 38.9%.**

Average Condition (AC): Some evidence of deferred maintenance and normal obsolescence with age in that a few minor repairs are needed. **Rating range 39% to 58.9%.**

Fair Condition (FC): Evidence of badly worn components. Much repair is needed. Many items need overhauling or replacement. **Rating range 59% to 75.9%.**

Poor Condition (PC): Evidence of components being worn out. Repair and overhaul is needed. Excessive deferred maintenance and abuse. Approaching abandonment, major reconstruction, or replacement. **Rating range: 76% to100%.**

SIGNS OF POOR COMPONENT CONDITIONS

HVAC: Inadequate or poorly spaced equipment. Antiquated systems, high operating costs, furnaces or boilers in poor repair, rusted ductwork, etc.

FLOORING: Cracks, sagging, worn or torn spots. Expansion joints separation, etc.

PAINTING: Peeling, cracking, etc.

CEILING: Missing tiles, water stained, cracked or broken, etc.

WINDOWS: Cracked, broken, required glazing, etc.

PLUMBING: Leaking faucets or pipe connections. Inadequate or antiquated plumbing fixtures.

INTERIOR: Cracks in drywall, plaster, or block. Open joints in millwork, missing or loose hardware, peeling paint, mildew, smoke or water stains, dampness, insect or rodent damage, etc.

ELECTRICAL: Defective wiring, broken, inadequate or poorly spaced, antiquated or tarnished lighting fixtures or service equipment.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960		
PERM	X	SEMI-PERM		TEMP		REHAB		CONVERSION			
INSNO	42805	BLDG_NUM	2	GSF	2,524	NSF	2,315	SITE	4.49AC		
ADD/ALT.								STORY HT	1		

ROOF COMPONENT		Yr_Install	EC	VG	GC	AC	FC	PC
ROOF COVERING	100%							
ELASTROMERIC (EPDM)								
BUILT-UP (MULTI-PLY)	100%	1960				X		
BALLAST (GRAVEL/STONE) Y/N								
OTHER (DESCRIBE)								
METAL ROOFING	(%)							
CORRUGATED								
STANDING SEAM								
FLAT SEAM								
OTHER (DESCRIBE)								
SHINGLES & TILES	(%)							
ASPHALT SHINGLES								
CONCRETE TILES								
OTHER (DESCRIBE)								
ROOF EDGES	(LF)							
SHEET METAL								
COPPER								
ALUMINUM	252	1960				X		
FLASHING	(LF)							
SHEET METAL	15							
COPPER								
ALUMINUM								
NEOPRENE (RUBBER)								
OTHER (DESCRIBE)								
ROOF DRAINS (EA.)	0							
GUTTERS & DOWNSPOUTS								
ALUMINUM		1994		X				
STEEL GALVANIZED								
COPPER								
OTHER (DESCRIBE)								
ROOF INSULATION								
FIBERBOARD								
FIBERGLASS								
OTHER (DESCRIBE): SANDWHICH PANELS		1960	X					
OVERALL CONDITION %	58.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

ORIGINAL ROOF MINOR MAINTENANCE REQUIRED. ROOF SHOULD BE CHECKED ANNUALLY.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	
EXTERIOR (STRUCTURAL):				Yr_Install	EC	VG	GC	AC	FC	PC
FRAME STEEL										
CONCRETE BLOCK (CMU)			100	1960			X			
PRE-ENGINEERED										
OTHER										
EXTERIOR FINISH:			%							
BRICK VENEER			100	1960			X			
STUCCO										
WOOD										
METAL SIDING										
OTHER (DESCRIBE)										
FOUNDATION			%							
SLAB			100	1960			X			
CRAWL										
BASEMENT										
OTHER (DESCRIBE)										
OVERALL CONDITION %			32.0%							
ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:										
PAINTING EXTERIOR			%	Yr_Install	EC	VG	GC	AC	FC	PC
FASCIA & TRIM				1960			X			
STUCCO										
WOOD										
CONCRETE										
GUTTERS & DOWNSPOUTS										
DRIP EDGE										
OTHER (DESCRIBE)										
OVERALL CONDITION %			38.0%							
ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:										
BRICK EXTEIOR										
WINDOWS % or # OPENINGS				Yr_Install	EC	VG	GC	AC	FC	PC
ALUMINUM AWNING TYPE			8	1960				X		
ALUMINUM SINGLE HUNG			8	1960				X		
ALUMINUM FIXED										
STEEL PROJECTED										
STEEL FIXED										
WOOD										
DOUBLE HUNG										
CASEMENT										
WEATHER-STRIPPING										
SCREENS										
OTHER (DESCRIBE)										
OTHER (DESCRIBE)										
OVERALL CONDITION %			50.0%							
ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:										

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

SITE		Yr_Install	EC	VG	GC	AC	FC	PC
ASPHALT	SY							
CONCRETE	SY							
GRAVEL	SY							
LIGHTING	EA							
FENCE/GATES	LF							
SIDEWALKS	LF							
CURB/GUTTER	LF							
SEWER LINES								
WATER LINES								
DRAINAGE								
LANDSCAPING								
IRRIGATION								
WASH RACK/PLATFORM								
GREASE RACK								
OTHER (DESCRI SIGN								
OVERALL CONDITION %								

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

SEE PA008-001 FOR SITE INFO

HAZARDOUS STORAGE and UNDERGROUND TANKS

	GSF/GAL	YR_BLT_RE	YES/NO
POL STORAGE			YES
HAZARDOUS WASTE STORAGE			NO
UNDERGRD STORAGE TANKS			NO
ABOVEGRD STORAGE TANKS			NO
STORAGE TANKS UPGRADED			NO

SIGNS OF POOR COMPONENT CONDITIONS

ROOF: Leakage, missing shingles, or tiles, sagging or decaying roof structures, damaged trusses, plugged roof drains, vibration from mechanical equipment, damaged insulation, etc.

PAINTING: Peeling, cracking, etc.

SITE: Drainage problems, inadequate parking for MEP and/or POV. Large pot- holes or cracks in pavement. Limited site lighting, etc.

EXTERIOR: Peeling paint, cracked or loose mortar joints, oxidized sheet metal, frame lines out of plumb, loose siding, structural cracks, etc.

WINDOWS: Cracked, broken, required glazing, etc.

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

Very Good Condition (VG): All items well maintained, many having been repaired, overhauled or replaced when they show signs of wear and tear. **Rating range: 16% to 23.9%.**

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FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

INTERIOR		Yr_Install	EC	VG	GC	AC	FC	PC
PARTITIONS	(%)							
BLOCK PARTITIONS	100	1960			X			
DRYWALL/GYPSUM								
FOLDING PARTITIONS								
OTHER (DESCRIBE)								
DOORS:	(%)							
ENTRANCE DOORS		1960				X		
ROLLING OVERHEAD		1975			X			
METAL DOORS (OFFICE)		1960			X			
WOOD DOORS (OFFICE)								
OTHER (DESCRIBE)								
DOOR SETS/LOCKS		1960				X		
OTHER								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PAINTING & COVERING	%							
DRYWALL & CEILINGS								
MASONRYWALLS	100	1960					X	
MILLWORK & TRIM								
OTHER (DESCRIBE)								
OVERALL CONDITION %	65.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CEILING	%	Yr_Install	EC	VG	GC	AC	FC	PC
PLASTER CEILINGS								
DRYWALL CEILINGS								
ACOUSTICAL CEILINGS								
SUSPENDED CEILINGS								
OTHER (DESCRIBE) EXPOSED	100%	1960			X			
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FLOORING	%	Yr_Install	EC	VG	GC	AC	FC	PC
RESILIENT TILE FLOORING								
CONCRETE		1960			X			
ASBESTOS TILE								
CARPET/CARPET TILES								
CERAMIC TILES								
OTHER								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

ELECTRICAL		Yr_Install	EC	VG	GC	AC	FC	PC
TRANSFORMERS (KVA)								
SINGLE PHASE AMP								
3-PHASE AMP	400	1960				X		
OUTLETS		1960				X		
PANELBOARDS		1960			X			
CIRCUIT BREAKERS		1960			X			
FLUORESCENT FIXTURES		1960				X		
INCANDESCENT FIXTURES								
HIGH INTENSITY DISCHARGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CONVEYING SYSTEMS		Yr_Install	EC	VG	GC	AC	FC	PC
ELEVATOR								
STAIRS								
OVERALL CONDITION %								

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

HEATING & COOLING		Yr_Install	EC	VG	GC	AC	FC	PC
BOILER FUEL	N.GAS							
BOILER MBH RATING								
BOILER TYPE								
HOT WATER & STEAM								
OTHER (DESCRIBE)								
HEATING SYSTEMS								
UNIT HEATERS-SUSPENDED		1960			X			
HEATING & VENTILATING UNIT								
FIN TUBE RADIATOR								
FURNACES- FORCED AIR					X			
FORCED HOT WATER								
OTHER (DESCRIBE) INFRA-RED				X				
COOLING SYSTEMS								
CHILLED WATER, AIR COOLED								
CONDENSER								
ROOFTOP SINGLE ZONE UNITS								
ROOFTOP MULTI-ZONE								
SELF-CONTAINED, WATER								
SELF-CONTAINED, AIR COOL								
SPLIT SYS/AC CONDENSER								
WINDOW UNITS								
OTHER (DESCRIBE)								

BOILER MFG/ADDRESS:					
SERIAL #	BTUH_HEAT	75,000	REFRIG_TYP		
MODEL#	BTU_COOL		TONNAGE		
OVERALL CONDITION %	32.0%				

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:
INFRA RED GAS HEATING SYSTEM
ALSO AIR HEATING SYSTEM.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

PLUMBING	FUEL	Yr_Install	EC	VG	GC	AC	FC	PC
WATER HEATER (GAL)								
RESTROOM & FIXTURES	#							
DRINKING FOUNTAIN								
SHOWERS								
LAVATORIES								
URINALS								
WATER CLOSETS								
KITCHEN/FOOD SERVICE								
HANDICAP ACCESSIBLE Y/N	Y							
PIPING &VALVES								
COPPER		1960				X		
CAST IRON PIPE								
STEEL PIPE								
PLASTIC PIPE								
FIRE PROTECTION								
STANDPIPE								
SPRINKLERS								
OTHER								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PARKING (POV)	SY		(MEP)		KITCHEN	YES/NO	NO
SIDEWALKS	SY		LF		FIRING RANGE	YES/NO	NO
CURB/GUTTERS	LF				FIRING RANGE ACTIVE	YES/NO	NO
ACCESS ROADS	SY				FIRE RANGE CONVERTED	YES/NO	NO
DRAINAGE LINES	LF				VAULT	YES/NO	NO
WATER LINES	LF						
SEWER LINES	LF						
FENCING	LF						
LIGHTING	EA						
IRRIGATION	LF						

GROSS SQ. FT.	2,524	VERIFIED FROM:		EMAAR	X	DATE	11/3/99
STORIES	1			416TH E2FA	X	DATE	
ZIP CODE	18017-2166			FIELD		DATE	
AS BUILT ON SITE	NO	DATE		DA2877		DATE	
SITE PLAN	YES	DATE	1960	OTHER		DATE	

Team Number: FIG/#1

Team Members: LTC. J. HUGAR,LT. E.BURKHOLDER,SFC. J BARAN

Date of Survey: 11/3/99

ADDITIONAL COMMENTS:

SEE PA008-001 FOR SITE INFO

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

FUNCTIONAL INDICATORS

1. DESIGN CHARACTERISTICS: Appealing or poor or antiquated style or design, traffic and noise levels, maintenance or serviceability, security, antiterrorism, evacuation, market acceptance or resistance, environmentally responsible or safe, eye appeal, symmetry, scale, orientation, interaction or appropriate blend of materials, glazing, durability, colors, etc., suitable for the occupancy, distinctive motif or special purpose use or architectural.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. PHYSICAL LAYOUT: Suitable room layout and orderly flow, overall room or bay size, net versus gross space, volume, column, beam or mechanical run obstructions, appropriate wall heights, lighting levels, natural light and ventilation, ingress-egress, traffic patterns and doors, adequate support facilities, work, storage, cabinet size and placement.

	EC	VG	GC	AC	FC	PC
Ratings				X		

3. MECHANICAL EQUIPMENT: Inadequate or excess number of poorly spaced or antiquated plumbing or electrical and lighting fixtures, HVAC, conveyance, appliances, PA systems and other equipment, service or power requirements, energy consumption or efficiency, actual versus rated capacity or performance, abnormal operating costs, proper leak detection or emission controls, pressure differentials, technological changes, (e.g. electric vs. standing pilot ignition, etc.), appropriate air quality and changes.

	EC	VG	GC	AC	FC	PC
Ratings				X		

4. SITE ASSESSMENT: Land use, size, shape, topography, access, easements or other encroachments, utilities, soil types, stability, drainage and percolation, water table and use, erosion, vegetation, flood plain, wetlands, coastal, brush, or fault areas, presence of hazardous contaminants.

	EC	VG	GC	AC	FC	PC
Ratings		X				

5. FIRE PROTECTION REQUIREMENTS: Proper rating, detection for life safety and security, signaling controls, communications, signs, standpipe, sprinklers, extinguishers, hydrants, vents, draft curtains, fans, pumps, door and smoke controls, standby power, emergency phones, appropriate exits, overhangs, stairways, roofing classification, safety or double glazing.

	EC	VG	GC	AC	FC	PC
Ratings		X				

6. HANDICAPPED REQUIREMENTS: ADA compliance, ramps, elevators, drinking fountains, restroom, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

7. ENVIRONMENTAL CONDITIONS: Water, soil, radon, asbestos, UREA formaldehyde foam insulation, PCB's, CFC's, high-voltage lines, halon, heavy metals or lead contamination, run-off, emissions or sediment containment, septic tanks, demolition constraints, disposal or remediation. Evidence of leakage, absence of plants or animals, sick or stressed plants or animals, discolored soil or water, noxious odors, presence of discarded batteries, abandoned wells, sumps, tanks, barrels or other containers of paints, thinners, heating oil, petroleum or other hazardous chemical substances. Abandoned firing ranges, etc.

	EC	VG	GC	AC	FC	PC
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8. WEATHER EXTREMES: Appropriate insulation levels, heat gain or loss, shading, energy equivalency trade-off, window treatments, glass strength, proper trusses, size, spacing, pitch and drainage for rain and snow loading, proper flashing and penetrations, proper connections for hurricane force winds, uplift exposure.

	EC	VG	GC	AC	FC	PC
Ratings		X				

9. EARTHQUAKES: Appropriate bracing, connections to structural shell or foundation, shear walls, overhang exposure, irregular shape, framing stress, torsion, distance from other structures.

	EC	VG	GC	AC	FC	PC
Ratings	X					

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

EXTERNAL INDICATORS

1. PHYSICAL FACTORS: Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, known clean-up sites, nuisances, waste dumps, swamp, toxic industry, floodplain, drainage, water table, sinkholes, fault zones, soil types, landslides, etc., local ecosystem, endangered species, habitat areas.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. INFRASTRUCTURE: Highest and best use, quality, availability and source of utilities, public service, fire stations, street improvements, traffic patterns, public transportation and shipping facilities, parking, retail, recreation, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

3. ECONOMIC: Supply-Demand imbalance, saturation or monopoly, competition or alternatives, industry or major plant relocation's, employment development and growth patterns, utility costs, labor and materials, vacancy and building rates, zoning, land use, air rights, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

ADDITIONAL COMMENTS OR REMARKS:

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

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SIGNS OF POOR COMPONENT CONDITIONS

HVAC: Inadequate or poorly spaced equipment. Antiquated systems, high operating costs, furnaces or boilers in poor repair, rusted ductwork, etc.

FLOORING: Cracks, sagging, worn or torn spots. Expansion joints separation, etc.

PAINTING: Peeling, cracking, etc.

CEILING: Missing tiles, water stained, cracked or broken, etc.

WINDOWS: Cracked, broken, required glazing, etc.

PLUMBING: Leaking faucets or pipe connections. Inadequate or antiquated plumbing fixtures.

INTERIOR: Cracks in drywall, plaster, or block. Open joints in millwork, missing or loose hardware, peeling paint, mildew, smoke or water stains, dampness, insect or rodent damage, etc.

ELECTRICAL: Defective wiring, broken, inadequate or poorly spaced, antiquated or tarnished lighting fixtures or service equipment.

Enclosure C

DEPARTMENT OF THE ARMY

HEADQUARTERS, 416TH ENGINEER COMMAND
FACILITIES ENGINEERING TDA (AUGMENTATION)
10 S. 100 SOUTH FRONTAGE ROAD
DARIEN, IL 60561-1780

REAL PROPERTY MAINTENANCE ACTIVITIES

for

WILSON-KRAMER USAR CENTER AND OMS

Bethlehem, Pennsylvania
Facility I.D. No. PA008
Date of Visit: 02 November 1999

PREPARED BY:
FORT INDIANTOWN GAP FACILITY ENGINEER TEAM
416th Engineer Command, ESG-E
Building 4-96
Coulter and Oil Street
Ft Indiantown Gap
Annville, PA, 17003

416th ENGINEER COMMAND
USAR FACILITY
TOTAL FACILITY ASSESSMENT
RPMA WORK REQUIREMENTS

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COMPONENT INSPECTION SUMMARY

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5.	SUMMARY OF NEWLY IDENTIFIED WORK REQUIREMENTS A. MAINTENANCE AND REPAIR (UNDER $2,500) B. MAINTENANCE AND REPAIR (OVER $2,500) C MINOR CONSTRUCTION / ALTERATION D. OTHER ENGINEERING SERVICES
6.	RPMA PROJECT DOCUMENTATION AND COST ESTIMATES

SECTION 1: EXECUTIVE SUMMARY

1. The Fort Indiantown Gap Facility Engineer Team assessed the USAR Center on 2-3 November 1999. The center consists of two buildings: the main administrative building (approximately 25,000 net square feet) and two-bay Organizational Maintenance Shop (OMS) (approximately 2400 net square feet). The main building and OMS were constructed in 1960 and expansion of the center was completed 1975. Both buildings are constructed of brick veneer and moderate-slope, built-up roofs with gravel ballast that have since been replaced (1992/1994) with ballasted, single ply EPDM roofing. The OMS still has the original built-up roof. The buildings are utilized along with the military equipment parking (MEP) although overcrowding was not evident. The surrounding area is developed property. The Lehigh Valley International Airport is directly across the highway, the State Police Barracks adjoins on the south side, and commercial/light industry on the North and East sides. The entire complex comprises of approximately 5 acres. The 744th Military Police Battalion and the 130th Chemical Company occupy the facility. The overall condition of the facility is good. In general the areas observed were clean and well maintained, with some minor efforts required in the supply rooms and OMS.

2. Areas of major concern revolve around the lack of emphasis on facility maintenance for the more sophisticated systems in the building – electrical/mechanical/roofing. In particular the mechanical systems lack any strong evidence of a sound maintenance program.

As was pointed out in the 1996 TFA that due to poor maintenance or no maintenance at all, the AC system was subject to severe damage in the winter of 1996 when the interface between water and refrigerant [shell and tube exchanger and chilled water piping] was damaged possibly as a direct result of improper changeover from summer to winter. Current evidence of inadequate maintenance on the HVAC systems was seen again during this visit. Reports of fin tube radiation sweating during the summer months, as well as water stains at this type of heating only unit, indicate that the conversion from heating to AC failed to shut down the building zones that are not air-conditioned and that Circulating Pumps #2 and #3 were left on supplying chilled water to non air-conditioned spaces in the facility. Filters throughout the center were very close to requiring changing. The filters were extremely dirty in the make-up air unit in the OMS, as well as part of the controls being non-operative. Numerous minor maintenance items existed throughout the center that should have been picked up as part of a sound PM program.

These systems represent the most costly to properly operate and maintain, and in most cases represent the areas that provide the most technically challenging maintenance problems, but are also critical to a quality work environment.

We are further concerned that the RSC has approved work requests to replace the HVAC system and the roofs on these buildings. Information on these work requests that relate to the age of the HVAC and Roofing systems is not accurate. The DA Form 4283's are not reflective of the actual conditions or requirements and may have been inadvertently submitted for the wrong facility. We have prepared a separate description of work requirements for the replacement of the OMS roof as part of this E2FA.

3. Previously identified RPMA projects in this survey were provided at the site. This list was incorporated into the newly identified RPMA work as described below.

	ESTIMATED COST
A. PREVIOUSLY IDENTIFIED WORK REQUIREMENTS	$ 440,200.00
B. NEW MAINTENANCE AND REPAIR (UNDER $2,500)	$3514.00
C. NEW MAINTENANCE AND REPAIR (OVER $2,500)	$39,738.00
D. NEW MINOR CONSTRUCTION / ALTERATION	$4353.00
E. NEW OTHER ENGINEERING SERVICES	$12,774.00
TOTAL NEWLY IDENTIFIED UNCONSTRAINED WORK REQUIREMENTS (B through E)	**$60,379.00**

James L. Hugar.
LTC, EN, USAR
Team Leader

SECTION 2: FACILITY IDENTIFICATION

INSTALLATION NAME: **Wilson-Kramer USAR Center and OMS**
INSTALLATION NUMBER: **PA008**
STREET ADDRESS: **2940 Airport Road**
CITY/TOWN: **Bethlehem**
STATE: **PA**
ZIP CODE: **18017-2166**
RSC/RSG: **99th RSC, HQs Oakdale, PA 15071-5001**
FACILITY TYPE:

A.	USARC:	X	B.	AFRC:	___	C.	OMS:	X	D.	FLIGHT:	___
E.	DS/GS:	___	F.	MED:	___	G.	WET:	___	H.	FLIGHT:	___
I.	ECS:	___	J.	CTF:	___	K.	OTHER:				

ASSESSMENT PERFORMED BY: **Fort Indiantown Gap Facility Engineer Team**
FACILITY ENGINEER TEAM INCLUDED:

LTC Jim Hugar
1LT Eric Burkholder
SFC Carl Hilt
SFC Joseph Baran
SFC Jim Newcomer

REFER TO FOR INFORMATION:

LTC James L Hugar
Work: (717) 770-5582 DSN 977-5582 email: jhugar@usapc-emh1.army.mil
Home: (717) 866-2792

PERSONNEL CONTACTED ON SITE:

NAME/GRADE	DUTY POSITION	PHONE NUMBER
Mr. Joseph A Burke	**Facility Coordinator**	**(610) 574-8207**

ASSESSMENT CONDUCTED FROM: **02 Nov 1999/0900** TO: **03 Nov 1999/1530**
DATE OF LAST ASSESSMENT: **24 October 1996**

WA.25.2 #1 III FEDERAL FINDING Wastewater

FINDING ID: WA-001
MANUAL QUESTION NUMBER: WA-025-002
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: VEHICLE WASH RACK OUTSIDE OF OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: PREVIOUS REPORTS INDICATE A CLASS III FINDING OF A CLOGGED OIL/WATER SEPARATOR AT THE VEHICLE WASH RACK. THE FACILITY MANAGER RECOLLECTED THAT SAFETY KLEEN HAD CORRECTED THE PROBLEM IN 1997; HOWEVER, NO DOCUMENTATION IS AVAILABLE TO SUPPORT THE CLAIM. VEGETATION AND SEDIMENT STILL EXIST IN THE DRAIN.

CRITERIA: Installations/CW facilities shall not introduce specific pollutants into a POTW/FOTW (40 CFR 403.5(b)).

FINDING COMMENTS: NO DOCUMENTATION TO SUPPORT CLAIM THAT THE OIL/WATER SEPARATOR HAD BEEN UNCLOGGED BY SAFETY CLEAN. SEDIMENT AND VEGETATION STILL EXIST. PROBLEM WAS REPORTED ON PREVIOUS TFA'S.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): FACILITY MANAGER NEEDS TO WRITE A WORK ORDER TO HAVE THE WASH RACK DRAIN INVESTIGATED AND/OR UNCLOGGED.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

SECTION 3: COMPONENT INSPECTION SUMMARY

1. A Component Inspection Summary is provided in the following table which summarizes the results of the Facility Condition Survey. The definition of the condition codes are as follows:

C1 Item is generally in good condition and requires only routine maintenance and repair.
C2 Item shows signs of partial failure of system components and needs maintenance, repair, or replacement.
C3 Item shows signs of extensive or complete failure of system components or system and needs immediate maintenance, repair, or replacement.

2. Component Inspection Summary

Item No.	Facility Component	Cond Code	Date of Component Installation	Date of Last Maint/ Repair	Est'd Remain Life, yrs	Projected FY of Repair	Cost of Work Estimate	Work Order Number
1	Ceilings	C2	1960/1975	UnK	5-7	2005	Unavailable	Unavailable
2	Walls (finish)	C1	1960/1975	UnK	6	2006		
3	Doors	C1	1960/1975	1992	15	2015	[$11K Ext Door RPL]	
4	Floors	C2	1960/1975	UnK	10	2010		
5	Windows	C1	1960/1975	1995	20	2025	[$63K window Replacement	
6	Stairs	NA	NA	NA	NA	NA	NA	NA
7	Latrines	C1	1960/1975	UnK	10	2010		
8	Kitchen	C2	1975	UnK	10	2010		
9	Electrical	C2	1960/1975	UnK	3	2003	$6188	E2FA 00-18
10	Plumbing	C2	1960/1975	1994	10	2010		
11*	Heating Sys	C2	1975/1995	1995	15	2015		
12*	Cooling Sys	C2	1975/1995	1995	15	2015		
13	Site/Grounds	C2	1960/1975	UnK	15	2015		
14	Bldg Exterior	C1	1960/1975	UnK	15	2015		
15	Roof	C2	1960/1975	1992/ 1994	12	2012		
15a*	Roof OMS	C3	1960	UnK	5	2005	$24,750	E2FA 00-17

Item No.	Facility Component	Cond Code	Date of Component Installation	Date of Last Maint/ Repair	Est'd Remain Life, yrs	Projected FY of Repair	Cost of Work Estimate	Work Order Number
16	Fencing	C2	1960/1975	UnK	10	2010		
17	Pavement (MEP)	C1	1960/1975	1996(Est)	15	2015		
17a	Pavement (POV)	C3	1960/1975	1975(Est)	3	2003	$14,988	E2FA 00-08
18	OMS/AMSA	C2	1960/1975	UnK	15	2015		
19	Security Sys	Unk		UnK				
20	Other	NA		NA				
TOTAL							$45,926	

11* The heating system was replaced around 1994/95 and included removal and disposal of ACM. New distribution system was not required passed on pipe testing and observation and see 15a* below.

12* The systems chiller was an additive bid item when the facility was expanded in 1975 but high bids prevented it from being awarded. Distribution system was designed and installed to support HVAC.

The average life of a chiller is 20 years with average PM (rarely does a chiller last much over 20 years.

Due to poor maintenance or no maintenance at all, this system was subject to severe damage in the winter of 1996 to the interface between water and refrigerant shell and tube exchanger and chilled water piping. (See April 1996 TFA.) **Evidence of inadequate maintenance on the HVAC systems was seen again during this visit.** Reports of fin tube radiation sweating during the summer months, as well as water stains at this type of unit indicate that the conversion from heating to AC failed to shut down the building zones that are not air-conditioned and that Circulating Pumps #2 and #3 were left on supplying chilled water to non air-conditioned spaces in the facility. The filters were dirty on the heating and ventilating equipment in the OMS building as well as controls being non-operative. Numerous minor items such as plastic control knobs stripped on individual fan coil unit controls existed throughout the center that should have been picked up as part of a sound PM program.

15a. * OMS Roof is still the original 1960 Built Up Roof. And is rated as C-3

SECTION 4: PREVIOUSLY IDENTIFIED WORK REQUIREMENTS

PREVIOUSLY IDENTIFIED WORK ORDERS

WORK ORDER NUMBER	BUILDING NUMBER	WORK DESCRIPTION	UM	ESTIMATE COST ($000)
YJ 0130079	**Training / OMS**	**Replace Roof/Struct. RPRS**	**LS**	**295.2**
YJ 0130099	**Training**	**Replace HVAC**	**LS**	**145.0**
TOTAL				**$440.20**

SECTION 5: SUMMARY OF NEWLY IDENTIFIED WORK REQUIREMENTS

A: MAINTENANCE AND REPAIR (UNDER $2,500)

Work Order #	Bldg #	Work Description	UM	Estimated Cost
E2FA 00-02	Center	Finish Passageway Room 111		$388
E2FA 00-03	Center	Remove Wire Caging Panel From Ceiling Room 111		$0
E2FA 00-04	Center	Electrical Repairs		$213
E2FA 00-05	Center	Replace Thermostat in Room 111		$220
E2FA 00-06	OMS	Properly Mount RCAS Wiring and Accessories in the OMS		$172
E2FA 00-07	Site	Seal Cracks in Concrete (Flagpole base)		$240
E2FA 00-09	Site	Remove Abandoned Wooden Lighting Poles		$309
E2FA 00-10	Center	Repair EPDM Roof Membrane		$1195
E2FA 00-13	OMS	Complete Closure of Service Pit in OMS		$364
E2FA 00-14	OMS	Service/Repair OMS HV System		$241
E2FA 00-16	Center	Replace Missing Pipe Insulation – Room 145		$172
Total Maintenance and Repair Under $2,500				**$3514.00**

B: MAINTENANCE AND REPAIR (OVER $2,500)

Work Order #	Bldg #	Work Description	UM	Estimated Cost
E2FA 00-08	Site	Seal Asphalt Pavement in POV Parking Lot		$14,988
E2FA 00-17	OMS	Replace Built-up roof on OMS		$24,750
Total Maintenance and Repair Over $2,500				**$39,738.00**

C: MINOR CONSTRUCTION / ALTERATION

Work Order #	Bldg #	Work Description	UM	Estimated Cost
E2FA 00-12	Center	Install Security Light over Arms Vault Entrance		$293
E2FA 00-15	OMS	Install Self-Contained PTAC Unit in OMS Office		$4060
Total Minor Construction / Alteration				**$4353.00**

D: OTHER ENGINEERING SERVICES

Work Order #	Bldg #	Work Description	UM	Estimated Cost
E2FA 00-01	All	Develop Asbestos Management Plan		$6586
E2FA 00-18	All	Conduct Electrical Short Circuit/NEC Study		$6188
TOTAL OTHER ENGINEERING SERVICES:				**$12,774.00**

SECTION 6: RPMA PROJECT DOCUMENTATION & COST ESTIMATES

PROJECT NUMBER: E2FA 00-01
PROJECT NAME: Develop Asbestos Management Plan
PROJECT DESCRIPTION: Research Real Property records, test for remaining ACM and develop an ACM Management Plan
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:

Asbestos Containing Material (ACM) has been identified to be present in various materials throughout the Center and OMS from testing conducted in 1987 (See Attachments – Biospherics Inc, DACA31-87-D-0016, DO#001 pages 103-108 and drawings).

ACM Associated with Mechanical Systems: An ACM removal contractor removed ACM from piping and boilers as part of the heating system replacement around 1993. It appears that the pipe insulation on both the domestic water lines and the heating and heating/chilled water supply and return lines, in accessible areas of the center and OMS that contained ACM have had that removed. This should be verified by reviewing the ACM Removal contract that was awarded before the HVAC Replacement Contract. [NOTE: These Real Property Records were turned over from the FIG DPW/416th files to the 99th RSC.

ACM Associated with Architectural Systems: This material is subject to physical contact during day-to-day actives. According to the Biospherics Report, both the 12"X12"(sampled in corridor outside room 121) and 9"X9"(sampled at room 139) floor tile contain Chrysotile at <1% and 1 to 2% respectively. [See Biospherics Report page 105]. Ceiling Tile (both 2'x2' and the 12"x12") were sampled and tested and resulted in a finding of "No Asbestos Fibers Detected". No sampling/testing was conducted on the two part plaster ceiling and wall. The report recommends that the two-part plaster ceiling and wall "...be treated as ACM until further sampling is performed to show otherwise." Likewise no indication of testing or the possibility that the floor tile mastic may contain Asbestos was indicated in the report
JUSTIFICATION: An Asbestos Management Plan, asbestos survey, and testing by individuals certified in accordance with the Asbestos Hazardous Response Act are required. This is necessary to protect the environment, health and safety of soldiers and support personnel associated with the Center and OMS as well as the liability of the Army and personnel liability of the Commander and Staff. It should also be noted that this sampling and testing consisted of only one sample of a like material, where sampling and testing standards usually dictate that 3 samples be taken to confirm test results.

SKETCHES: Biospherics Inc, DACA31-87-D-0016, DO#001 pages 103-108 and drawings
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $6586

DACA 31-B7-D-0016
Delivery Order No. 001

BIOBPHERICS INCORPORATED

SECTION 2.19

2.19.1 U.S. ARMY RESERVE CENTER, BETHLEHEM, FIRST FLOOR

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:
1. 2'x2' white ceiling tile

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED;
1. White and grey, fibrous Insulation boiler exhaust flue
2. White, fibrous, block Insulation
3. Grey, fibrous or powdery* pipe fitting lagging
4. Grey, air-cell Insulation
5. 9" x 9" black floor tile
6. Two coat plaster ceilings
7. 12" x 12", blue floor tile white mottle

FUNCTIONAL AREAS.
A. Mechanical Room Areas (Boiler room; drawing ref.: AS-BLT 29-06-46 SH. 42)

o Severely damaged white and grey, fibrous exhaust duct Insulation and debris Is ACM Pipe straight section Insulation Is white, elbows, block and grey air-cell. Both Insulation types have exposed endings and the block insulation Is cracking. Grey, fibrous pipe elbow laggings have exposed ends.

Hazard Assessment
Rating I - High to Very High

B. General Building Space (All other rooms and corridors; drawing ref.: AS-BLT 29-06-46 SH. 42)

o ACM TSI - White, fibrous, steam pipe Insulation, grey, powdery or fibrous, pipe elbow lagging located above suspended ceilings. Fittings as noted on floor plans. Debris located above ceilings In rooms 140, 141, 145, and 146.

o 12" x 12", blue floor tile with white mottle should be considered ACM in the absence of further sampling.

o Plaster ceilings and walls noted on floor plans should be treated as ACM until further sampling is performed to show otherwise .

Hazard Assessment
Rating II - Moderate to High

0122t

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS INCORPORATED
TABLE 2.19.1

Results of Bulk Asbestos analyses of samples Collected for
EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center
at Bethlehem, Pennsylvania (First Floor)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME%)
87-12-029-220	11/25/87	White and grey, fibrous over chicken wire boiler exhaust flue insulation; boiler room	Chrysotile	60-65%
87-12-029-221	11/25/87	White, fibrous, block pipe straight section insulation; boiler room	Chrysotile Amosite	5-10% 25-30%
87-12-029-222	11/25/87	Grey, fibrous pipe elbow lagging; boiler room	Chrysotile	15-20%
87-12-029-223	11/25/87	White, fibrous, block condensate pipe insulation straight section; boiler room	Chrysotile Amosite	35-40% 5-10%
87-12-029-222	11/25/87	White, fibrous, block steam supply line insulation; boiler room	Chrysotile Amosite	20-25% 20-25%
87-12-029-225	11/25/87	Grey, fibrous pipe elbow lagging on steam supply line; boiler room	Chrysotile Amosite	35-40% 5-10%
87-12-029-226	11/25/87	Grey, air-cell steam pipe insulation straight section; boiler room	Chrysotile	35-40%
87-12-029-227	11/25/87	Grey, fibrous steam pipe" elbow lagging; boiler room	Chrysotile	35-40%

*NAFD -- No Asbestos Fibers Detected
3484F

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS INCORPORATED
TABLE 2.19.1

Results of Bulk Asbestos analyses of samples Collected for
EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center
at Bethlehem, Pennsylvania (First Floor)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME%)
87-12-029-228	11/25/87	White, fibrous, block insulation on suspended H.E.U.; boiler room	Chrysotile Amosite	15-20% 15-20%
87-12-029-229	11/25/87	12" x 12", blue floor tile with white mottle; corridor outside room 123	Chrysotile	< 1%
87-12-029-230	11/25/87	White, 2' x 2' ceiling tile with pinhole pattern; corridor outside room 121	NAFD*	---
87-12-029-231	11/25/87	White, fibrous block main steam pipe insulation straight section; corridor by room 121	Chrysotile Amosite	25-30% 5-10%
87-12-029-232	11/25/87	Grey, fibrous hot water return pipe elbow lagging; main corridor outside room 123	Chrysotile	15-20%
87-12-029-234	11/25/87	Grey, powdery pipe elbow lagging; assembly room	Chrysotile	15-20%
87-12-029-235	11/25/87	Black, 9" x 9" floor tile with white mottle; room 139	Chrysotile	1-2%

*NAFD -- No Asbestos Fibers Detected
3484F

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS INCORPORATED

2.19.2 U.S. ARMY RESERVE CENTER, BETHLEHEM, NEW ADDITION

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

1. 12' x 12', white interlocking ceiling tile

ASBESTOS-COMTAINING MATERIALS SAMPLED/OBSERVED:

o None

FUNCTIONAL AREAS

a. General Building Space (All rooms and corridors; drawing ref.: Bethlehem, new addition)

o No asbestos containing materials were observed.

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS INCORPORATED
TABLE 2.19.2

Results of Bulk Asbestos Analyses of Samples Collected for
EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center
at Bethlehem, Pennsylvania (New Addition)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME%)
87-12-029-233	11/25/87	White, 12"" x 12"", interlocking ceiling tile with gouge pattern; rifle range	NAFD*	---

*NAFD -- No Asbestos Fibers Detected
3484F

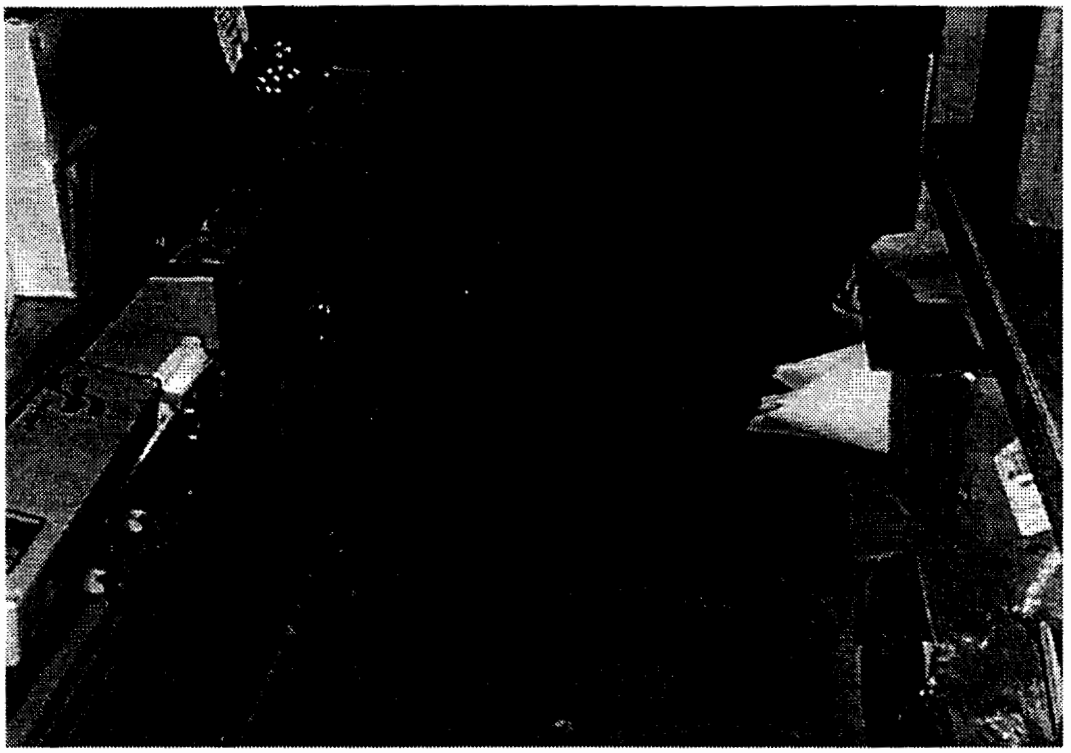

PHOTO: E2FA 00-01- Exposed floor tile and mastic may contain asbestos. (Re: ECAS Asbestos)

COST ESTIMATE
COST ESTIMATE NUMBER: E2FA 00-01
TYPE PROJECT: New Work ___ Repair ___Maintenance ___ EIP ___ Other *(specify)* X ECAS
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract _X_ 416th ENCOM ___ Not Required ___ Other
CONSTRUCTION: Contract ___ Local Purchase ___ Self Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION **Develop Asbestos Management Plan**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
1. Additional Sampling and testing	**EA**	**90**	**17**	**1530**
2. Records Research	**Ls**	**1**	**860**	**860**
3. Develop ACM	**Hr**	**40**	**60**	**2400**
Sub Total:				**4790**
OVERHEAD & PROFIT (25%)				**1197.50**
PROJECT TOTAL:				**5987.50**
CONTINGENCY (10%)				**589.75**
TOTAL REQUEST				**$6586.25**

Estimates are: X Current Year / FY 00 Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 16 Dec 1999

PROJECT NUMBER: E2FA 00-02
PROJECT NAME: Finish Passageway Room 111
PROJECT DESCRIPTION: Frame and Finish Passageway Room 111. Install steel header and studs as necessary to frame out door. Install trim and paint. ACM testing may want to be considered for the wall covering.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION: As part of what appears to be a Self Help Project a passageway was cut in the sheetrock covered wall in Room 111 and was never completed. No information was available to indicate if this project was an approved self-help project. The sheetrock is not likely to have contained asbestos due to the relatively new age (steel studs were exposed) of the wall material, but without testing and because of the time frame the expansion took place, it should still be considered suspect of have ACM.

JUSTIFICATIONS:
Unfinished walls in the supply room will continue to be damaged through routine movement of materials in and out of the area. Poor work conditions / facility appearance is not conducive to the standards of the USAR and impacts on quality of life, recruiting, retention and discipline.

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $ 388.00

PHOTO E2FA 00-02 Doorway cut through the wall and unfinished –Room 111

COST ESTIMATE
COST ESTIMATE NUMBER: E2FA 00-02
TYPE PROJECT: New Work _X_ Repair ___Maintenance ___ EIP __ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ___ Local Purchase _X_ Self-Help/Troop
SDEH In-House _X_ Other _____
SHORT JOB DESCRIPTION: **Finish Passageway Room 111**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
1. Mobilization	**JB**			**50**
2. Frame out openings	**LS**	**1**	**200**	**200**
3. Painting	**SF**	**70**	**0.45**	**32**
Sub Total:				**$282**
OVERHEAD & PROFIT (25%)				**$70.50**
PROJECT TOTAL:				**$352.50**
CONTINGENCY (10%)				**$35.25**
TOTAL REQUEST				**$387.75**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 16 Dec 1999

PROJECT NUMBER: E2FA 00-03
PROJECT NAME: Remove Wire Caging Panel From Ceiling
PROJECT DESCRIPTION: Remove two 4'X 8' Wire Caging Panels From Ceiling in Room 111.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Panels are hung from the bar joists with chain and bootlaces and present a significant safety hazard. Panels could fall under there own weight and injure personnel and damage equipment in the supply room

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $0

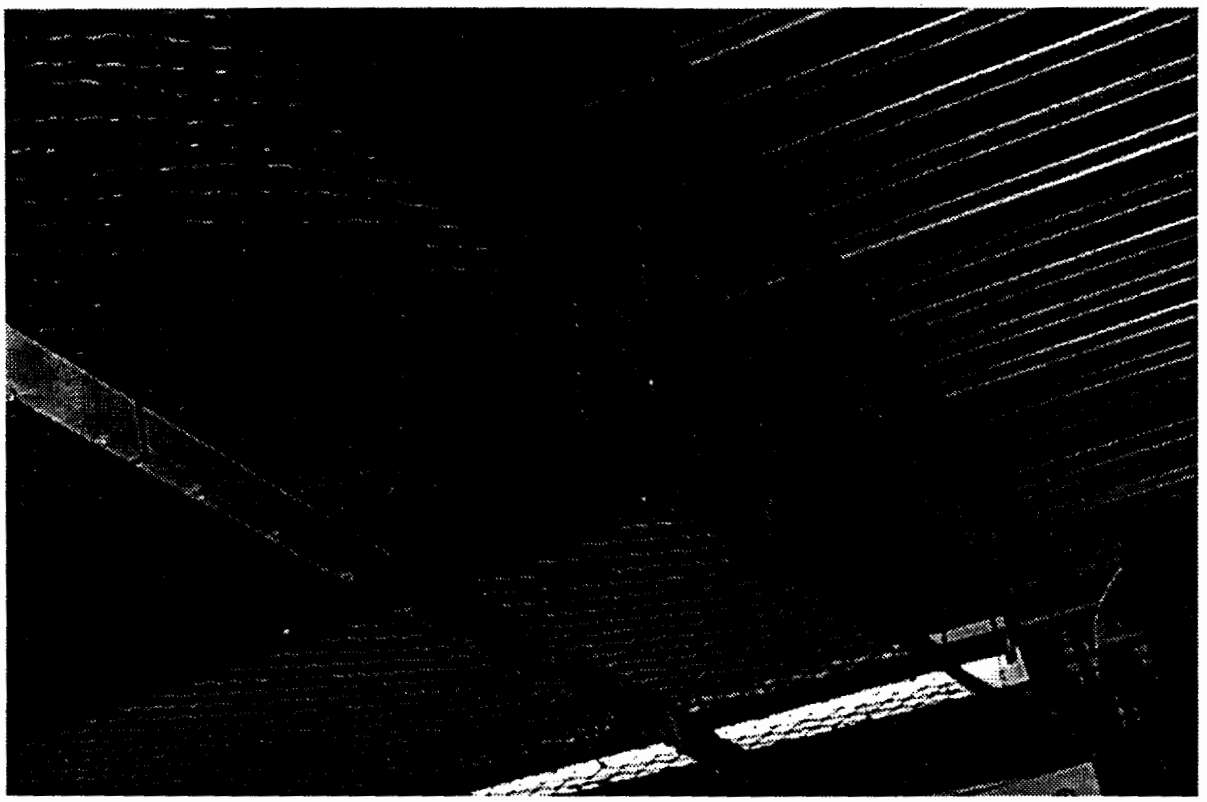

PHOTO E2FA 00-03: Caging hung in an unsafe manner from ceiling bar joists.

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-03
TYPE PROJECT: New Work ___ Repair X__ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract __ Local Purchase ___ Self Help/Troop _X_
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Remove Wire Caging Panel From Ceiling Room 111**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Self Help No materials required			**0**	**0**
Sub Total:				**0**
OVERHEAD & PROFIT (25%)				
PROJECT TOTAL:				
CONTINGENCY (10%)				
TOTAL REQUEST				**$0**

Estimates are: _X_ Current Year / FY _00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 16 Dec 1999

PROJECT NUMBER: E2FA 00-04
PROJECT NAME: Electrical Repairs
PROJECT DESCRIPTION: Replace electrical wiring between junction box and new electric fan motor, Room 111. Install box cover room 105. Troubleshoot and return to operation the exit light outside of room113.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Electrical wiring was not installed to NEC standards. It has an exposed wire nut connection outside of the enclosure. Electrical box cover in room 105 needs replaced and exposed wiring needs covered. Exit light outside of room113 is non-operational
SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $234

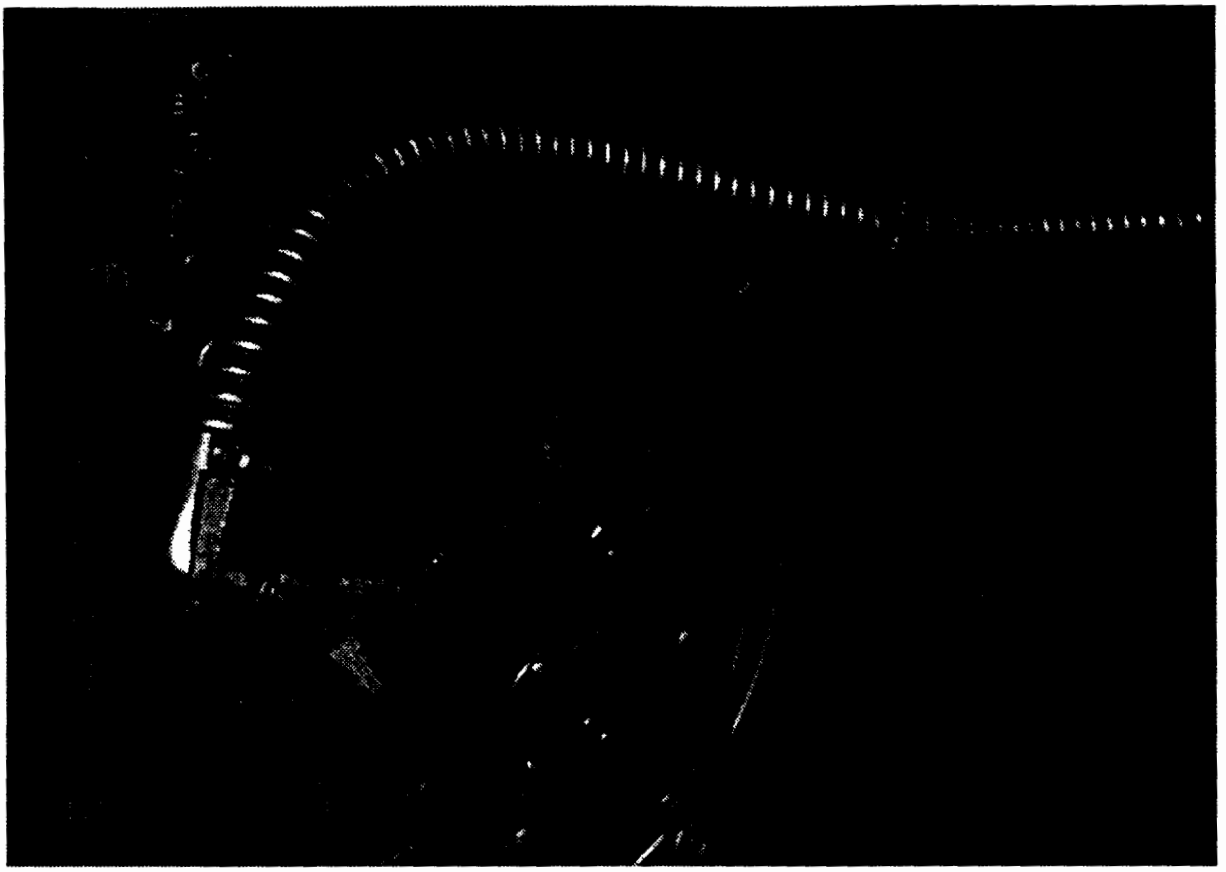

PHOTO E2FA 00-04: Exposed wirenuts at splice for wiring on recently installed fan motor to ceiling hung unit heater, Room 111

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-04
TYPE PROJECT: New Work ___ Repair __X_ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X__ Other
CONSTRUCTION: Contract __ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION **Electrical Repairs**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
1. Rewire fan motor to meet NEC code – Room 111	**LS**	**1**	**145**	**145**
2. Install box cover	**LS**	**1**	**5**	**5**
3. Troubleshoot and repair exit light –Outside Room 113	**LS**	**1**	**20**	**20**
Sub Total:				**170**
OVERHEAD & PROFIT (25%)				**42.5**
PROJECT TOTAL:				**212.5**
CONTINGENCY (10%)				**21.25**
TOTAL REQUEST				**$233.75**

Estimates are:_X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 16 Dec 1999

PROJECT NUMBER: E2FA 00-05
PROJECT NAME: Replace Thermostat in Room 111
PROJECT DESCRIPTION: Replace 120V electrical heating thermostat.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Line voltage thermostat in room 111 does not work. Unit heater will not cycle properly, room will be uncomfortable. Personnel will resort to alternate forms of heating which are more expensive to operate and represent an increased safety risk.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $220

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-05
TYPE PROJECT: New Work ___ Repair __X_ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract __ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION **Replace Thermostat in Room 111**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
1. Replace Thermostat	**LS**	**1**	**160**	**160**
Sub Total:				**160**
OVERHEAD & PROFIT (25%)				**40**
PROJECT TOTAL:				**200**
CONTINGENCY (10%)				**20**
TOTAL REQUEST				**$220**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 16 Dec 1999

PROJECT NUMBER: E2FA 00-06
PROJECT NAME: Properly Mount RCAS Wiring and Accessories in the OMS
PROJECT DESCRIPTION: Provide permanent fasteners for RCAS wiring. Install transformer and 'Twister' converter box in a communication equipment cabinet to protect from normal activities in OMS Shop. Extend electrical receptacle if necessary.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Communication wiring for RCAS was haphazardously installed in the OMS using a poor selection of materials for the intended purpose; 120volt wire to the transformer is run across other equipment and is likely to become entangled in day-to-day actives on the shop floor. Self adhesive communication cable anchors mounted on the CMU wall are letting loose, cable is hanging unsupported. The transformer and 'Twister' converter are precariously sitting on a mounting bracket previously installed for another purpose. The transformer and converter are not anchored and are unprotected from accidentally being knocked to the floor.
This may be a warranty issue and the proponent for this installation at the RSC and USARC should be made aware of these deficiencies.

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $172

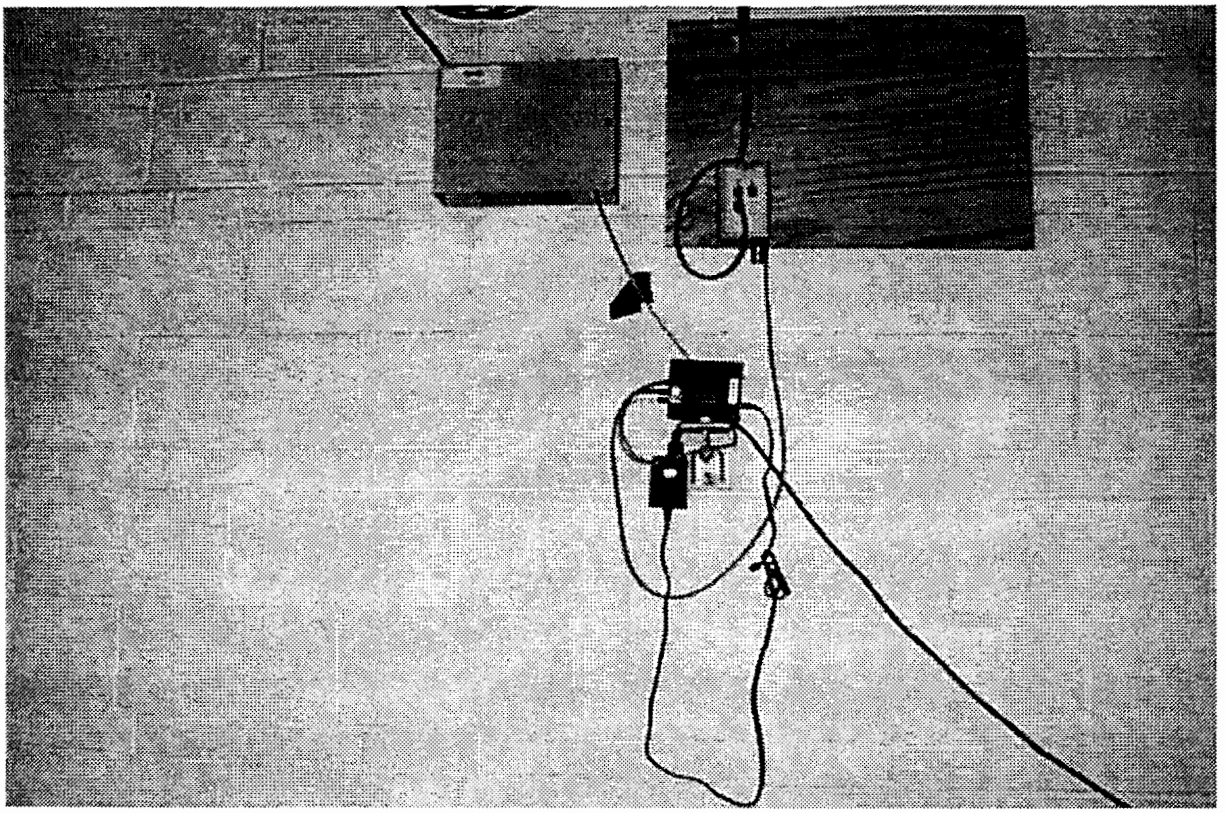

PHOTO E2FA 00-06: Improperly supported RCAS components and wiring, OMS Bay

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-06
TYPE PROJECT: New Work ___ Repair _X_ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ___ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Properly Mount RCAS Wiring and Accessories in the OMS**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
1. Install RCAS equipment in Comm. Equip. Cabinet				**0**
1.a. Labor	**HR**	**2**	**45**	**90**
1.b. Material	**LS**	**1**	**35**	**35**
Sub Total:				**125**
OVERHEAD & PROFIT (25%)				**31.25**
PROJECT TOTAL:				**156.25**
CONTINGENCY (10%)				**15.63**
TOTAL REQUEST				**171.88**

Estimates are: _X_ Current Year / FY 00 Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 18 Dec 1999

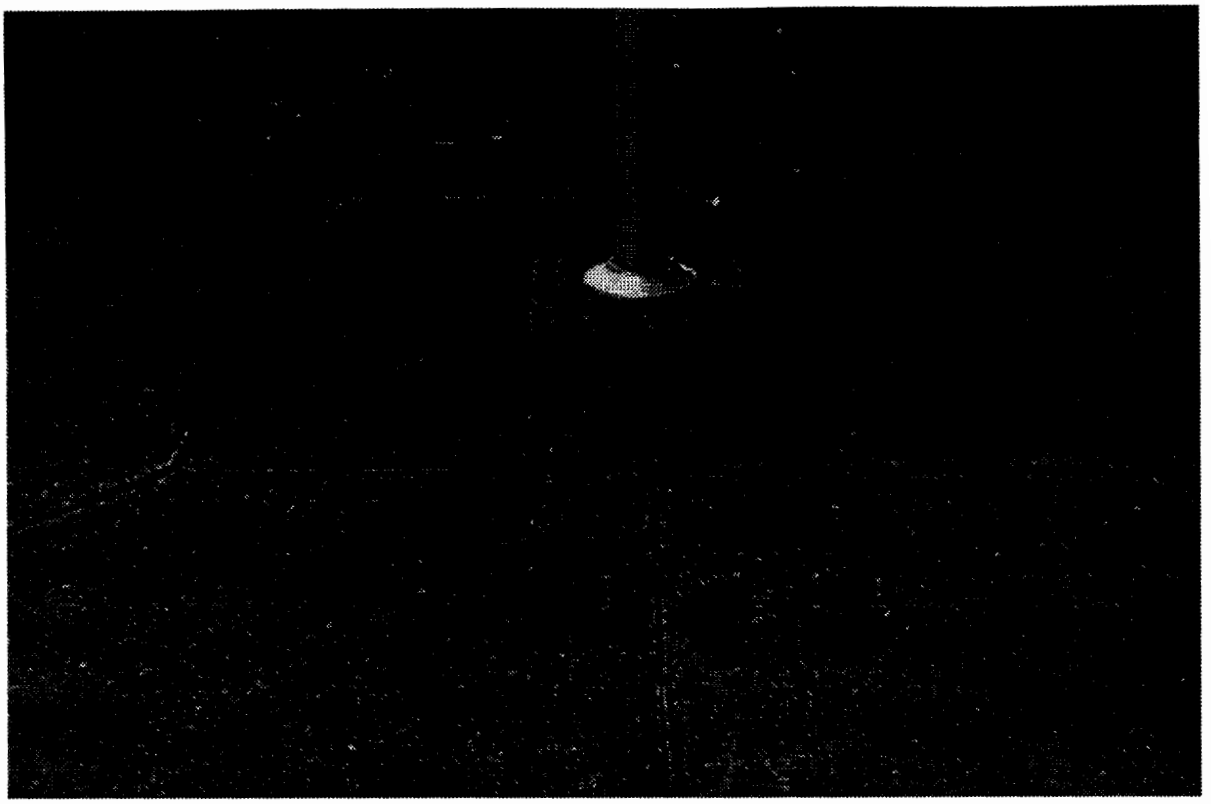

PHOTO E2FA 00-07: Cracks in concrete around flagpole base.

PROJECT NUMBER: E2FA 00-07
PROJECT NAME: Seal Cracks in Concrete
PROJECT DESCRIPTION: Seal cracks in concrete around flagpole base.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Approximately 30 LF of cracks in the concrete base and apron around the flagpole need to be sealed to reduce the water eroding the base and related freeze /thaw expansion.

SKETCHES: None
PHOTOS: Attached (See above)
FIELD NOTES: None
COST ESTIMATE: $240

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-07
TYPE PROJECT: New Work ___ Repair ___ Maintenance _X_ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ___ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Seal Cracks in Concrete**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET _1_ OF _1_)

ITEM	UM	QTY	UNIT COST	TOTAL COST
1. Clean debris and loose material	**LS**	**1**	**45**	**45**
2. Install 3/4"backer rod	**LF**	**25**	**0.8**	**20**
3. Place Sealant (Exterior flexible pour type recommended)	**Gal**	**2**	**55**	**110**
Sub Total:				**175**
OVERHEAD & PROFIT (25%)				**43.75**
PROJECT TOTAL:				**218.75**
CONTINGENCY (10%)				**21.88**
TOTAL REQUEST				**240.63**

Estimates are: _X_ Current Year / FY _00_ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 18 Dec 1999

PROJECT NUMBER: E2FA 00-08
PROJECT NAME: Seal Asphalt Pavement in POV Parking Lot
PROJECT DESCRIPTION: Clean, fill or seal cracks and damaged asphalt surfaces in the East POV lot and access road. Slurry seal or coat surface and stripe parking positions.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The existing asphalt overlay in the East side POV parking and access road are showing wide reflective or linear cracking. Cracks allow the penetration of moisture that will destroy the pavement though the freeze /thaw cycles. Moisture will also cause overlays to separate and undermine the base matter by slowly carrying fines from the base. Develop the parking stalls with the unit to reflect the best configuration and traffic flow.

JUSTIFICATIONS: Failure to make these repairs in the appropriate time frame will result in increased cost to the USARC as a result of increased repair costs from additional damage to the paved surfaces. .

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $14,988.29

PHOTO E2FA 00-08: POV parking lot linear cracking.

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-08
TYPE PROJECT: New Work ___ Repair ___ Maintenance _X_ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM _X_ Not Required ___ Other
CONSTRUCTION: Contract _X_ Local Purchase ___ Self Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Seal Asphalt Pavement in POV Parking Lot**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Apply slurry coat	**SY**	**4650**	**1.57**	**7300.50**
Clean and seal pavement cracks	**LF**	**4000**	**0.55**	**2200**
New line painting	**LS**	**1**	**1400**	**1400**
Sub Total:				**10900.50**
OVERHEAD & PROFIT (25%)				**2725.13**
PROJECT TOTAL:				**13626.63**
CONTINGENCY (10%)				**1362.66**
TOTAL REQUEST				**$14,988.29**

Estimates are: X Current Year / FY 00 Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 18 Dec 1999

PROJECT NUMBER: E2FA 00-09
PROJECT NAME: Remove Abandoned Wooden Lighting Poles
PROJECT DESCRIPTION: Remove and dispose of 3 wooden light poles.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Three wooden lighting poles are abandoned on the East side (Rear of the OMS) POV Lot. These poles are no longer serving a purpose and only detract from the appearance of the facility and represent a potential safety hazard due to the location along the rear exit as well as eventual decay and possibility of injury or property damage. Poles may have to be disposed of as hazardous material depending on the type decay retardant used.

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $309

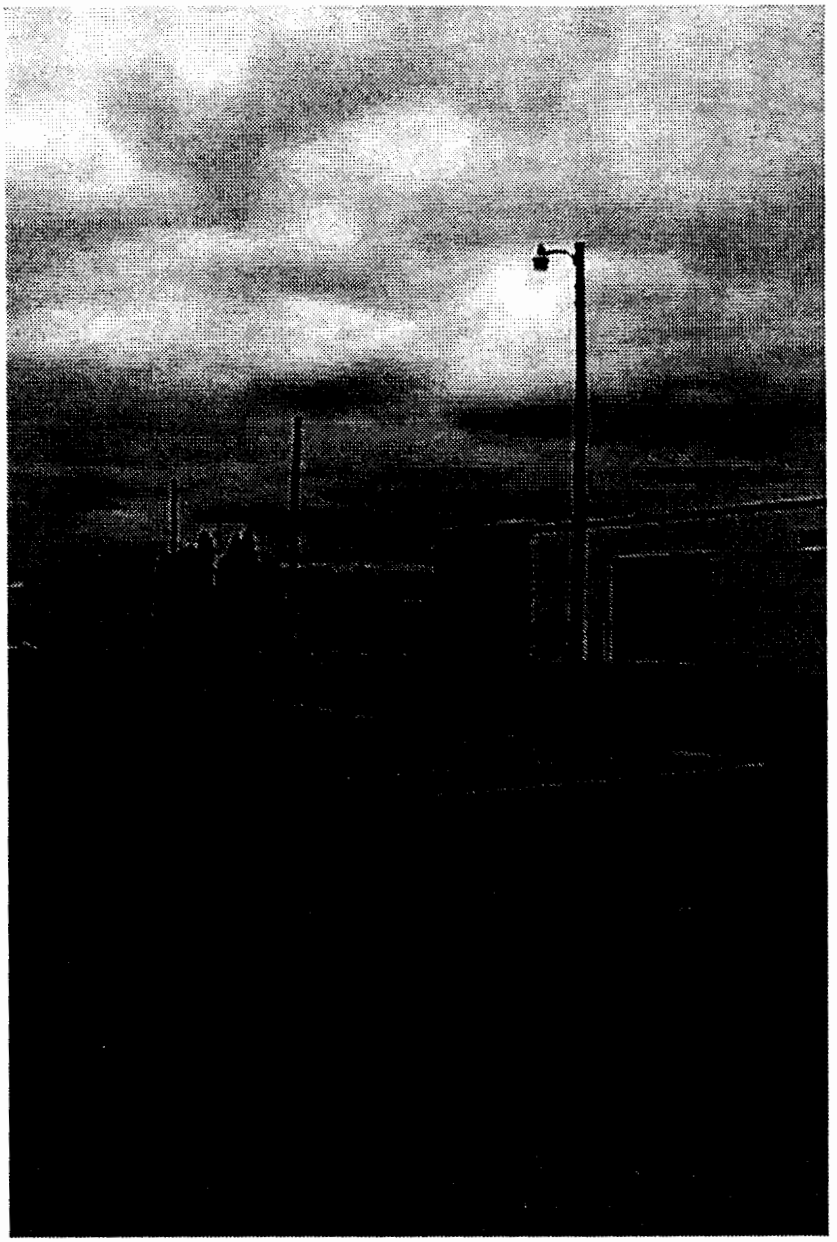

PHOTO E2FA 00-09: Abandon light poles

COST ESTIMATE
COST ESTIMATE NUMBER: E2FA 00-09
TYPE PROJECT: New Work ___ Repair __ Maintenance _X_ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ___ Local Purchase _X_ Self Help/Troop _X_
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Remove Abandoned Wooden Lighting Poles**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Remove wooden lighting poles	**LS**	**3**	**75**	**225**
Sub Total:				**225**
OVERHEAD & PROFIT (25%)				**56.25**
PROJECT TOTAL:				**281.25**
CONTINGENCY (10%)				**28.12**
TOTAL REQUEST				**$309.37**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-10
PROJECT NAME: Repair EPDM Roof Membrane
PROJECT DESCRIPTION: Repair EPDM roof at expansion joints in fascia and ballast stop. Investigate and determine the source of the roof leak in the corridor near room 110 center roof drain. The original roof warranty should be reviewed as partial costs may be borne by the manufacture and unauthorized repairs could result in loss of any remaining warranty.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:

During rainstorms, water is showing up in the vicinity of the center roof drain in the corridor in the vicinity of room 110. Attempts to locate the problem while at the site were non-conclusive. Ballast was left pulled back to allow a possible re-look at a later date.

The EPDM material has cracked completely through at all expansion joints in the fascia/ballast stops on the assembly hall roof and east side of the original center roof. This is allowing water to enter the cap and penetrate the wall structure. This will rapidly deteriorate the mortar and damage the brick as well as cause unsightly staining of the brick and deterioration of the interior paint.

SKETCHES: None
PHOTOS: Three Attached
FIELD NOTES: None
COST ESTIMATE: $1195

PHOTO E2FA 00-10A: Suspected area of leak at center roof drain above corridor near Room 110.

PHOTO E2FA 00-10B: Typical cracking of EPDM material at expansion joint on Assembly Hall roof.

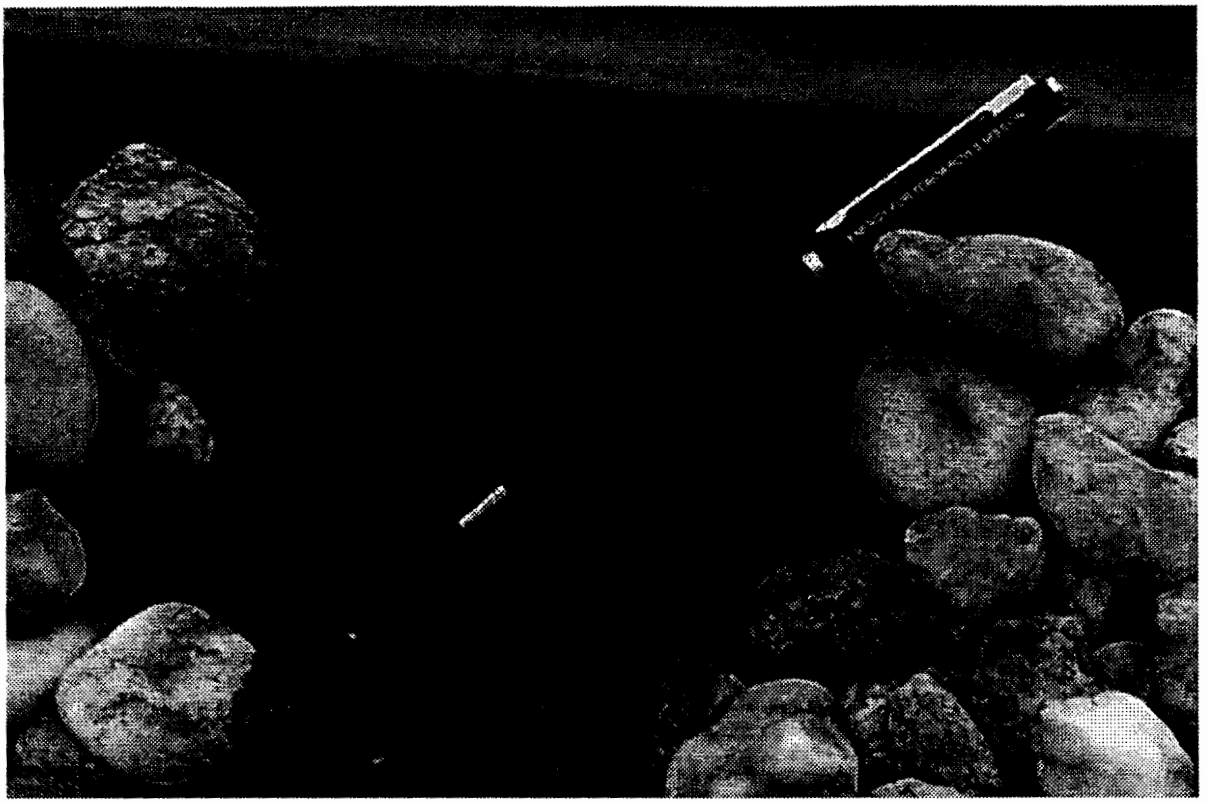

PHOTO E2FA 00-10C: Note severity of EPDM cracking at expansion joint [Assembly Hall roof.]

COST ESTIMATE
COST ESTIMATE NUMBER: E2FA 00-10
TYPE PROJECT: New Work ___ Repair _X__ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ____ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Repair EPDM Roof Membrane**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Trouble shoot roof leak and repair [up to 3 trips]	**LS**	**3**	**150**	**450**
Repair EPDM at expansion joints	**EA**	**14**	**30**	**420**
Sub Total:				**870**
OVERHEAD & PROFIT (25%)				**217**
PROJECT TOTAL:				**1087**
CONTINGENCY (10%)				**108**
TOTAL REQUEST				**$1,195**

Estimates are: X Current Year / FY 00 Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-11
PROJECT NAME: Repair Electrical System
PROJECT DESCRIPTION: Trouble shoot inoperative switching in the corridor of the original portion of the Center and make necessary repairs.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The Facility Coordinator has identified at least two light switches that do not seem to control anything. Over the life of the center the electrical system has been modified for numerous reasons from the construction of the new section, to new lighting installation in part of the original center, to miscellaneous installations of exit lights, receptacles, etc. Drawings have not been updated and circuit breaker labeling is missing, non-legible and /or inaccurate.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 213

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-11
TYPE PROJECT: New Work ___ Repair _X__ Maintenance ___ EIP __ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X__ Other
CONSTRUCTION: Contract __ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Repair Electrical System**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Service Call	**LS**	**1**	**150**	**150**
Duplex switches	**EA**	**2**	**2.50**	**5**
Sub Total:				**155**
OVERHEAD & PROFIT (25%)				**38.75**
PROJECT TOTAL:				**193.75**
CONTINGENCY (10%)				**19.37**
TOTAL REQUEST				**$ 213.12**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-12
PROJECT NAME: Install Security Light over Arms Vault Entrance
PROJECT DESCRIPTION: Install lighting at entrance to the arms vault that provides 0.1 Foot-candle at any given point within a 20-foot radius. Light should be direct wired, fixture should be energy efficient and replacement bulbs should be readily available on the local market
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The Arms Storage Structural Evaluation Section D4.4.K. requires interior entrances to be illuminated.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 293

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-12
TYPE PROJECT: New Work _X_ Repair _ __ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ____ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Install Security Light over Arms Vault Entrance**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Run Conduit /wire/above drop ceiling (Maximum length of run if required)	**LF**	**110**	**1.35**	**148.50**
Fixture	**EA**	**1**	**65**	**65**
Sub Total:				**213**
OVERHEAD & PROFIT (25%)				**53.38**
PROJECT TOTAL:				**266.38**
CONTINGENCY (10%)				**26.64**
TOTAL REQUEST				**$293.02**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-13
PROJECT NAME: Complete Closure of Service Pit in OMS
PROJECT DESCRIPTION: Remove the two tile ducts (8") that project above the floor, to at least 2-1/2 inches below the surface of the finished floor. Backfill the tile exhaust ducts, in 6' lifts with crushed stone, tamp each lift until unyielding. Install vapor barrier and cap with 4 inches of concrete flush with the existing floor. Surface (finish) concrete to match the existing floor. Determine if any other shop equipment is connected to the pit electrical systems prior to removal. Disconnect and remove any surface mounted electrical, pull wires and remove any conduit, hangers and boxes that are carrying only electrical wiring for service (grease) pit exhaust system the pit lighting. Cut conduit flush with the masonry surface and seal opening flush with the floor. Close, seal and insulate (R-30) roof penetration from the inside. Do not remove exterior exhaust hood (Remove as part of future roof replacement). Label electrical panel to reflect changes. Dispose of all debris.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The previous effort at closing the service (grease) pit failed to complete the closure. Exhaust fan, vent duct (8" galvanized duct) that ran from the pit to the ceiling mounted exhaust fan were not removed. Electrical wires, conduit, hangers and boxes that appear to service the pits exhaust fan and lighting, likewise have not been removed. Ductwork is taking up valuable floor space in the OMS, will free up electrical circuit, removal of exhaust fan will allow closure of the roof penetration when the built up roof is replaced.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 364

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-13
TYPE PROJECT: New Work ___ Repair _X__ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract __ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Complete Closure of Service Pit in OMS**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Duct work removal	**MH**	**2**	**25**	**50**
Concrete repairs	**EA**	**2**	**35**	**70**
Debris disposal	**LS**	**1**	**15**	**15**
Electrical demo and identification	**MH**	**2**	**45**	**90**
Close/ seal and insulate exhaust fan penetration	**LS**	**1**	**40**	**40**
Sub Total:				**265**
OVERHEAD & PROFIT (25%)				**66.25**
PROJECT TOTAL:				**331.25**
CONTINGENCY (10%)				**33.12**
TOTAL REQUEST				**$ 364.37**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-14
PROJECT NAME: Service/Repair OMS HV System
PROJECT DESCRIPTION: Service OMS heating equipment, replace filters, correct controls and setup day/night setback. Based on low level of actual vehicle maintenance adjust MAU to reflect minimum air changes/hour, ensure IR heaters are primary source of heat.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The outside makeup air units' controls have been tampered with and are no longer functional. OSHA requires maintenance shops (garages) to have fresh air delivered to maintain air quality in the building. This system was not designed to heat the office (self help constructed) within the shop. Energy efficiency is not being achieved – the Heating/ Ventilating Systems master control timer for day/night (unoccupied) setback not setup. Makeup Air Unit (MAU) is operating as the main heat source instead of the IR Heaters. The MAU filters are extremely dirty and need replaced; also indicating the HV equipment has not been properly serviced.

See related recommendation for the installation of self-contained, thru the wall, gas heater/electrical AC unit for office requirements

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 241

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-14
TYPE PROJECT: New Work _X_ Repair _ __ Maintenance ___ EIP __ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ____ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Service/Repair OMS HV System**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Service and setup OMS HV equipment	**LF**	**1**	**175**	**175**
Sub Total:				**175**
OVERHEAD & PROFIT (25%)				**43.75**
PROJECT TOTAL:				**218.75**
CONTINGENCY (10%)				**21.87**
TOTAL REQUEST				**$240.62**

Estimates are: _X_ Current Year / FY _00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-15
PROJECT NAME: Install Self-Contained PTAC Unit in OMS Office
PROJECT DESCRIPTION: Install a self-contained Packaged Terminal Air Conditioner (PTAC) gas fired heating and electrical air conditioning unit (similar to a Suburban Model DLII-0912E, Heating – 12000 BTU/Hr, Cooling – 9520 BTU/Hr 208/230 V, 1090/1135 Watts), associated gas piping, valves and electric in the OMS office. Update mechanical and electrical drawings and include equipment operating and maintenance instructions, parts list and service frequency schedule.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The existing HV system was not designed to heat the office (self help constructed) within the OMS. Energy efficiency, OSHA air change requirements, and a working office temperature of 68 Heat/ 78 AC cannot be achieved unless system additions are made.

NOTE: RCAS drop was run to this building to support full time manning but personnel are not working in space due to conditions. Additional self help work to increase energy efficiency of this office space is encouraged. Coordinate with 416th FETDA FIG if assistance is needed in developing a Bill of Material.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 4060

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-15
TYPE PROJECT: New Work _X_ Repair _ __ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ____ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Install Self-Contained HVAC Unit in OMS Office**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Install Suburban PTAC unit include thru wall vent	**LS**	**1**	**2600**	**2600**
Run ¾" gas line (~30'), including 2 valves, drip leg, fittings and hangers. Pipe supports not to exceed 6' on center and at all changes from horizontal to vertical. . Paint yellow and label "NATURAL GAS"	**LS**	**1**	**390**	**390**
Install electrical service for PTAC's AC and control operation (208/230V, 1090/1135 watts, 5.25/5 amps), to include breaker, conduit, hangers and wire.(~45')	**LS**	**1**	**225**	**225**
Sub Total:				**3215**
OVERHEAD & PROFIT (25%)				**803.75**
PROJECT TOTAL:				**4018.75**
CONTINGENCY (10%)				**41.19**
TOTAL REQUEST				**$ 4059.94**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-16
PROJECT NAME: Replace Missing Pipe Insulation – Room 145
PROJECT DESCRIPTION: Install fiberglass (formed) pipe insulation on HVAC piping and fittings above suspended ceiling in room 145 (20 lf). Pipe insulation must come with vapor barrier and all joints must be sealed to prevent sweating of pipe. Return ceiling tile to pre-repair condition.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Original insulation was removed to make pipe repairs.

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $ 172

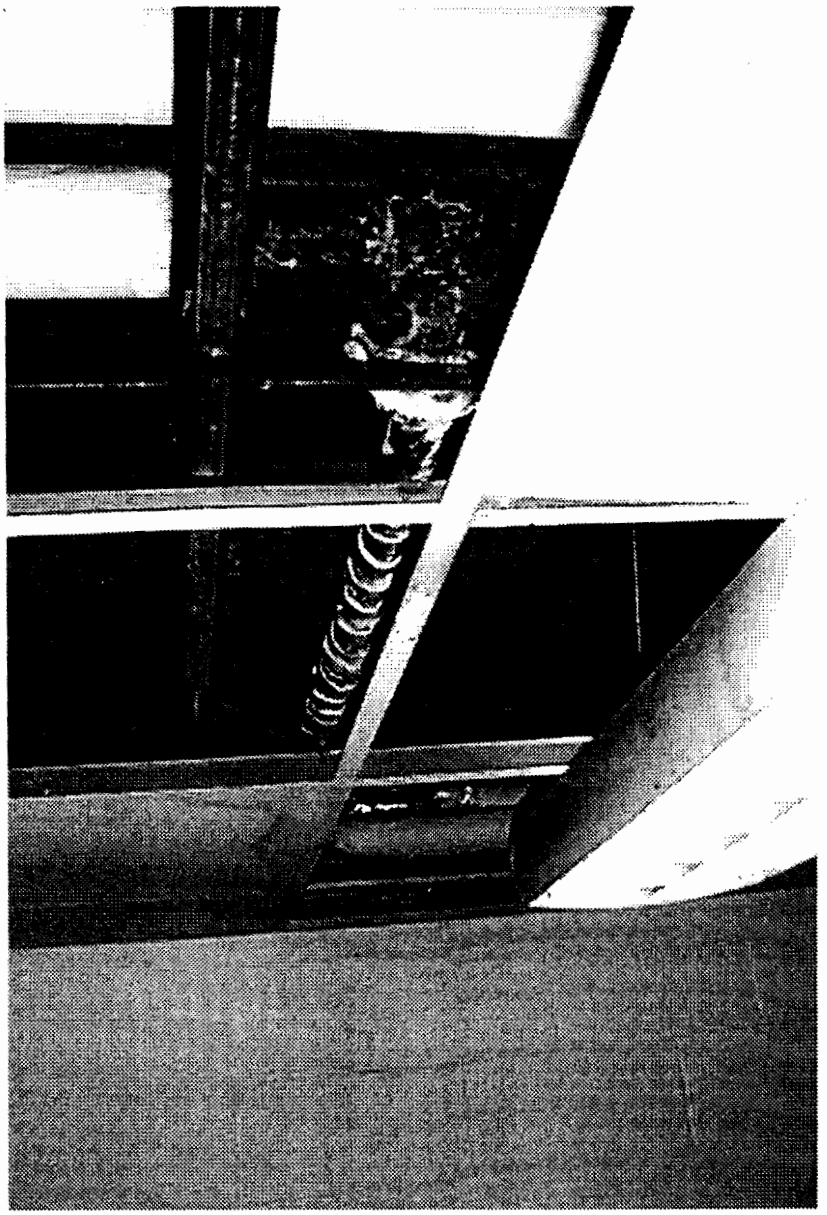

PHOTO E2FA 00-16: Pipe insulation, vapor barrier needs replaced and ceiling tile reinstalled.

COST ESTIMATE
COST ESTIMATE NUMBER: E2FA 00-16
TYPE PROJECT: New Work _X_ Repair _ __ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract ___ 416th ENCOM ___ Not Required _X_ Other
CONSTRUCTION: Contract ____ Local Purchase _X_ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Install Self-Contained HVAC Unit in OMS Office**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Install pipe insulation	**LS**	**1**	**125**	**125**
Sub Total:				**125**
OVERHEAD & PROFIT (25%)				**31.25**
PROJECT TOTAL:				**156.25**
CONTINGENCY (10%)				**15.63**
TOTAL REQUEST				**$171.88**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-17
PROJECT NAME: Replace Built-up roof on OMS
PROJECT DESCRIPTION: Replace existing built up roof system, with a fully adhered EPDM System [or best system for possible high wind area that may be associated with the centers location adjacent to the Leigh Valley International Airport]. Remove any roof equipment no longer needed (to include pit exhaust fan), replace any damaged deck or edge nailers and all fascia. All exposed fascia should be covered with aluminum and new gutter, down spouts (to include hangers) and concrete splash blocks (32" long minimum and designed / installed with adequate length to carry water away from the building

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Existing built up roof appears to be the original roof system (1960) and needs to be programmed for replacement.

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $24,750

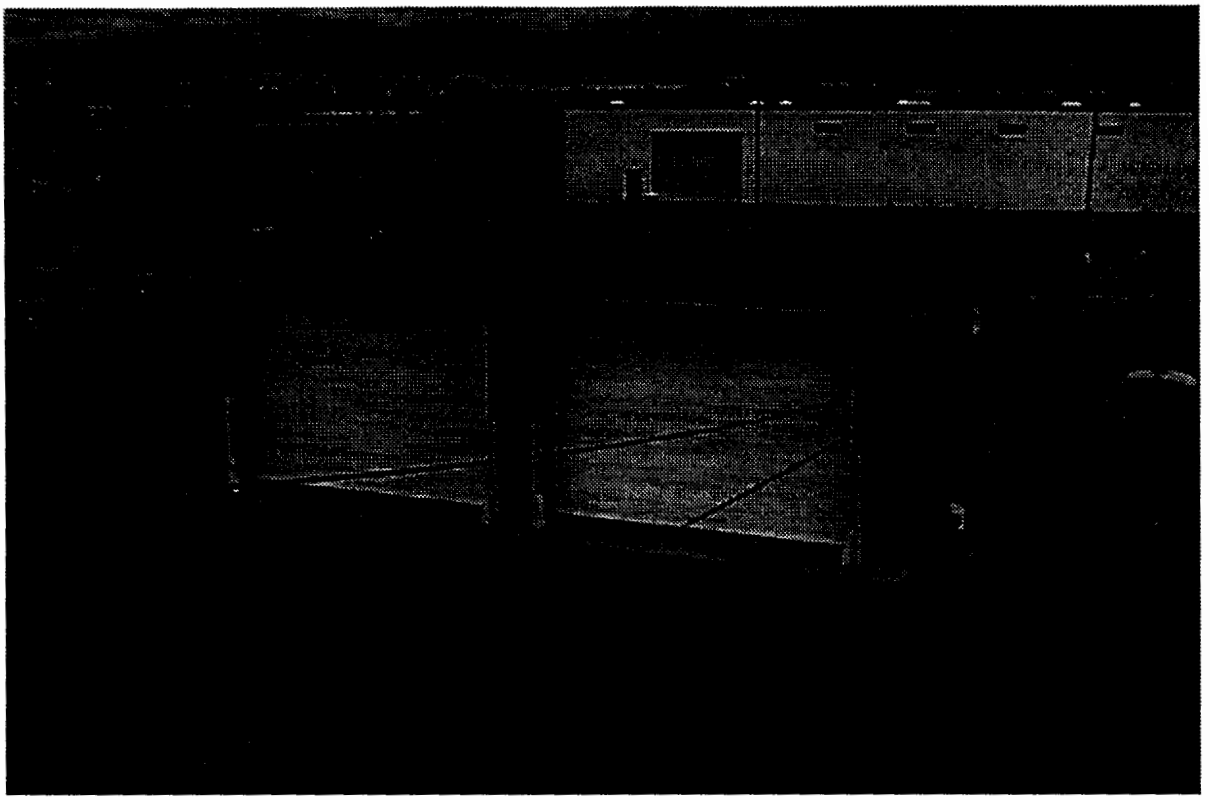

PHOTO E2FA 00-19: Built –up roof on OMS.

COST ESTIMATE
COST ESTIMATE NUMBER: E2FA 00-17
TYPE PROJECT: New Work ___ Repair _X__ Maintenance ___ EIP ___ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract _X_ 416th ENCOM _X_ Not Required __ Other
CONSTRUCTION: Contract __X__ Local Purchase __ Self-Help/Troop
SDEH In-House __ Other _____
SHORT JOB DESCRIPTION: **Replace Built-up roof on OMS**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
Replace Built-up Roof	**LS**	**1**	**18000**	**18000**
Sub Total:				**18000**
OVERHEAD & PROFIT (25%)				**4500**
PROJECT TOTAL:				**22500**
CONTINGENCY (10%)				**2250**
TOTAL REQUEST				**$24,750**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 7 Jan 2000

PROJECT NUMBER: E2FA 00-18
PROJECT NAME: Conduct Electrical Short Circuit/NEC Study
PROJECT DESCRIPTION: Conduct an electrical short circuit study, identify repairs and upgrades needed to reflect the current NEC, building use/operations and inefficient equipment and lighting. Prepare statement(s) of work for repairs needed; phase proposed projects based on urgency due to safety, vs. intermediate and long-term requirements.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Project proposed originally in FY96 TFA. Electrical wiring does not meet current NEC standards. Over the life of the center the electrical system has been modified for numerous reasons from the construction of the new section, to new lighting installation in part of the original center, to miscellaneous installations of exit lights, receptacles, etc. Drawings have not been updated and circuit breaker labeling is missing, non-legible and /or inaccurate. Numerous electrical switches in the old facility no longer seem to control anything. Automation and new equipment is overloading some circuits and there are an inadequate number of receptacles in a number of areas. No GFIC are installed in wet areas. NEC changes have outpaced repairs. Building use changes are not reflected in lighting switching and many of the original inefficient lighting fixtures are providing only marginal lighting levels, are difficult to maintain and present a very poor appearance.
SKETCHES: None
PHOTOS: None
FIELD NOTES: See FY96 TFA Long Range Maintenance Plan and Safety Summary
COST ESTIMATE: $6188

COST ESTIMATE

COST ESTIMATE NUMBER: E2FA 00-18
TYPE PROJECT: New Work __ Repair _X_ Maintenance ___ EIP __ Other *(specify)*
RECOMMENDED METHOD OF ACCOMPLISHMENT:
DESIGN: A/E Contract _X_ 416th ENCOM _X_ Not Required __ Other
CONSTRUCTION: Contract __ Local Purchase __ Self-Help/Troop
SDEH In-House ___ Other _____
SHORT JOB DESCRIPTION: **Conduct Electrical Short Circuit/NEC Study**
DESCRIPTION OF WORK: DETAILED COST ESTIMATE: (SHEET 1 OF 1)

ITEM	UM	QTY	UNIT COST	TOTAL COST
	LS	**1**	**4500**	**4500**
Sub Total:				**4500**
OVERHEAD & PROFIT (25%)				**1125**
PROJECT TOTAL:				**5625**
CONTINGENCY (10%)				**563**
TOTAL REQUEST				**$6188**

Estimates are: _X_ Current Year / FY_00__ Dollars
Prepared By: LTC Jim Hugar Checked By: 1LT Eric Burkholder

Date Prepared: 16 Dec 1999

USAR FACILITY
ARMS VAULT FACILITY STRUCTURAL CERTIFICATION

for the

WILSON-KRAMER USAR CENTER AND OMS

Bethlehem, Pennsylvania
Facility I.D. No. PA008
Date of Visit: 02 November 1999

PREPARED BY:
FORT INDIANTOWN GAP FACILITY ENGINEER TEAM
416th Engineer Command, ESG-E
Building 4-96
Coulter and Oil Street
Ft Indiantown Gap
Annville, PA, 17003

416th ENGINEER COMMAND
USAR FACILITY
TOTAL FACILITY ASSESSMENT

ARMS VAULT FACILITY STRUCTURAL CERTIFICATION

TABLE OF CONTENTS

SECTION	DESCRIPTION
1.	EXECUTIVE SUMMARY
2.	FACILITY IDENTIFICATION
3	**ARMS ROOM CHECKLIST**

SECTION 1: EXECUTIVE SUMMARY

1. As part of the E2FA conducted at the USAR facility the condition of the Arms Room was visually observed to determine whether the Arms Room meets the certification criteria set forth in AR 109-11 dated September 1993. The surrounding area is developed property. The Lehigh Valley International Airport is directly across the highway, the State Police Barracks adjoins on the south side, and commercial/light industry on the North and East sides. The entire complex comprises of approximately 5 acres. The MEP lot is enclosed with a perimeter security fence consisting of a continuous seven feet high chain link fence with a single angled three-strand barbed wire.

2. A visual inspection of the Arms Room Vault was followed by a structural review of the drawings. Based on visual inspection the condition of the Arms Room is excellent. It appears that the original construction of the Arms Room vault was in accordance with AR 190-11. No apparent changes or upgrades are necessary to the Arms Room. The hood and ventilation system above the Armor's workbench extends thru the ceiling and roof to a roof mounted exhaust fan. The drawings identify this opening ("12"X 12") as being protected by "ANTI-INTRUSION BARS" [See First Floor Plan, Plate 16, Sheet M-2, Foundation Plan, AS-BLT 29-06-19]. This should be verified and documented with photos at the first opportunity that the roof mounted exhaust fan or interior duct/hood vents are removed for repairs. The 416th ENCOM should be notified and scheduled to visit or as a minimum provided photos and sketches of the intrusion bars identifying size, spacing and method of anchoring. It is also recommended that the Ammo Storage Vault, Room 115 be kept secure, as the common wall it shares with the Arms Room is not as thick as the remaining walls.

3. This evaluation was based on visual and as-built drawing reviews. Equipment to determine concealed reinforcement size and spacing has not been provided to this unit to conduct non-destructive testing.

James L. Hugar
LTC, EN, USAR
Team Leader

** New Facility Structural Criteria 3

SECTION 2 FACILITY IDENITIFICATION

INSTALLATION NAME: **Wilson-Kramer USAR Center and OMS**
INSTALLATION NUMBER: **PA008**
STREET ADDRESS: **2940 Airport Road**
CITY/TOWN: **Bethlehem**
STATE: **PA**
ZIP CODE: **18017-2166**
RSC/RSG: **99th RSC, HQs Oakdale, PA 15071-5001**
FACILITY TYPE:

A. USARC:	X	B. AFRC:	___	C. OMS:	X	D. FLIGHT:	___
E. DS/GS:	___	F. MED:	___	G. WET:	___	H. FLIGHT:	___
I. ECS:	___	J. CTF:	___	K. OTHER:			

ASSESSMENT PERFORMED BY: **Fort Indiantown Gap Facility Engineer Team**
FACILITY ENGINEER TEAM INCLUDED:

LTC Jim Hugar

1LT Eric Burkholder

SFC Joseph Baran

REFER TO FOR INFORMATION:

LTC James L Hugar
Work: (717) 770-5582 DSN 977-5582 email: jhugar@usapc-emh1.army.mil
Home: (717) 866-2792

PERSONNEL CONTACTED ON SITE:

NAME/GRADE	DUTY POSITION	PHONE NUMBER
Mr. Joseph A Burke	**Facility Coordinator**	**(610) 574-8207**

ASSESSMENT CONDUCTED FROM: **02 Nov 1999/0900** TO: **03 Nov 1999/1530**
DATE OF LAST ASSESSMENT: **24 October 1996 (Facility TFA),** Arms Vault certified 8 Jul 1997 by 99th RSC Provost Marshal, John P. Chasarik.

ARMS ROOM CHECK LIST

A.	FLOORS:	YES	NO
1. **	6 inch concrete slab on grade reinforced with 6 inch by 6 inch 4.0/4.0 WWF minimum.	X*	___
2.	6 inch thick concrete slab reinforced with steel bars (floor forms the ceiling of underlying rooms or areas).	___	___
3.	2 inch concrete topping over existing floor slab.	___	___
4.	Original vault slab removed and replaced with new 6 inch reinforced concrete slab.	___	___
5.	Other: ____ inch thick concrete slab on grade reinforced with WWF.	___	___

* **NOTE:** As per Section C, 12/2, Plate 12, Sheet S-1, Foundation Plan , AS-BLT 29-06-19. "6" slab w/6x6 4/4W.W.M."

** New Facility Structural Criteria 5

B.	WALLS:	YES	NO
1. **	8 inch thick reinforced concrete with #4 bars at 9 inches on center in each direction.	X*	___
2.	____ inch thick reinforced concrete with #____ bars at ____ inches on center in each direction.	___	___
3.	8 inch thick concrete masonry with # 4 bars threaded through concrete masonry unit cavities at 8 inch centers. Cells of concrete masonry unit cavities filled with mortar or concrete. Horizontal joint reinforcement provided with each course.	___	___
4.	8 inch thick brick wall with brick courses interlocked between inner and outer courses.	___	___
5.	Existing walls: New 8 inch reinforced (inner) (outer) walls constructed against existing walls.	___	___
6.	The walls are constructed of 8 inch thick non reinforced concrete masonry that has been reinforced on the inside vault surface with 6 gauge steel wire forming a grid of not more than 2 inches center to center, in accordance with AR 190-11, Appendix G-3(e).	___	___
7.	Other:	___	___

***NOTE:** As per Section C, 12/2, Plate 12, Sheet S-1, Foundation Plan , AS-BLT 29-06-19. and note "Alt. horiz. and vertical rods from face to face to form a grid of 4-1/2" squares in the four arms room walls"

** New Facility Structural Criteria 6

C. CEILING:	YES	NO
1. ** 6 inch concrete slab reinforced with 6 inch by 6 inch 4.0/4.0 WWF minimum.	X*	___
2. Concrete Pan Joists: Thinnest portion of the joist not less than 6 inches and the clear space between joists does not exceed 20 inches.	___	___
3. ____ inch concrete topping provided over existing concrete ceiling slab. Reinforcing bars spacing form a grid where the area of any opening does not exceed 96 square inches.	___	___
4. Other:	___	___

* **NOTE**: As per Section C, 12/2, Plate 12, Sheet S-1, Foundation Plan , AS-BLT 29-06-19., 8" concrete, with "#4 @ 12" TempST'L, #5@7"Bott".

D. DOORS: (Reserve Centers)	YES	NO
1. GSA approved Class 5 steel door (Fed. Spec. AA-D-600B) with a built in 3 position, dial type, changeable combination lock used in lieu of the door described below. **[MOSLER Model No. 7]**	X	___
2. Day gate provided (not required).	X	___
3. Pass through window provided with door arms vault.	___	X

* **NOTE**: As per Door Schedule Plate 11, Sheet A-8, Window and Door Schedules. , AS-BLT 29-06-19.,

E. DOORS: (Barracks and other Full-time occupied spaces) [N/A]	YES	NO
1. Door is 1-3/4 inch thick solid core wood or laminated wood with 12 gauge metal plate securely attached to the outside face.	___	___
2. Door is 1-3/4 inch thick industrial type hollow metal internally reinforced vertically with continuous steel stiffeners spaced a maximum 6 inches on center. Minimum thickness of skin plate of door not less than 14 gauge.	___	___
3. Two doors provided to arms vault. One door as described in E1 or E2 above. The second door, rod and bar grid door as required in AR190-11. (Double door protection is not required)	___	___

F. DOORS AND PASS WINDOW FRAMES:	YES	NO
1. Frames are compatible with doors and the frames are securely anchored.	X	___

** New Facility Structural Criteria 7

G. HARDWARE FOR DOORS:	[N/A]	YES	NO
1. Locking device for the outer door to vault is high security hasp conforming to military specification MIL-P-43607.		___	___
2. The inner door to the Arms vault has mortise cylinder dead bolt lock "ultra 700" with Medelo or Emhart high security cylinder.		___	___
3. Door hinges are (fixed pin security type) (safety stud hinges) (with hinges welded) to prevent removal.		___	___
4. Hinge mounting screws not exposed to the outside of the arms room.		___	___
5. Other:		___	___

** **NOTE:** Day gate does not meet high security standards; but meets minimum determent standards.

H. WINDOWS AND OTHER OPENINGS:		YES	NO
1. No openings existing in walls or ceilings.		___	X*
2. ** All openings greater than 96 square inches are protected by rod-and-bar grid as required in paragraph G-1. e. (AR 190-11).	[N/A]	___	___

* **NOTE:** One eight-inch diameter PVC pipe for workbench exhaust opening in ceiling located in outer room.

I. ARMS ROOM ANCHOR RINGS:	YES	NO
1. Anchor rings provided in arms room floor or walls to secure arms racks. **[Wall rings embedded]**	X	___

J. INTRUSION DETECTION SYSTEM: (IDS)	YES	NO
1. Intrusion detection system provided for vaults as required in AR 190-11.	X*	___
2. Alarms at local law enforcement/contract security.	X**	___
3. Other: IDS has balanced magnetic, motion and heat sensors.	X***	___

* **NOTE:** ADT Security System.
** **NOTE:** On Post National Guard civilian police notified.
*** **NOTE:** IDS system installed in 1994.

K. SECURITY LIGHTING:	YES	NO
1. Entrance to arms vault illuminated by lighting.	X	___

L. MECHANICAL:	YES	NO
1. Electrical Humidifier provided for vault humidifier control.	X*	
2. 3 inch floor drain provided for dehumidifier.		X**

* **NOTE:** 2" floor drain .

M. SECURITY PATROLS:	YES	NO
1. Reserve center is checked by security patrols periodically.	X*	

* **NOTE:** State Police Barracks located adjacent to USAR Center

N. SUMMARY:

Note: Walls of existing facilities located off a military installation shall be a minimum of 8 inches of reinforced concrete block with concrete filled voids, 8 inches of reinforced solid brick, or 12 inches of non-reinforced solid brick. Ceilings, roofs and floors of existing facilities will be reinforced concrete at a minimum.

	YES	NO
1. This facility meets Class II storage requirements for weapons.	X	
2. No construction exceptions are noted.	X	

O. WAIVERS, UNUSUAL REQUIREMENTS AND ADDITIONAL FEATURES:

The thru the ceiling and roof vent is identified as being protected by "ANTI-INTRUSION BARS" as per First Floor Plan, Plate 16, Sheet M-2, Foundation Plan, AS-BLT 29-06-19. This should be verified and documented with photos at the first opportunity that the roof mounted Exhaust fan or interior duct/hood vents are removed for repairs. The 416th should be notified and scheduled to visit or as a minimum provided photos and sketches of the intrusion bars identifying size, spacing and method of anchoring.

** New Facility Structural Criteria 9

CERTIFICATION OF COMPLIANCE WITH CRITERIA SET FORTH IN AR 190-11

	YES	NO
This facility was constructed in accordance with the new facility structural criteria specified in Appendix G-1 of AR 109-11 dated 30 September, 1993 and therefore meets the minimum structural standards for the storage of Category II arms.	___	___
This facility meets the minimum structural criteria specified in Appendix G-3 of AR 109-11 dated 30 September, 1993 for existing facilities located outside a military installation, and therefore meets the minimum structural standards for the storage of Category II arms.	_X_	___
This facility meets the minimum structural criteria specified in Appendix G-2 of AR 109-11 dated 30 September, 1993 for existing facilities located on a military installation, and therefore meets the minimum structural standards for the storage of Category II arms.	___	___

James L. Hugar
LTC, EN, USAR
Team Leader, 416th ENCOM

DATE: 15 January 2000

** New Facility Structural Criteria 10

SECURITY CONSTRUCTION STATEMENT

For use of this form, see AR 190-11; the proponent agency is ODCSOPS

INSTRUCTIONS

This form will be prepared in three copies. The original will be maintained permanently in the files of the individual signing the form. The first copy will be maintained in the using unit/organizational files. The second copy will be filed permanently in the ammo/ammunition storage facility. All entries except item 7 will be typed written.

1. THE CONSTRUCTION OF THIS FACILITY CONFORMS TO THE CRITERIA OF AR 190-11 WHICH IS IN EFFECT ON THIS DATE EXCEPT AS INDICATED HEREON

This facility meets the minimum structural criteria specified in Appendix G-3 of AR 109-11 dated 30 September, 1993 for existing facilities located outside a military installation, and therefore meets the minimum structural standards for the storage of Category II arms.

NOTE:

This evaluation was based on visual and as-built drawing reviews. Equipment to determine concealed reinforcement size and spacing has not been provided to this unit to conduct non-destructive testing.

The 416th ENCOM should be notified and scheduled to visit as part of any modifications or repairs to the hood and ventilation system above the Armor's workbench and the roof mounted exhaust fan. An alternative would be, if exposed, to document existing conditions of the intrusion bars, providing as a minimum photos and sketches of the intrusion bars, identifying size, spacing and method of anchoring.

It is also recommended that the Ammo Storage Vault, Room 115, be kept secure, as the common wall it shares with the Arms Room is not as thick as the remaining walls.

2. ROOM AND BUILDING NUMBER, STREET AND INSTALLATION ADDRESS
Wilson-Kramer USAR Center
2940 Airport Road
Bethlehem, PA 18107

3. THIS APPLIES TO
a. ☒ AN EXISTING STRUCTURE
b. ☐ CONSTRUCTION OF NEW FACILITY
c. ☐ MODIFICATION OF EXISTING FACILITY *(Explain)*

4. NAME OF OFFICIAL SIGNING IN ITEM 7 BELOW	GRADE	6. ADDRESS OF OFFICIAL
James L. Hugar	05	416th ENCOM
5. ORGANIZATION		Building 4-96, FIG
416th ENCOM		Annville PA 17003

7. SIGNATURE James L Hugar — DATE SIGNED 29 Jun 2000

DA FORM 4604-R, 1 MAR 77

WILSON-KRAMER USAR CTR - REAL PROPERTY/SQUARE FOOTAGE SUMMARY

FACILITY DATA - PA008

TRAINING CENTER BUILDING

Room No.	Room Name	Room Dimensions			Room	Room	HVAC	Use	User	Remarks
		Length (ft)	Width (ft)	Height (ft)	Area (nsf)	Volume (cf)	Code *1.	Code *2.		
101A	Office	15.5	30.58	8	474	3,792	HA	IA2	130 CHEM.C0	
101B	Office	18.42	30.58	8	563	4,506	HA	IA1	130CHEM.CO	
101C	Office	9.58	11.67	8	112	894	HA	IA1	130 CHEM.CO	
101D	Office	15.5	11.67	8	181	1,447	HA	IA1	130 CHEM.CO	
101	Corridor	24	6	8	144	1,152	HA	IA1	COMMON	
101	Corridor	26	8.33	8	217	1,733	HA	IA1	COMMON	
102	Classroom	18.17	30.58	8	556	4,445	HA	IE1	744MP BN	
103	Classroom	18	30.58	8	550	4,404	HA	IE1	744MP BN	
104	Classroom	18.27	30.58	8	559	4,470	HA	IE1	744MP BN	
105	Classroom	18	30.58	8	550	4,404	HA	IE1	744MP BN	
106	Office	18.17	30.58	8	556	4,445	HA	IA2	744MP BN	
107	Male Rest	5.17	8.83	8	387	3,093	H	IH1	COMMON	
		12.83	26.58	8	355	2,844	H	IH1	COMMON	
108	F.Locker Rm	3.33	4.33	8	14	115	H	IH4	COMMON	
109	Corridor	100	6	8	600	4,800	H	IA3	COMMON	
110	Locker	48.17	30.58	8	1,473	11,784	H	IH4	COMMON	
111	Storage	33.75	30.58	8	1,362	10,892	H	IF1	COMMON	
		38	8.67	8	479	3,828	H	IF1	COMMON	
112	Ofc.Fac.	10.5	14.2	10	149	1,491	HA	IA1	744MP BN	
113	Storage	115	14	10	1,610	16,100	HA	IF1	744MP BN	
114	Arms Rm	20.17	26	10	524	5,244	U	IF1	744MP BN	
115	Ammo Stor	5.17	2	11	10	114	U	IF1	744MP BN	
116	Storage	18.17	11.5	11	209	2,299	H	IF1	744MP BN	
117	Vestibule	24.5	5	8	123	980	H	IA6	COMMON	
118	Storage	50.5	18.3	10	924	9,242	H	IF1	744MP BN	
119	Corridor	76	6.33	8	481	3,849	H	IA3	COMMON	
120	Storage	20	18.3	10	366	3,660	H	IF1	744MP BN	
121	Storage	38	20	8.92	760	6,779	H	IF1	130CHEM. CO	
122	Storage	19.2	6	8.92	115	1,028	H	IF1	744MP BN	
123	Storage	13	9.5	8.92	124	1,102	H	IF3	744MP BN	
123A	Janitor closet	6	4	8.92	24	214	U	IF4	COMMON	
124	Mech. Rm	26.5	19.17	14.5	508	7,366	H	IH7	COMMON	
125	Storage	18.8	14.8	8	278	2,226	H	IF2	744MP BN	
126	Assembly	70	50	20	3,500	70,000	H	IB1	COMMON	
127	Food Prep	14.67	19.33	8.92	284	2,529	H	IC	COMMON	
128	Food Storage	19.33	7.67	8	148	1,186	H	IC	COMMON	
129	Scullery	19.33	7.5	8.92	145	1,293	H	IC	COMMON	
130	Corridor	36	6.17	8	222	1,777	H	IA3	COMMON	
131	Corridor	147.5	6	8	885	7,080	H	IA3	COMMON	
132	NBC Storage	16.17	11.17	8	181	1,445	H	IF1	744MP BN	
133	Corridor	36	6.17	8	222	1,777	H	IA3	COMMON	

NOTES:

Note 1: See HVAC Code Legend

Note 2: See EMAAR Facility Data Use Code Legend

Assessment Conducted: XX MON 00

134	Storage	8.83	5	8	44	353	H	IF3	744MP BN	
135	Janitor Closet	8.5	5.17	8	44	352	U	IF4	COMMON	
136	Women toilet	15.17	10.33	8	157	1,254	H	IH1	COMMON	
137	Ofc. toilet	15.17	8.33	8	126	1,011	H	IH1	COMMON	
138	Break	15.17	10	8	152	1,214	H	IH6	COMMON	
139	Cmd. Ofc.	19.25	13.08	8	252	2,014	H	IA1	744MP BN	
140	Office	20.33	19.17	8	390	3,118	H	IA1	744MP BN	
140A	Office	29.1	19.17	8	558	4,463	H	IA1	744MP BN	
141	Office	25	12.17	8	304	2,434	H	IA1	744MP BN	
142	Tng Storage	36.5	3.5	8	128	1,022	H	IE5	744MP BN	
142A	Mat.Storage	6.7	2	8	13	107	U	IE5	744MP BN	
143	Corridor	15.17	7.67	8	116	931	H	IA3	COMMON	
144	Vestible	14.67	6.67	8.25	98	807	H	IA6	COMMON	
145	Portico	5.67	3.83	8.72	22	189	H	IA6	COMMON	
146	Office	26	25	8.92	650	5,798	H	IA2	744MP BN	
146	Corridor	26	6	8.92	156	1,392	H	IA3	COMMON	
146A	Office	13.75	13.67	8.92	188	1,677	H	IA2	744MP BN	
146B	Office	13.75	11.5	8.92	158	1,410	H	IA2	744MP BN	
Total Bldg Net Area (NSF)					21,194					
Circulation Net Area (Actual)					3,285					
Structure (Actual)					2,371					
Total Bldg Gross Area (GSF)					26,850					

NOTES:
Note 1: See HVAC Code Legend
Note 2: See EMAAR Facility Data Use Code Legend

WILSON-KRAMER USAR CTR - REAL PROPERTY/SQUARE FOOTAGE SUMMARY FACILITY DATA - FA000										
ORGANIZATIONAL MAINTENANCE SHOP (OMS)									Use	
Room No.	Room Name	Room Dimensions			Room	Room	HVAC		User	Remarks
		Length (ft)	Width (ft)	Height (ft)	Area (nsf)	Volume (cf)	Code *1.	Code *2.		
Bay1	repair	22.67	43.5	12	986.15	11833.74	H	IIA	744MP BATT	
Bay2	MV Stor	22.67	43.5	12	986.15	11833.74	H	IIA1	744MP BATT	
Paint Stor	Stor	8.5	6	8	51.00	408.00	U	IIA4	744MP BATT	
Cage1	Stor	12.33	8.5	10	104.81	1048.05	H	IIA1	744MP BATT	
Cage2	Ofc	11	8.5	10	93.50	935.00	H	IIA1	744MP BATT	
Cage3	Ofc	11	8.5	10	93.50	935.00	H	IIA1	744MP BATT	
Total Bldg Net Area (NSF)					2315.10	0.00				
Circulation Net Area (Actual)					0					
Structure (Actual)					2315.1					
Total Bldg Gross Area (GSF)					2524.1					

NOTES:
Note 1: See HVAC Code Legend
Note 2: See EMAAR Facility Data Use Code Legend

Assessment Conducted: XX MON 00

FROM DA FORM 5034-R, JAN 94 REFERENCE AR 140-483

I. TRAINING BUILDING	II. MAINTENANCE SHOPS
A. ADMINISTRATIVE AREAS	A. ORGANIZATIONAL MAINTENANCE
(1) FULL TIME	(1) SHOP OFFICE
(2) UNIT EXCLUSIVE	(2) UNISEX TOILET
(3) UNIT COMMON	(3) TOOL & PARTS ROOM
(4) RETENTION	(4) STORAGE ROOM
(5) ADMINISTRATIVE SUPPORT	(5) BATTERY ROOM
(a) GENERAL	(6) FLAMMABLE STORAGE
(b) RCAS	(7) CONTROLLED WASTE STORAGE
(6) LOBBY	(8)
B. ASSEMBLY AREA	(9)
(1) ASSEMBLY AREAS	B. AREA MAINTENANCE SUPPORT
(2) CHAIR AND TABLE STORAGE	(1) SHOP OFFICE
C. KITCHEN - STD DESIGN	(2) MEN'S TOILET
D. WEAPONS AREA	(3) WOMEN'S TOILET
(1) VAULT	(4) LOCKER ROOM
(2) ARMORER	(5) CLASSROOM/BREAK AREA
E. EDUCATIONAL AREAS	(6) TOOL ROOM
(1) CLASSROOMS	(7) SUPPLY ROOM
(2) LIBRARY READING ROOM	(8) BATTERY ROOM
(3) LIBRARY STORAGE	(9) COMMO/ELECTRONICS SHOP
(4) LEARNING CENTER	(10) INSTRUMENT REPAIR
(5) TRAINING AIDS STORAGE	(11) SMALL ARMS REPAIR
(6) COMSEC TRAINING	(12) SMALL ARMS VAULT
(7) COMSEC STORAGE	(13) FLAMMABLE STORAGE
(8) USARF INSTRUCTOR ROOM	(14) CONTROLLED WASTE STORAGE
(9) USARF PUBLICATIONS STORAGE	(15)
F. STORAGE AREAS	(16)
(1) UNIT/INDIVIDUAL	(17)
(2) STAGING AREA	C. JOINT MAINT AREAS (OMS/AMSA)
(3) SUPPLY OFFICE	(1) WORK BAYS
(4) JANITORIAL STORAGE	(2) MECHANICAL/CUSTODIAL
(5) FLAMMABLE STORAGE	(3)
(6) CONTROLLED WASTE	
(7) FACILITY MAINTENANCE	**III. UNHEATED STORAGE**
G. SPECIAL TRAINING AREAS	A. UNIT/INDIVIDUAL STORAGE
(1) RIFLE RANGE	B. STAGING AREA
(2) PHOTO LAB	
(3) BAND ROOM	**IV. SUPPORTING FACILITIES**
(4) MEDICAL SECTION	A. PRIVATELY-OWNED VEHICLE
(5) PHYSICAL EXAM WING	(1) PARKING - CENTER (SY)
(6) SCIF	(2) PARKING - AMSA (SY)
(7) SOIL TESTING LAB	B. MILITARY EQUIPMENT PARK
(8) G.O. CONFERENCE	(1) OMS (SY)
(9) DRAFTING ROOM	(2) AMSA (SY)
(10) PHYSICAL READINESS	C. WASH PLATFORMS
(11) WWNCCS	(1) OMS (EA)
(12)	(2) AMSA (EA)
H. SUPPORT AREA	D. COVERED STORAGE (SF)
(1) MEN'S TOILETS & SHOWERS	E. MEP FENCING (LF)
(2) WOMEN'S TOILETS & SHOWERS	F. MEP LIGHTING (EA)
(3) UNISEX HANDICAP TOILET	G. ACCESS ROADS (SY)
(4) LOCKER ROOM	
(5) VENDING ALCOVE	**HVAC CODE LEGEND**
(6) BREAK AREA	
(7) MECHANICAL	H: Room Heated Only
(8) ELECTRICAL	A: Room Air-Conditioned Only
(9) TELEPHONE	HA: Room Heated & Air-Conditioned
	U: Room is Unconditioned

Facility Mobilization Actions File
Wilson-Kramer USAR Center and OMS

Facility ID: PA008 Date: 11/2/99

1. Center Commander:

   a. Name and Rank: LTC Alvin J. Beveridge

   b. Center Name: Wilson - Kramer USAR Center
   Address: 2740 Airport Rd. Bethlehem, PA 18107

   c. Unit of Center Commander 744th MP BN

   d. (1) Home Phone: 609-585-7315
   (2) Work Phone: 609-984-4934

2. Facility Coordinator:

   a. Name: Joseph D. Burke

   b. (1) USARC Phone/Fax: 610-974-8207/8215
   (2) Home Phone: 215-997-1095

   c. Reserve Assignment: No

   (1) Unit (if applicable):
   (2) Phone (if applicable):

3. Police Department (Name): Bethlehem Police Department
   (Address): East Church Street. Bethlehem, Pa
   (Phone): 911 or 610-865-7171

4. Fire Department (Name): Bethlehem Fire Department
   (Address): East Church Street. Bethlehem, Pa
   (Phone): 911 or 610-865-7171

5. Fire Alarm Detection (Name) Simplex
   (Address): Allentown , Pa
   (Phone): 610-434-9111

6. Service Contracts:

Service contracts provided by:	99th RSC	LESSOR	N/A
Custodial	X		
Grounds Maintenance	X		
Snow Removal	X		
Refuse Collection	X		

7. Proposed Interim Custodian: None
   a. Name:
   b. Duty/Unit:
   c. Home Address:
   d. Work Address:
   e. Home Phone:
   f. Work Phone:

8. Non-USAR utilization of Facility once vacated: None

   a. List any Approved Non-USAR utilization (any other agencies that use the center under an existing License – DA 833R):

      (1) Organization Name:
      (2) Address:
      (3) POC:
      (4) Phone:
      (5) Frequency of Occupation:
      (6) Length of Occupancy:

   b. List any unapproved Non-USAR utilization on a separate sheet. Use the format as in 8a above.

   NOTE: Forward request memo from Non-USAR organization, with recommendation of Center Commander, to RSC Engineer, HQ, 99th RSC, ATTN: AFRC-CPA-EN, 5 Lobaugh Street, Oakdale, PA 15071-5001

9. Any additional information pertinent to USAR facility upon mobilization:

INFORMATION PROVIDED BY: J. Burke, Facility Coordinator, 2 Nov 99
PREPARED BY: SFC Joseph Baron, 416th ENCOM, ESCG-E, FIG Team

Prepared for

U.S. Army Corps of Engineers
Louisville District

Full Facility Revitalization (FFR)
Technical Assessment
Of
Wilson-Kramer USARC
Bethlehem, PA (99th RSC)

Contract No.: DACA27-02-D-0001
Task Order: 0012

March 2003

MHG Job No.0015.12

The Mason & Hanger Group Inc
a Day & Zimmermann company
500 W. Jefferson Street Suite 1300
Lexington, Kentucky 40507-1844
Tel 859.252.9980
Fax 859.[illegible]

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Full Facility Assessment (FFA) Spreadsheet	FFA-
Summary	
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Facility Overview	OV-
Recommendations	
Site & Site Pictures	Site-
Training Building & Pictures	TB-
Training Building Code & Pictures	TC-
Maintenance Building & Pictures	MB-
Maintenance Building Code & Pictures	MC-

Appendix

01 - Site and Floor Plans
02 - Customer Questionnaire
03 - Site meeting Roster & Notes
04 - Property Utilization
05 - Work Orders
06 - Asbestos Report
07 - FCA (Green-Amber-Red)
08 - Physical Security Survey Report
09 - Vulnerability Assessment
10 - Arms Vault Certification
11 - Functional Space Details
12 - Assigned Unit Data
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18 – FFA 2nd Round Appendix A
19 – Supplementary Notes on Building Codes
20 – Conference Call Minutes

END

full facility assessment

acreage	# of buildings	total park gsf	
4.5	2	93000	7-Mar-2003

TOTALS

Project Name:

Bethlehem PA USARC

Full/Facility Assessment Life/Safety

Project Location:

2940 Airport Road
Bethlehem, PA 18017

Site			$469,505
		Entire	
Access		$154,650	
Force Protection		$90,850	
Utilities		$202,415	
Historic		$7,000	
Hazmat		$14,590	
		$469,505	

Building			$2,532,265
	Training Building	***OMS***	
square feet	*26,890*	*2,521*	
Building Environment	$1,221,000	$120,250	
Building Systems	$1,088,406	$102,610	
Transport	$0	$0	
Total	**$2,309,406**	**$222,860**	

Code Compliance			$276,735
	Training Building	***OMS***	
square feet	*26,890*	*2,521*	
Life Safety	$11,500	$13,500	
UFAS/ADAAG Access	$8,000	$11,000	
NFPA 70, Electrical	$45,900	$1,170	(See **Bldgs** also)
NFPA 13 Sprinklers	$104,562	$0	
Kitchen and Equipment	$33,886	$0	
Hazmat	$47,218	$0	
Total	**$251,065**	**$25,670**	

	Buildings $/sqft	$95	$99	
Total				$3,278,505
			Antiterrorism	
		10%	Construction Allowance	$327,851
			Subtotal	$3,606,356
		10%	Contingency	$360,636
			Subtotal	$3,639,141
		6.50%	S&A	$236,544
			CWE	**$3,875,685**

full facility assessment

SITE	acreage	seismic zone	# of buildings	total park gsf	restrictions	
	4.5	--	2	93,000	--	

Project Name:
Bethlehem PA USARC
Full/Facility Assessment Life/Safety

Project Location:
2940 Airport Road
Bethlehem, PA 18017

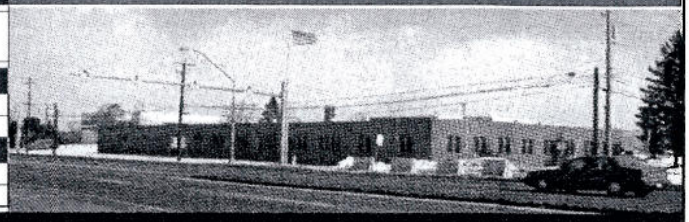
feature	condition	design life	remaining life	repair cost	replacement cost	prblm severity	recommendations/comments
Access							
Roads	S	70	20			4	Mill and repave the asphalt surfaces, included in paving below
Paving	S	70	20	$104,485		4	Mill and repave the asphalt surfaces
Curb & Gutter	A	50	10		$39,540	2	Adjust and landscape area adjacent to Airport Road
Walks	P	50	5		$6,350	2	Replace with new walks
Accessibility	P	50	5		$3,375	1	Provide accessible entry way
Signage	S	70	20		$900	1	Provide ADA signage
$154,650				$104,485	$50,165		
Force Protection							
Fencing	S	70	20		$90,850	4	Provide perimeter fence and relocate MEP fence
$90,850				$0	$90,850		
Utilities							
Water							
Sources	E						
Mains	E						City supplied
Fire Protection	S				$26,725	1	Obtain fire flow test, provide traing buiolding/OMS sprinkler
$0							
Storm Water							
Mains	E				$13,125	4	TV inspection on site
Inlets	P				$7,600	2	Regrade around inlet
Site Drainage	U			$10,000	$15,230	2	Remove ponding, provide curbing along edges of POV
$45,955				$10,000	$35,955		
Sanitary							
Mains	E				$15,960	1	City sewerage, tv inspect on site line, connection to OMS
Lift Stations	N/A						
$15,960				$0	$15,960		
Electrical							
Primary Service	P	40	0		$30,500	4	New underground 600 amp service.
Primary Switchgear	P	40	0		$8,400	4	New service switchgear and metering.
Site Lighting (MEP / POV)	P	25	0		$93,680	4	Upgrade to aluminum pole lights. Conduit, wire and trench required.
Fire Alarm	N/A						No connection to local fire department.
Lightning Protection	N/A						Not existing and not required.
Site Security system	N/A						Not existant. Included in antiterrorism and site lighting budgets.
$132,580				$0	$132,580		
Energy							
Steam Distribution	N/A						
Natural Gas System	E				$7,920	1	UGI supplies the naturaL gas, provide 3" service connection to OMS
Heating Oil System	N/A						
$7,920					$7,920		
Historic							
Structures	U				$3,500	4	Obtain assessments
Archeology, Cultural	U				$3,500	4	Obtain assessments
$7,000				$0	$7,000		
Hazmat							
Asbestos							See building section
Incineration	N/A						
Waste Removal - Hazardous	N/A						
Waste Removal - Dumpster	S				$5,940	4	Provide dunpster pad and screens
Waste Oil Storage	N/A						
Oil/Water Separator	P			$8,150		4	Remove washrack and separator
Underground Tanks	N/A						
Hazardous Material Storage	P				$500	4	Provide external storage cabinets
$14,590				$8,150	$6,440		
Site Total							
$469,505				**$122,635**	**$346,870**		

full facility assessment

BUILDING	year built	last renov.	# floors	total gsf	historic	
Training Bldg	59	76	1	26,890	Not	

Project Name:
Bethlehem PA USARC
Full/Facility Assessment Life/Safety

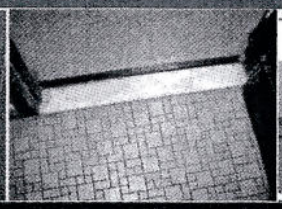
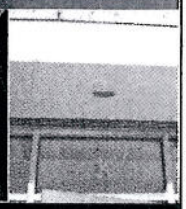
Project Location:
2940 Airport Road
Bethlehem, PA 18017



component	condition	design life	remaining life	repair cost	replacement cost	prblm severity	recommendations/comments
Building Environment							
Exterior							
Foundations	S	life	N/A	$0	$0	N/A	No visible signs of deterioration.
Vertical Structural Members	S	life	N/A	$0	$0	N/A	No visible signs of deterioration.
Floor Structural Systems	S	life	N/A	$0	$0	N/A	No major signs of deterioration.
~~Seismic/Wind Load~~							
Exterior Walls	A	Life	N/A	$45,500	$0	3	Minor cracks, deteriorated CJ's. Recommend repair control joints and seal.
Roof	A/P	20	5	$0	$270,000	4	Existing roof unreliable. Rec. replacement/installation of secondary RD's.
Doors	P	20	0	$0	$35,000	1	Existing exterior doors unreliable and in need of repairs. Rec. replacement.
Windows	S	20	5	$15,000	$0	4	Recommend re-sealing perimeters and install laminating film.
Trim/Fenestration	P	20	0	$0	$150,000	2	Existing trim/flashings have reached their useful life. Rec. replacement.
$515,500				$60,500	$455,000		
Interiors							
Floor Finishes	P	15	0	$0	$66,000	1	Evidence of asbestos in VCT. Recommend replacement. Other finishes OK.
Stairways, treads, and railings	N/A	-	-	-	-	-	No stairs this facility.
Wall Finishes	P	15	0	$140,000	$0	2	Existing wall finishes inconsistent. Rec. furring and applying gyp board finish.
Ceilings/finish	P	15	0	$0	$194,000	2	Existing ceilings stained/sagging, overall poor condition. Rec. replacement.
Doors/Hardware	P	30	0	$0	$112,000	1	Existing doors inadequate with poor hardware. Recommend replacing.
Window Treatment	P	15	0	$0	$10,000	2	Existing blinds poor condition and non-existent. Recommend replacement.
Signage (General)	P	15	0	$0	$3,500	1	Existing signage is inconsistent and non-compliant. Rec. replacement.
Restrooms	S/A	life	15	$25,000	$5,000	1/3	Existing toilets are dated. Rec. appearance upgrades. See recs/comments.
Arms Vault	S	life	N/A	$0	$0	N/A	Existing Arms Vault is certified-09Jan2002.
Kitchen	A/P	20	0/5	$0	$150,000	1	Existing plumbing deficient-equip. is old. Recommend re-working Kitchen.
$705,500				$165,000	$540,500		
Building Systems							
Mechanical							
Refrigeration Equip	A	15	6		$0	4	Existing 28 ton chiller; replace with new 50+ ton chiller. (priced below)
Heating System	E	35	25			4	Existing two 490 MBH Weil McClain cast-iron boilers appear adequate.
Air Handling Equip	A	18	9		$533,265	4	New AHU for Ass'y and new kitchen makeup. Price includes other mech.
Ducts & Water Dist	A	30	20		$0	4	Replace existing 2-pipe dual temp piping with 4-pipe system. (priced above)
Room Air Dist/Term	P	20	3			4	4-pipe fan coil system proposed. (priced above)
System Controls	P	25	5			4	Add new DDC system; remove abandoned Metasys system. (priced above)
Ventilation (O.A. & Exh)	U	20	0		$22,220	2	Dedicated fresh air system proposed; close existing fan coil wall openings
Demolition	--				$23,642	--	Selective demolition of mechanal systems is required.
$579,127				$0	$579,127		
Plumbing							
Fixtures & piping	A	30	5		$104,562	4	New fixtures & trim throughout. Reuse existing piping in most cases
Hot Water Heater	A	20	10		$5,666	4	Replace exist heater with larger high-efficiency direct vent type.
Waste and Vent Piping	A	30	10		$0	4	Reusable where practicable, except redo all of kitchen due to code. (priced above)
Kitchen/Equipment	P	25	5		$74,687	1	New DWV system; revise dom water per equip layout; add booster heaters
Demolition	--				$15,554	--	all of kitchen; selective elsewhere
$200,469				$0	$200,469		
Electrical							
Secondary Dist.	P	N/A			$51,100	4	Distribution upgrade for EGC and new HVAC equipment.
Distribution Panels	P	40	12		$16,700	4	Recommend replacement due to age, condition and spare parts availability.
Lighting Panels	P	40	0		$19,200	4	Recommend replacement due to age, condition and spare parts availability.
Electrical Wiring Network	P	N/A			$50,280	4	Added branch circuits. New circuits with EGC.
Lighting fixtures	P	25	0		$72,330	4	Recommend replacement with energy efficient ballasts.
Power Devices	A	30	5:10		$13,700	4	Recommend replace HVAC disc. & starters and new HVAC loads.
Fire/Security Alarm Systems	P	20	0				See "CODES" page for training building.
Phone/Data (Panel Locals Only)	A	N/A					Existing equipment located in phone/storage room.
Paging System	P	20	0		$18,300	4	Recommend upgrade incorporated with phone intercom function.
Interior IT	A	5	5:10		$67,200	4	Existing is adequate. Budget is for complete upgrade.
Interior Transformers	N/A						Service to building is 3 phase, 208/120 volts.
Elec/Tele Closets	A						Dara equip should be installed in a clean, temp controlled and secure room.
Emergency Generator	N/A						Not existent. Not required.
$308,810				$0	$308,810		
Transport							
Elevators	N/A	N/A	N/A	$0	$0	N/A	1 story; No elevator required in this facility.
Material Handling Crane(s)	N/A	N/A	N/A	$0	$0	N/A	No material handling cranes in this building.
$0				$0	$0		
Bldg. Total							
$2,309,406				$225,500	$2,083,906		

full facility assessment

year built	last renov.	# floors
59	76	1

CODES
Training Bldg

Project Name
Bethlehem PA USARC
Full/Facility Assessment Life/Safety

Project Location
2940 Airport Road
Bethlehem, PA 18017

requirements	Reference	correction cost	replacement cost	prblm severity	recommendations/comments
	Life Safety				
Means of Egress	39.2				
Means of Egress Components	39.2.2, 7.2	$0	$5,000	1	DNC with NFPA 101-7.2.1.5.5. Rec. replace doors and hardware.
Capacity of Means of Egress	39.2.3, 7.3	$0	$0	N/A	Complies.
Number of Exits	39.2.4, 7.4	$0	$0	N/A	Complies.
Arrangement	39.2.5, 7.5	$0	$0	N/A	Complies.
Travel Distance	39.2.6, 7.6	$0	$0	N/A	Complies.
Discharge from Exits	39.2.7, 7.7	$0	$0	N/A	Complies.
Marking Means of Egress	39.2.10, 7.10	$0	$0	N/A	Complies.
Protection					
Protection of Vertical Openings	IBC 707	$0	$0	N/A.	N/A.
Protection from Hazards	IBC 302.1.1	$6,500	$0	1	DNC with IBC 302.1.1. Extend exist. storage room walls to deck for 1hr rating.
Interior Finish	IBC 803/804	$0	$0	N/A	Complies.
Detection, Alarm, and Commo					
Extinguishing systems	MIL-HDBK 6.1.2	$0	$0	N/A	Complies.
Corridors	IBC 1004.3.2	$0	$0	N/A	Existing corridor walls require 1 hr rating. Rating negated by sprinklers.
Subdivision of Building Spaces	IBC 302.1.1, 705,	$0	$0	N/A	Complies.
Special Protection Features	39.3.8	$0	$0	N/A	N/A.
Special Provisions	39.4	$0	$0	N/A	N/A.
Building services	39.5	$0	$0	N/A	Complies.
$11,500		$6,500	$5,000		
	UFAS/ADAAG Access				
Minimum Essential Features	UFAS 3.5				
Parking	ADA 4.6				See Site - Accessibility
Curb Ramps	ADA 4.7				See Site - Accessibility
Entrance	ADA 4.13&14	$0	$0	N/A	Complies.
Accessible Routes	ADA 4.3	$6,000	$0	1	Does not comply with UFAS 4.3.2(2) & 4.3.2(3). See recommendations.
Toilet Rooms Accessibility	ADA 4.1.6/4.22	$0	$0	1	Does not comply with UFAS 4.22. Rec. minor toilet renovations. See recs.
Drinking Fountains	ADA 4.1.2(9)/4.15	$0	$2,000	1	Does not comply with 4.15. Provide new ADA compliant drinking fountain.
Accessibility Signs	ADA 4.30	$0	$0	1	Does not comply with 4.30. Provide ADA compliant interior signage.
$8,000		$6,000	$2,000		
Public Use Space (when applies)	UFAS, 3.5				
Interior Assembly Spaces	ADAAG 4.1.3	$0	$0	N/A	Complies.
Business Occupancy Office Areas	ADAAG 4.1.1(3)	$0	$0	N/A	Complies.
Shops and Storage Occupancies	UFAS 4.1.4(2)	$0	$0	N/A	N/A.
Total Facility Upgrade					
Accessible Building	ADAAG 4.1.2 & 3	$0	$0	1	DNC-Refer to specific items above for recs. regarding ADA compliance.
$0		$0	$0		
	Electric -- NFPA 70 and Life Safety Code				
Illumination of Means of Egress	39.2.8				Included in lighting upgrade. See "Lighting Fixtures" on previous page.
Emergency Lighting	39.2.9		$7,400	1	Upgrade per NFPA 101, section 7.9 .
Marking of Means of Egress	39.3.4		$2,200	1	Upgrade per NFPA 101, section 7.10 .
Fire Detection, Alarm, and Commo	39.3.4		$36,300	1	Requires upgrade for ADA/UFAS standards.
Remove Dangers to Human Life	80.13(6)				No imminent danger to human life.
Correct Existing Hazards	80.9(B)				Recommend EGC installation for entire elec. system. See previous page.
$45,900		$0	$45,900		
	NFPA 13, Sprinklers				
Retroactivity (AHJ Reqmt's)					
Plan Changes Affecting Coverage	MilHbk 1008C		$104,562		Recommend new wet pipe sprinkler system throughout per MilHdbk requiremt.
Occupancy Hazard Change					
Inspection, Testing, and Maint.					
Unsuccessful Performance					
Other					
Halon Decommissioning/Removal					N/A; *https://www.denix.osd.mil/denix/Public/News/DLA/Halon/hal1.html*
$104,562		$0	$104,562		
	Kitchen + Equipment				
Exhaust Hoods	NFPA 96		$26,664		Recommend new hoods to match new layout.
Water Heaters	NSF		$3,333		Recommend new booster heaters.
Sneeze Guards	NSF		$3,889		Rcommend adding sneeze guards, tray slides.
Other					
$33,886		$0	$33,886		
	Hazmat (Magnitude)				
Asbestos	EPA, 40CFR	$41,663			3,072 sqft of floor tile; 20,667sqft mastic + 490 feet of TSI.
Lead Paint		$5,555			Assumed value based on age of building. No lead paint test avail.
Other					Radon system already in place.
$47,218		$47,218	$0		
Bldg. Total					
$205,165		**$59,718**	**$145,447**		

full facility assessment

BUILDING	year built	last renov.	# floors	total gsf	historic
Maintenance Bldg	59	93	1	2,521	Not

Project Name
Bethlehem PA USARC
Full/Facility Assessment Life/Safety
Project Location:
2940 Airport Road
Bethlehem, PA 18017

component	condition	design life	remaining life	repair cost	replacement cost	prblm severity	recommendations/comments
Building Environment							
Exterior							
Foundations	S	life	N/A	$0	$0	N/A	No visible signs of deterioration.
Vertical Structural Members	S	life	N/A	$500	$0	4	No visible signs of deterioration. Recommend re-painting columns.
Floor Structural Systems	S	life	N/A	$0	$0	N/A	No major signs of deterioration.
~~Seismic/Wind Load~~							
Exterior Walls	A	Life	N/A	$10,500	$0	3	No signs of deterioration. Recommend prep/paint steel lintels and seal.
Roof	A/P	20	5	$0	$30,000	4	Existing roof unreliable. Recommend replacement.
Doors	P	20	0	$0	$32,000	1	Existing exterior doors unreliable and in need of repairs. Rec. replacement.
Windows	S	20	5	$1,500	$0	4	Recommend re-sealing perimeters and install laminating film.
Trim/Fenestration	P	20	0	$0	$6,500	2	Existing trim/flashings have reached their useful life. Rec. replacement.
$81,000				$12,500	$68,500		
Interiors							
Floor Finishes	S	15	N/A	$0	$0	N/A	No visible signs of deterioration.
Stairways, treads, and railings	N/A	-	-	-	-	-	No stairs this facility.
Wall Finishes	S/A	15	0	$5,000	$0	2	Recommend extending partition wall to deck and paint all walls.
Ceilings/Finish	A/P	15	0	$0	$25,000	2	Low light level in workbays. Recommend installing drywall ceilings.
Doors/Hardware	P	30	0	$0	$3,500	1	Existing doors provide inadequate security. Recommend replacement.
Window Treatment	P	15	0	$0	$500	2	Existing blinds are non-existent. Recommend installing new blinds.
Signage (General)	P	15	0	$0	$250	1	Existing signage is inconsistent and non-compliant. Rec. replacement.
Restrooms	N/A	N/A	N/A	$0	$5,000	1	No toilet in this bldg. Recommend constructing ADA compliant restroom.
$39,250				$5,000	$34,250		
Building Systems							
Mechanical							
Refrigeration Equip	S	15	5		$5,000	4	Replace existing window unit with new PTAC's for office areas.
Heating System	S	20	10		$0	4	Existing Infrared tube heaters, plus below H&V units should be adequate/
Ventilation/Makeup air system	P	20	10		$11,110	2	Retain exist H&V unit; add another similar one to meet 1.5 cfm/sqft
Room Air Dist/Term	--	25	--		$2,000	2	Limited stub ductwork off H&V units is all that should be needed.
System Controls	A	20	10		$3,333	4	Electric controls; or preferably DDC extension of Training Building System.
General Exhaust	n/a	--	--		$6,222	2	Add 2 summer ventilation exh fans at roof, plus new restroom exhaust.
Vehicle Exhaust System	P	25	5		$3,879	4	Propose to replace existing system with new 2-bay system plus flex drops.
Demolition	--	--		$2,222		--	Selective demolition required; minimal quantity needed.
$33,765				$2,222	$31,543		
Plumbing							
Fixtures & dom water piping	--	25	--		$6,666	4	No exist restroom; add new unisex toilet; replace utility sink,
Hot Water Heater	--	15	--		$0	4	Existing 30 gallon unit appears in good condition and not too old; retain.
Waste and Vent Piping	--	30	--		$3,555	4	No exist DWV extend all new from adjacent sewer for restroom & util sink.
Shop Air/Lube piping	A	15	--		$8,642	4	No existing air system; add new industrial 175 psig compressor, piping, drops.
Demolition	--	--		$1,111		4	Selective demolition required; minimal quantity needed.
$19,975				$1,111	$18,864		
Electrical							
Secondary Dist.	A	N/A			$15,300	4	Service upgrade due to size and age. Underground installation.
Distribution Panels	P	40	0		$1,650	4	Panel requires replacement due to age and spare parts availability.
Lighting Panels	N/A						Not existant.
Electrical Wiring Network	P	N/A			$6,440	4	Installation of equipment grounds. New permanent feed to storage shed.
Lighting fixtures	P	25	0		$7,100	4	Replace existing lighting in work areas and storage for increased lighting levels.
Power Devices	P	30	0		$2,300	4	Replace exist due to age and condition. GFCI protect required in work areas.
Fire/Security Alarm Systems	N/A						Not required.
Phone/Data (Panel Locals Only)	P					4	Tel term board & fiber optic panch panel requires relocation from shop area.
Paging System	P				$1,800	4	Modify to provide paging through telephone intercom system.
Interior IT	A	5:10	0		$1,700	4	Tel sys requires upgrade. Data system is relatively new and in good condition.
Interior Transformers	N/A						Not required.
Elec/Tele Closets	N/A				$12,580		Relocate IT/TEL equipment to office. New fiber and tele service cable.
Emergency Generator	N/A						Not required.
$48,870				$0	$48,870		
Transport							
Elevators	N/A	N/A	N/A	$0	$0	N/A	No elevator required in this facility.
Material Handling Crane(s)	N/A	N/A	N/A	$0	$0	N/A	No material handling cranes in this building.
$0				$0	$0		
Bldg. Total							
$222,860				$20,833	$202,027		

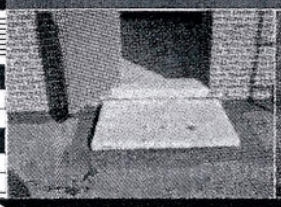
full facility assessment

year built	last renov.	# floors
59	76	1

CODES
Maintenance Bldg

Project Name
Bethlehem PA USARC
Full/Facility Assessment Life/Safety

Project Location
2940 Airport Road
Bethlehem, PA 18017



requirements	Reference	correction cost	replacement cost	prblm severity	recommendations/comments
	Life Safety				
Means of Egress	39.2				
Means of Egress Components	39.2.2, 7.2	$8,500	$0	1	DNC with NFPA 101-7.2.1.3, 7.2.1.5.1, 7.2.1.5.6, and 7.2.1.7(1). See Recs.
Capacity of Means of Egress	39.2.3, 7.3	$0	$0	N/A	Complies.
Number of Exits	39.2.4, 7.4	$0	$0	N/A	Complies.
Arrangement	39.2.5, 7.5	$0	$0	N/A	Complies.
Travel Distance	39.2.6, 7.6	$0	$0	N/A	Complies.
Discharge from Exits	39.2.7, 7.7	$0	$0	N/A	Complies.
Marking Means of Egress	39.2.10, 7.10	$5,000	$0	1	DNC with NFPA 101-7.10.1.2, 7.10.5.1, and 7.10.5.2. See Recs.
Protection					
Protection of Vertical Openings	IBC 707	$0	$0	N/A	N/A.
Protection from Hazards	IBC 302.1.1	$0	$0	1	Does not comply with IBC 406.6.5. See recommendations.
Interior Finish	IBC 803/804	$0	$0	N/A	Complies.
Detection, Alarm, and Commo					
Extinguishing systems	MIL-HDBK 6.1.2	$0	$0	N/A	Complies.
Corridors	IBC 1004.3.2	$0	$0	N/A	N/A.
Subdivision of Building Spaces	IBC 302.1.1, 705,	$0	$0	N/A	Complies.
Special Protection Features	39.3.8	$0	$0	N/A	N/A.
Special Provisions	39.4	$0	$0	N/A	N/A.
Building services	39.5	$0	$0	N/A	Complies.
$13,500		$13,500	$0		
	UFAS/ADAAG Access				
Minimum Essential Features	UFAS 3.5				
Parking	ADA 4.6				See Site - Accessibility
Curb Ramps	ADA 4.7				See Site - Accessibility
Entrance	ADA 4.13&14	$6,000	$0	1	Does not comply with 4.1.6(3)(b) & 4.14.1. Recommend HC ramp at entrance.
Accessible Routes	ADA 4.3	$5,000	$0	1	Does not comply with 4.3.2(1), 4.3.2(2), and 4.3.2(3). See recommendations.
Toilet Rooms Accessability	ADA 4.1.6/4.22	$0	$0	1	No toilet room in this facility. Recommend constructing unisex toilet.
Drinking Fountains	ADA 4.1.2(9)/4.15	$0	$0	1	Does not comply with 4.15. Provide new ADA EWC. See Plumbing.
Accessibility Signs	ADA 4.30	$0	$0	1	Does not comply with 4.30. Provide ADA compliant interior signage.
$11,000		$11,000	$0		
Public Use Space (when applies)	UFAS, 3.5				
Interior Assembly Spaces	ADAAG 4.1.3	$0	$0	N/A	N/A.
Business Occupancy Office Areas	ADAAG 4.1.1(3)	$0	$0	N/A	Complies.
Shops and Storage Occupancies	UFAS 4.1.4(2)	$0	$0	N/A	Complies.
Total Facility Upgrade					
Accessible Building	ADAAG 4.1.2 & 3	$0	$0	1	DNC-Refer to specific items above for recs. regarding ADA compliance.
$0		$0	$0		
	Electric -- NFPA 70 and Life Safety Code				
Illumination of Means of Egress	39.2.8			N/A	NFPA 101 ,Section 7.8 is fulfilled by general area lighting in the shop area.
Emergency Lighting	39.2.9		$550	1	Building does not have any emergency lighting required by NFPA 100, Sec. 7.9 .
Marking of Means of Egress	39.3.4		$620	1	Means of egress not marked by NFPA 101, Sec. 7.10 .
Fire Detection, Alarm, and Commo	39.3.4			N/A	Not required.
Remove Dangers to Human Life	80.13(6)			N/A	There are no imminent dangers to human life.
Correct Existing Hazards	80.9(B)		$450	1	GFI recpt. in shop area. Proper bonding of ground electrode conductor conduit.
$1,170		$0	$1,170		
	NFPA 13, Sprinklers				
Retroactivity (AHJ Reqmt's)					
Plan Changes Affecting Coverage	MilHbk 1008C			N/A	Sprinklers are not existing or required.
Occupancy Hazard Change					
Inspection, Testing, and Maint.					
Unsuccessful Performance					
Other					
Halon Decommissioning/Removal					N/A; https://www.denix.osd.mil/denix/Public/News/DLA/Halon/hal1.html
$0		$0	$0		
	Kitchen + Equipment				
Exhaust Hoods	NFPA 96				N/A; no kitchen
Water Heaters	NSF				N/A; no kitchen
Sneeze Guards	NSF				N/A; no kitchen
Other					N/A; no kitchen
$0		$0	$0		
	Hazmat (Magnitude)				
Asbestos	EPA, 40CFR				Asbestos survey indicates no asbestos in this building.
Lead Paint		$1,667			No test results, avorage quantity assumed in bldg.
Other					Recommend Radon testing.
$0					
Bldg. Total					
$25,670		**$24,500**	**$1,170**		

NOTES:

Condition shall be assessed using one of the five following designations:

Condition rating	Example
E = **Excellent**: Fully operable and fully capable.	*ISR Green or better*
S = **Satisfactory**: Both Operable and Capable.	*Between ISR Green and ISR Yellow.*
A = **Adequate**: Overall condition is marginal, but facility is generally usable.	*ISR yellow or slightly better.*
P = **Poor**: Partly inoperable; partly incapable	*Between ISR Yellow and ISR Red.*
U = **Unreliable**: Both operability and capability are unsatisfactory and in failure status	*ISR Red*

Severity designations shall be based on the following:

1 = Health and Safety related deficiencies such as code violations and new requirements not being met.
2 = Defects and functional systems/component failures causing unhealthy or unsafe conditions.
3 = Noncompliant condition, of Severity category 1 or 2 above, but remediable through implementation of normal or routine Maintenance practices; replacement or major repairs not required.
4 = Recommended upgrade to increase safety or improve function. Present condition may have been adequate when installed, but does not meet current requirements. Improvement is recommended, but not mandatory.

Other

The **Recommendations/Comments** sections of the Report follow the same order of data as shown in the respective sheets of this FFA spreadsheet. These segments provide expanded text describing each line item status and proposed solution.

The **Pictures** in this report are placed in the Recommendations/Comments section next to the related topic. Deficiencies are pictured, and where appropriate, the areas of the site or building that will be involved in the proposed solution are also depicted.

Costs are current (Spring/Summer 2003).

N:\001512\3Bethlehem_PA\Final\[0010-FFA-overall.xls]Notes

Executive Summary
Full Facility Assessment – Wilson-Kramer USARC, Bethlehem PA

March 7, 2003

General: The US Army Reserve Command will use this FFA report as a decision tool and a programming tool to establish future projects. The reports evaluate present condition and usability of facilities with respect to the present mission, and establish needed construction at the facility in compliance with current Code.

Site: The Wilson-Kramer USARC is located in Bethlehem, Pennsylvania. The site is approximately 4.5 acres in size. However right of way and setback restrictions reduce the useable area to approx. 3.8 acres. The site drains, but has drainage concerns. The site has natural gas, three-phase power, and telephone service. The City of Bethlehem, Pennsylvania provides water and sanitary sewerage. Only the MEP is fenced, most of the asphalt is in reasonable condition. Parking lot lighting should be replaced with aluminum pole lights, requiring new conduit, wire and pole bases. Conduit installation will involve existing asphalt cutting, trench excavation, backfill and compaction.

Facilities: This facility has two (2) buildings, one a Training building of about 26,890 total square feet, and the second, a two bay OMS of about 2521 square feet. Existing Training and OMS buildings are load-bearing block and brick construction, with steel roof joists and flat roofs. The Training building dates from 1961 (original construction), to 1975 when an addition housing administrative, classroom and unit storage spaces was constructed onto the original Training building. The OMS building was originally constructed in 1961 without alteration except for an interior partition added to provide a separate admin area within the work bays. Minor renovations to each building have occurred over the years including new windows, roofs and mechanical changes.

Evaluation and Recommendations:

Provided the site is large enough we recommend perimeter fencing as well as replacement MEP fencing, milling and paving of the asphalt surface, and drainage improvements.

Training building is structurally sound with decent appearance. Roof is flat with perimeter gutter drainage over part of the roof, and with internal roof drains in several locations. There is minor inside the building of leakage damage in a few locations. Roof should be replaced over entire building with a new 4-ply built-up roof. Flashings should also be replaced. Building interiors are dated, and in need of refurbishing. Training building has an arms vault which has been certified 09 Jan 2002. Existing vault is not dehumidified. Kitchen is in fair condition, cramped but functional, and generally operating to meet the current unit mission. Building has minor Code deficiencies that require remediation, including doors, door hardware, exit signage, emergency lighting and handicap accessibility.

Training Building mechanical system has been substantially altered and added to over the years. It has 2 gas-fired hot water boilers and a small chiller serving fan coils in parts of the building, and unit heaters elsewhere. Assembly hall ventilation system is comprised of one H&V unit with wall relief louver, and two tube infrared heaters to provide general heating. Overall system requires substantial replacement and revision. A 4-pipe fan-coil system is proposed as a replacement, with dedicated tempered fresh air system. Plumbing appears in good condition, but serves dated restrooms and the kitchen. The level of plumbing renovation needed is about typical for USARC revitalization.

Training building electrical distribution feeders require increased capacity and equipment grounding conductors. Fire Alarm and Paging system will require upgrade and additional building coverage. IT equipment has been recently upgraded. Building Telephone/Data cabling and outlets should be upgraded and installed per user requirements. Lighting fixtures require replacement due to condition and ceiling replacement.

OMS Building is in similar condition as Training building, requiring roof, replacement doors, addition of a restroom, and mechanical and electrical systems upgrades.

Revitalization Cost: Cost to fully revitalize the two Bethlehem, PA facilities is estimated to be CWE $3.88 **Million**. This includes a 10% Antiterrorism construction allowance, a $5/ sq ft IT allowance, 10% contingency, and 6.5% S&A. Excluding site costs, construction costs for renovation are estimated to be $95/sq ft for the Training Building, and $99/sq ft for the OMS.

END

FACILITY OVERVIEW

Full Facility Assessment
Wilson-Kramer USARC, Bethlehem, PA
March 7, 2003

General:

The US Army Reserve Command will use this FFA report and data provided herein as a decision tool and a programming tool to establish future projects. The Assessments are an evaluation of present condition and usability of facilities with respect to the present mission. They anticipate that future construction will be of other than incidental nature, thus will require construction throughout the facility in compliance with current Code. The Assessments are not design or programming of future construction, nor evaluation with respect to specific future major construction.

Code Criteria:

A partial list of Code criteria in effect at the time of this report and used in assessing the existing facilities follows. Further information concerning the status of ongoing code changes for military construction is provided in the Appendix to this Report.

- ***UFC 1-200-01 Design: General Building Requirements*** 31 July 2002 is the basis document. It determines which Sections of the International Building Code 2000 are to be applied to military construction, and where IBC sections are to be deleted or modified, those substituting or modifying documents or Codes to apply instead of IBC.
- ***International Building Code***, 2000 edition. (Those portions of the IBC not excluded/replaced per above UFC document).
- Some of the IBC portions replaced or included use the following substitute documents:
  - **MIL-HDBK 1008C, *Fire Protection for Facilities Engineering, Design and Construction***, edition of 10 June 1997. Use the 1008C as described below:
    - For [general] fire protection and life safety requirements.
    - For Use and Occupancy classification use IBC Chapter 3 with 1008C in supplement.
    - For Interior Finishes, use IBC Chapter 8 with 1008C in supplement.
    - Use for Fire Protection Systems.
    - Use for Means of Egress requirements.
  - ***Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities. (ADAAG)***, September 1999.
  - ***Uniform Federal Accessibility Standards*** (UFAS), September 1999.
  - **"Applicable DOD and individual military service standards"**
    - Special Detailed Requirements based on Use and Occupancy, as described in UFC 1-200-01 para 1-6.5.
    - Interior Environment, selected portions as noted in UFC 1-200-01 para 1-6.13.xx
  - **NFPA 70 National Electric Code,** in lieu of IBC Chapter 27.
  - **NFPA 56 National Fuel Gas Code,** in lieu of IBC Chapter 28.
  - **"Unified Facility Criteria Documents, Unified Facility Guide Specifications and military criteria documents"**, per UFC 1-200-01 para 1-6.14.
    - for Energy Efficiency, in lieu of IBC chapter 13
    - for Mechanical Systems in lieu of IBC chapter 28
    - for Plumbing Systems in lieu of IBC chapter 29

- In supplement to IBC Chapter 14, use **TI 800-01** ***Design Criteria*** USACE 20 July 1998 for added guidance requirements, concerning exterior walls with respect to air infiltration, glazing area, and moisture migration.
- In supplement to IBC Chapter 15 general requirements, ***use NRCA Roofing and Waterproofing Manual,*** and ***UFGS Div 7 Thermal and Moisture Protection*** for technical criteria.
- In supplement to IBC Chapter 16, Structural Design, use ***TI 809-4 Seismic Design for Buildings*** 31 December 1998 for certain seismic requirements.
- In supplement to IBC Chapters 17 thru 26, use certain military publications and UFGS guide specs as listed in UFC 1-200-01 for Structural tests, foundation design, and concrete, aluminum, masonry, steel, and wood structural design elements, and for glass and glazing, plastic, and plastic components.

- ***UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings***
- ***DG 1110-3-107 Design Guide for U.S. Army Reserve Facilities***, 17June2002. (This is not a Code, but does indicate the general design thrust and direction for future USARC design, and offers some guidance for evaluating sizes of restroom facilities and other named spaces that may be incorporated into the future Revitalization Design Program requirements for the buildings.)

Location: The Wilson-Kramer USARC is located in Bethlehem, Pennsylvania on the eastern side of Airport Road, a divided 4-lane highway. Access to the site is from Avenue A on the northern side of the facility. On the eastern side lies a manufacturing facility; whilst on the southern side lies a Pennsylvania police post. The site is in a prime location with good transportation links. State highway 22 lies a quarter mile to the south, and the Allentown – Bethlehem Airport is on the other side of the Airport Road. The site was built in 1961.

The reserve center is composed of two buildings -- a one-story Training facility and a 2-bay Maintenance facility. Indicated areas of the respective buildings as listed in the Inventory of Real Property and other military and nonmilitary sources are not altogether consistent, but best estimate of sizes plus our field measurement indicates:

Original admin area	8,100 sqft		ca 1961
Connector/kitchen	550 sqft		ca 1961
Original Ass'y Hall	3,975 sqft		ca 1961
Original Bldg Total	12,625 sqft		
Clasrm/Kitch/Vault Add'n	14,265 sqft		ca 1975
Training Building Total		**26,890 sq ft**	
Orig 2-bay OMS	2,521 sqft		ca 1961
Maintenance Building Total		**2,521 sq ft**	

Site:

The site is approximately 4.5 acres in size and is nearly built out. Current activity levels appear to support a demand for more POV parking. The unasphalted portions of the site have building restrictions. The roads and paving are in fair condition; however there are many surface cracks in the paving. It should be noted that snow obscured part of the paving, however we believe the assessment saw a representative sample of the paving. The relatively short length of curb appeared in good condition. The fencing around the MEP is in good condition, however it has no top rail and its location is questionable in terms of

providing the most efficient allocation of space between the POV and the MEP. The site has a natural gas supply. The City of Bethlehem supplies water and provides sewage disposal. These utilities appear to be working well. The site storm drainage mains functions well but there are concerns with the surface flow in some areas.

MEP parking lot lighting is provided with high-pressure sodium floodlights on wood poles. Light levels and uniformity appear adequate to meet current security and operational requirements. The POV parking lot is not directly lit and will require new fixtures.

Training Building:

The Training building is a single story masonry structure, built in two stages as noted above, and in total is approximately 27, 000 square feet. Construction is load-bearing block and brick exterior and corridor walls supporting roof joists. Roof deck is plywood in the original training building and metal deck in the 1975 addition. Assembly hall portion is similar, with concrete block pilasters along the sidewalls supporting a steel beams, which carry the roof joists. Deck is plywood. Condition appears good, except for a small portion of deck on the end wall farthest from the Training building, where water damage and buckling has occurred some years ago prior to re-roofing.

Floors are reinforced concrete exposed inside the Assembly hall and unit storage wing and covered with VCT floor finish or carpet throughout most of the rest of the building. Condition appears good.

Facility exterior walls are red brick veneer. Overall condition appears good, with minor localized cracks following coursing, particularly at corners of building.

Original Training building roof is a replacement single ply ballasted EPDM membrane. The Assembly hall and the 1975 addition roof is also a replacement single ply, ballasted EPDM membrane of different age than the roof over the original Training building. The roof(s) was obscured by snow. Roof is pitched to gutters, except that some of the addition as well as the entire length of the corridor separating original and new construction and paralleling the front of the building is drained by internal roof drains. There are numerous parapets on the roof including at the juncture of the original construction with the 1975 addition and various different roof elevations sloping to internal roof drains. Parapet caps and flashing are sheet copper. There was little evidence of localized leaks. Per discussions with the facility manager the roof is regularly inspected and repaired. The copper trim and flashings are in adequate condition with a portion of the parapet flashing (approximately 20 feet) at the North end of the building where the rifle range abuts the 1975 unit storage area torn loose from the parapet wall.

Exterior doors are aluminum storefront at the Assembly hall/connector entrance and hollow metal at all other locations. The Assembly hall has an uninsulated metal coiling overhead door, manually operated. Existing doors are original to the building and in need of replacement.

Windows are aluminum frame operable units (out-swing, awning-type) with insulated glass and screens. Condition appears good.

Floor finishes are VCT in corridors and classrooms, hard tile in kitchen and bathroom areas and exposed concrete in the boiler room, assembly hall and unit storage areas. There is carpet (minimal) located only in isolated admin areas. The 9x9 VCT tile and its black mastic are both reported to contain asbestos and should be removed. The 12x12 tile is non-ACBM; however the mastic under the blue tile is reported positive.

Wall finishes are CMU and brick-painted, ceramic tile, and in the 1975 addition most walls are drywall partitions that are also painted. Condition is adequate to poor.

Ceilings are typically drywall attached by 2x4 runners to the bottom of the roof joists. Lay-in type ceilings are used in the 1975 addition, restrooms and kitchen areas. Existing ceilings are showing signs of water damage and require replacement as part of recommended mechanical upgrades and sprinkler system installation.

Interior doors are hollow metal, flush and half glass with hollow metal frames. The doors appeared old and with the original hardware and transfer grilles in them.

Existing interior signage does not meet current ADA standards.

Restrooms are in good condition with adequate fixture counts for the occupant loads indicated, however, they are not accessible and require minor renovation to bring to compliance with ADA.

Arms vault is reinforced concrete. The vault was recertified 09 January 2002. Vault is not dehumidified. There is no separate armorer's room, but there is a closed-off and abandoned hood at the armorer's workstation within the vault.

There is a requirement for an operational kitchen at this reserve center. The assigned units have cooks and the kitchen is regularly used for meal preparation. Kitchen addition was constructed approximately 27 years ago, Equipment is dated and only in fair condition Layout is cramped, but the Reserve units are using the kitchen. (Owing to circumstances of training, kitchen has not been used since October 2002; meals since then have been catered in or the unit has been attaining training or special sessions away from this facility. (Units at this facility are currently being activated and mobilized.)

Two replacement gas-fired hot water boilers and a small packaged air-cooled chiller are part of the Training Building mechanical system, serving hot/chilled unit fan coils in selected locations. A Gas-fired H&V unit serves the Assembly area, along with two runs of tube radiant heating on each side parallel to the windows and about 6 feet from outside wall. Training building hydronic piping is black iron/copper. It was reported that quite a bit of rust and scale has accumulated in the piping, and it remains difficult to keep the control valves at fan-coils and unit heaters operating, as they become fouled with rest frequently. This suggests quite a bit of piping deterioration. We observed that many junctures of iron and copper piping are not protected with isolation couplings.

Much of the plumbing is recent and in good condition, including the restrooms and kitchen areas. Domestic water piping is copper. The single original water cooler in the hallway is old, not ADA compliant, and charged with refrigerant R-12, a CFC and thus no longer manufactured or permitted in new equipment. There is also a porcelain drinking fountain in the Assembly hall, but it is taped off and abandoned.

Building HVAC system is the result of add-ons, conversions and changes over 40 years, this is a patchwork. To obtain satisfactory operation and to fully cover the building, it will need 75% replacement or more.

Building plumbing systems will require less work, principally fixture upgrades and relocation as necessary to accommodate some restroom fixture relocation, plus those changes necessary to accommodate kitchen changes as recommended.

Existing electrical service to the training building is 3-phase, 4 wire, 208/120 volt, 400 amps. Service capacity should be upgraded. The feeder conduit is being utilized as the equipment-grounding conductor (egc). Electrical panels and wiring are in varied conditions depending on age. Existing buildings require a complete lighting upgrade.

Existing fire alarm system incorporates pull stations and bells only. The system is not ADA compliant. Vault security system is reportedly functioning

Telephone and data outlets and cabling are generally adequate and in good condition. There is no paging system for the facility.

Maintenance Building:

The Maintenance building original portion is of similar construction and condition to the Training building, and essentially unchanged from when it was constructed in 1961. The roof is comprised of plywood deck, wood joists, and a central steel beam and columns that carry the roof joists. There are two maintenance bays each with manually operated roll-up sectional doors. Sectional roll-up doors leading into the OMS bays are 12 feet high, which limits the types of military equipment that can be maintained inside the OMS. A partition has been constructed along the back wall of the maintenance bays to create added office space. The construction appears to be metal stud and drywall with lay-in ceilings. There is no deck and no storage above the office space. Office area ceilings terminate only two or three feet under the roof deck. The fixed clerestory windows along the full length of the rear wall were intended to let natural light into the workbays, but now serve as office area windows, thus the bays have no natural light.

The Maintenance building has a single gas fired replacement H&V unit and distribution ductwork, operable. Bay ventilation system is from the H&V unit in conjunction with a low wall mounted relief louver on the South sidewall. At the time of our visit the H&V unit was using 100% return air and the relief louver was closed. There is a two-bay vehicle exhaust system that is apparently original to the building, with overhead duct and metal drop hoses. The vehicle exhaust system is operable, and is reported by occupants as adequate, but is not up to modern standards.

OMS has no plumbing except for a few hose bibbs and one emergency eyewash/shower. OMS does not have a fire protection sprinkler system. OMS floor is sloped to drain back out the overhead door openings, and has no internal floor drains.

The electrical service to the OMS requires replacement due to condition. Interior lighting levels are below current standards.

Hazmat, Asbestos, Lead Paint, Radon:

- No asbestos-containing items were observed or reported to be present on the exterior site.
- A private contractor empties the dumpsters. The dumpster is not screened.
- The underground heating oil tank at the Training building was removed and a closure report issued (see Appendix). There are no other known underground tanks.
- There is an uncovered washrack adjacent to the OMS that drains to a 1961-vintage oil water separator and thence to the sanitary sewer. The washrack and separator are no longer needed. There is a grease trap next to the kitchen. It is reported as functioning.
- Asbestos is present in the Training buildings per September 1995 survey and report. Friable TSI is reported in some old piping in the Training building (1961portion), in corridors and offices. Mechanical room has been cleared. Building also has a limited amount non-friable 9x9 ACBM floor

tile in some areas. It also has asbestos-containing mastic under much of the later non-ACBM 12x12 tile throughout the building. No asbestos is reported to remain at Maintenance building.

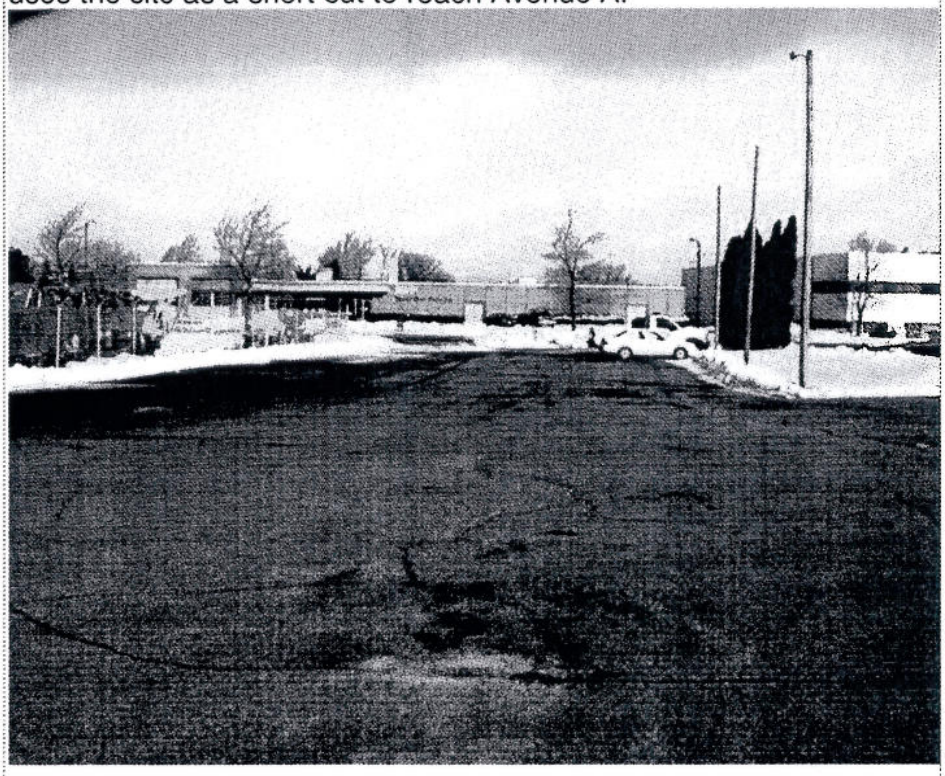
- The rifle range installed as a part of the 1975 addition has been abated of lead and cleared. See certification letter dated 28 October 2002 in the Appendix of this Assessment.
- In the Assembly hall there was at one time a rifle range lane along the left side. All that remains is the layered wood/plywood backstop, and a few pockmarks high on the concrete wall from errant shots. The wood has a few scattered holes in approximately .22" in diameter, and we suspect lead is imbedded in the wood. We found no information indicating there has been any lead abatement or clearance on the wooden backstop.
- A lead paint survey has evidently not been conducted at this facility. Age of the 1961 original parts of the buildings implies a moderate risk of encountering lead paint in the course of future renovation of building interior and exterior. Age of the 1976 building additions implies a lower risk of encountering lead paint. Lead paint abatement costs are included in the estimate in this Report.
- The Training Building has a radon abatement system. For the Maintenance building we found no record of radon surveys, and no radon abatement or test pipe system was found.

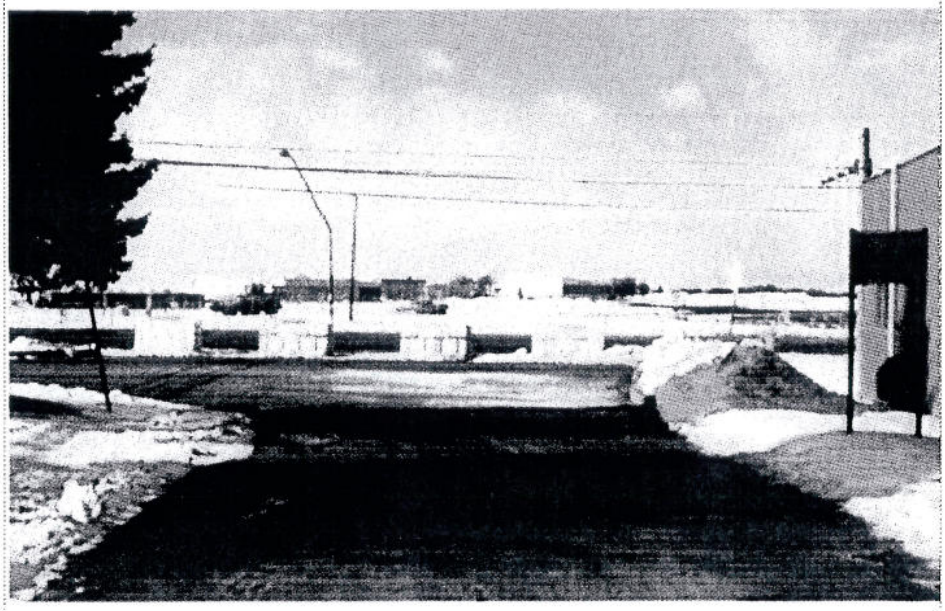
Archeology, Historic Structures:

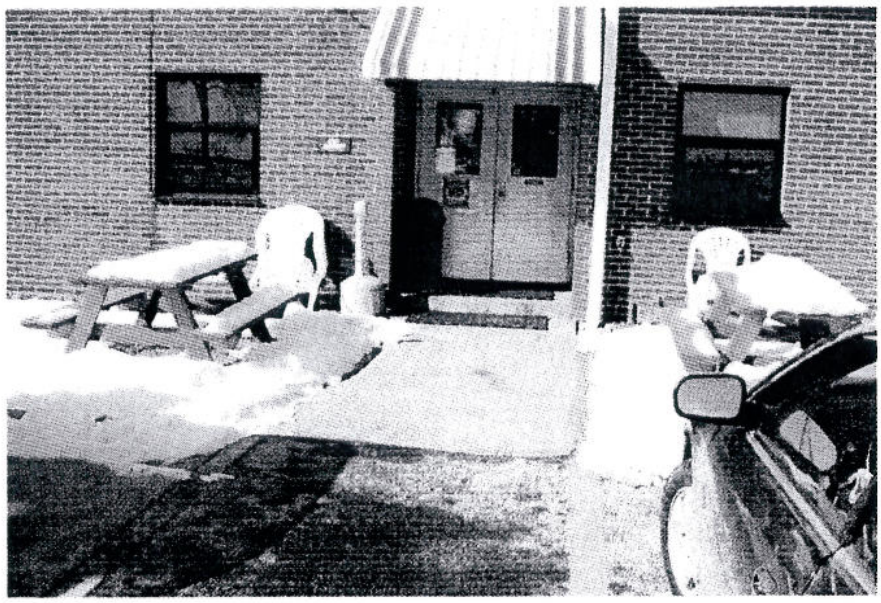
- All structures are less than 50 years old. In the documentation supplied to us we were unable to find evidence of either a cultural historic report or a determination.

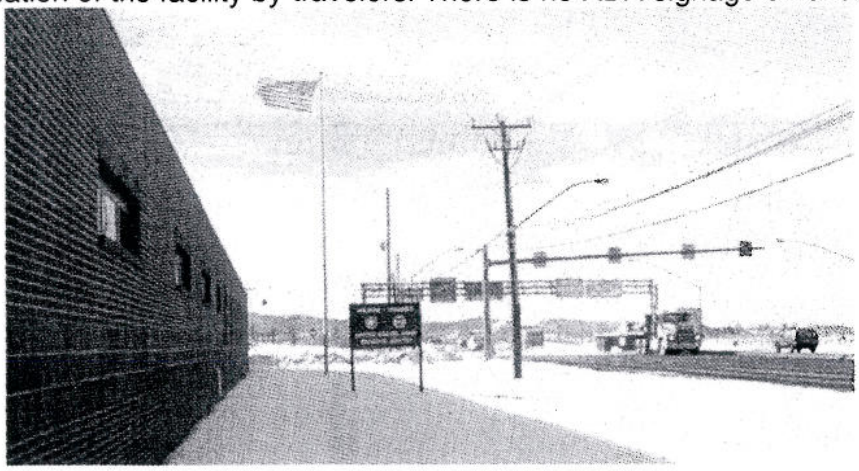
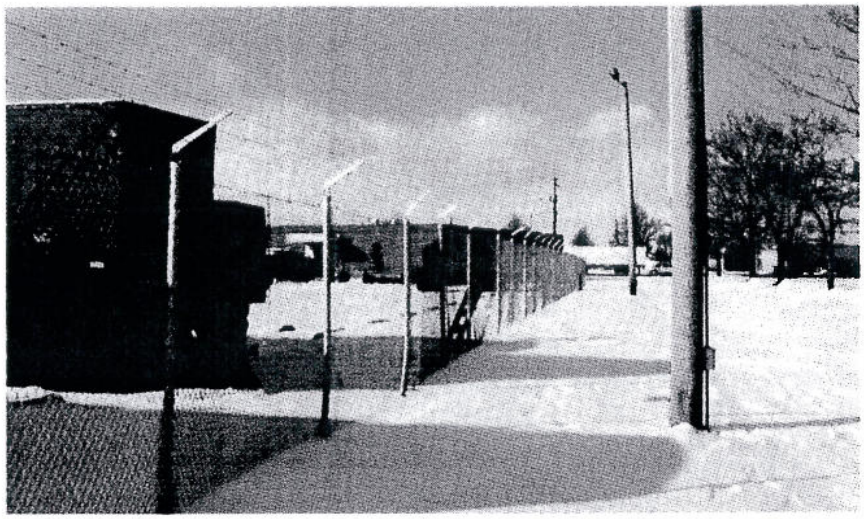
END

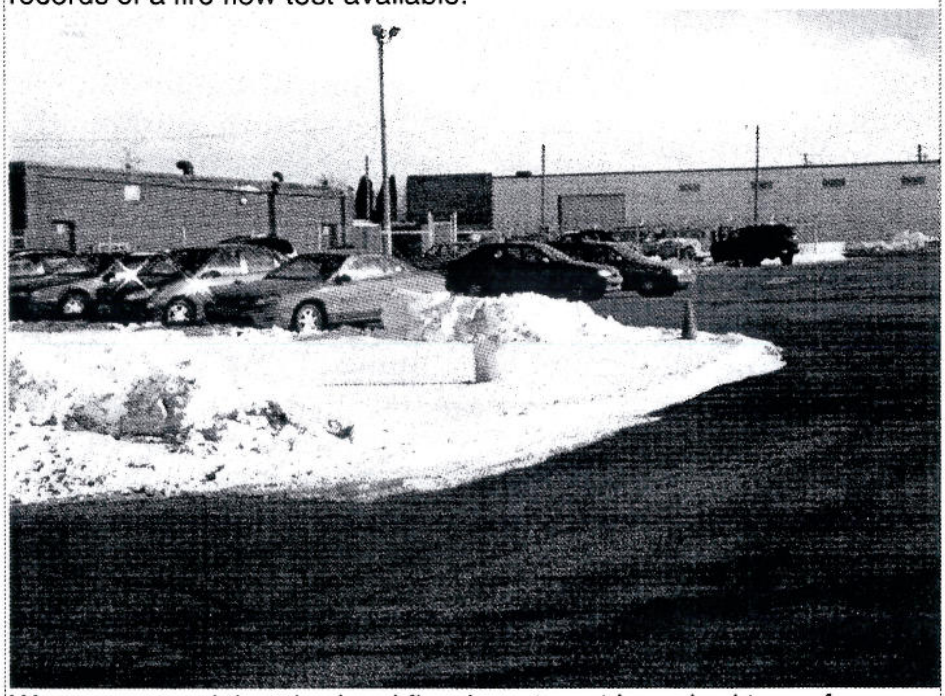
SITE	SITE
Project Name:	**Full Facility Assessment**
Building Name:	**Wilson-Kramer USARC**
Project Location:	**2940 Airport Road**
	Bethlehem, PA 18017
Year Constructed:	**1961**

REQUIREMENTS	RECOMMENDATIONS/COMMENTS
	Access
Roads	There is access only on the northern side of the site, from Avenue A. The original access road from Airport Road, on the western side, was eliminated recently as it is a traffic hazard. The access road from Avenue A appears to be in fair condition, although some cracks are visible. As an operational concern it should be noted that the neighbor on the southern side of the facility, the Pennsylvania State Police, uses the site as a short cut to reach Avenue A. 
Paving	The paving is in fair condition, with the MEP in better condition having been repaved in July 1997. However cracks of a ¼" and more are visible throughout the paving in the POV. The combination of the visible cracks and the recommendation (see below) to perform extensive trenching in connection with the parking lighting suggests

	that, in order to revitalize the paving both structurally and aesthetically, milling and paving will be required. We recommend that all the paving, both road, MEP, & POV have 2" of asphalt removed, and that 2" of asphalt paving be placed.
Curb & Gutter	At present there is curbing present alongside the northern edge of the disused access road from Airport Drive. It is in good condition and helps channel water to a catch basin. However now that the access from Airport Road has been closed the disused access and curbing will require replacement. There may be more curbing on site than was seen, as snow was present during the assessment.  We recommend that the disused access from Airport Road and its

	curbing be removed and replaced with curbing alongside Airport Road and landscaping. Much of this work would be in the public right of way and would require coordination with both the city and the state.
Walks	The walks were snow covered, however they appear to be old as there are no records of their replacement. We recommend that the cracked and damaged walks be replaced.
Accessibility	There is a route to a doorway that appears accessible. This is to the door at the kitchen. However there is no bell here. The southern entry door has a bell, however there is a step in front of it.  We recommend that the entry to the southern door have an accessible ramp installed. This can be coordinated with the replacement of the walks, see above.

Signage	The combination of the sign and the flagpole makes for effective location of the facility by travelers. There is no ADA signage on site.  We recommend that ADA signage be provided in conjunction with the ADA accessible entrance.
Force Protection	
Fencing	The existing fence around the MEP is in fair condition, with various repairs and replacement having been performed in 1975 and 1986. However there is no top rail and it is questionable whether the current location of part of the MEP fencing is optimal. A larger concern is that the MEP fencing is the only fencing on site. There is no perimeter fencing. There is an adjacent police post that might accidentally be providing security. However prudence would suggest that the USARC take responsibility for its own security. As the site is bounded by a public highway consideration might be given to the use of ornamental fence.  We recommend that the perimeter of the site be fenced and gated. Also we recommend that the MEP/POV divider fence be removed and a new fence be located so as to optimize the parking layout for the facility.

Utilities	
Water	
Sources	The City of Bethlehem. The USARC lies within an area developed as industrial. There have been no reports of concerns with the supply.
Mains	There is a 12" main running along Airport Road from which the USARC draws its water (see above).
Fire Protection	There is a fire hydrant on site within the POV to the southeast of the training center, as well as one at the southern end of the building. The City of Bethlehem Fire Service would fight the fire. There were no records of a fire flow test available.  We recommend that the local fire department be asked to perform a flow test. The training building requires sprinklers (see mechanical report). We recommend that a 6" fire service line be laid from the 8" hydrant line at the southern end of the training building to the existing entry point for potable water. The OMS does not have a fire water service at present. There is a requirement for such a service (see mechanical section) We recommend that a 6" fire service connection be made between the OMS and the 12" water main under Avenue A.
Storm Water	
Mains	The main storm drainage pipe runs along Airport Road inside the right of way. There have been no reports of problems. Two on-site catch basins are connected to the main storm drainage.

We recommend that the on site storm drains be inspected with a TV camera to verify the condition of the storm drains.

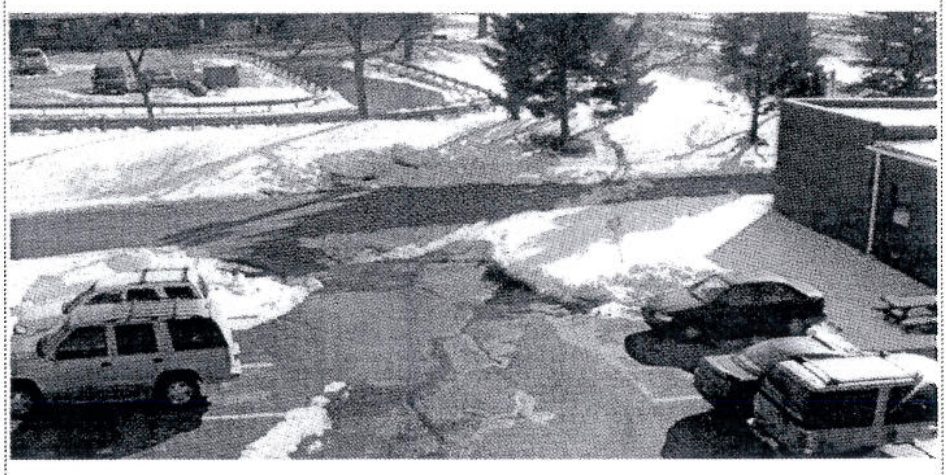
Inlets

There are two inlets on site. One is next to the curb at the southern end of the training center. It appears to be functioning. The other lies in the grass north of the training center next to Avenue A. It functions, however it was reported that the grassy area around it blocks the flow towards it, and so a part of the MEP floods.

We recommend that the area around the inlet next to the MEP be regraded in order to provide positive drainage to the inlet.

Site Drainage

The overall site drainage is from the southeast to the northwest. There are some areas of concern. At the southern end of the training building water ponds adjacent to the curb and does not flow to the southern catch basin.



We recommend that the ponding at the southern end of the training building be removed either by regrading the area or by installing a catch basin and a connection to the southern catch basin.

Another area of concern is the southern edge of the POV. It is not curbed and the runoff from the bank to the south ponds and degrades the asphalt of the POV.

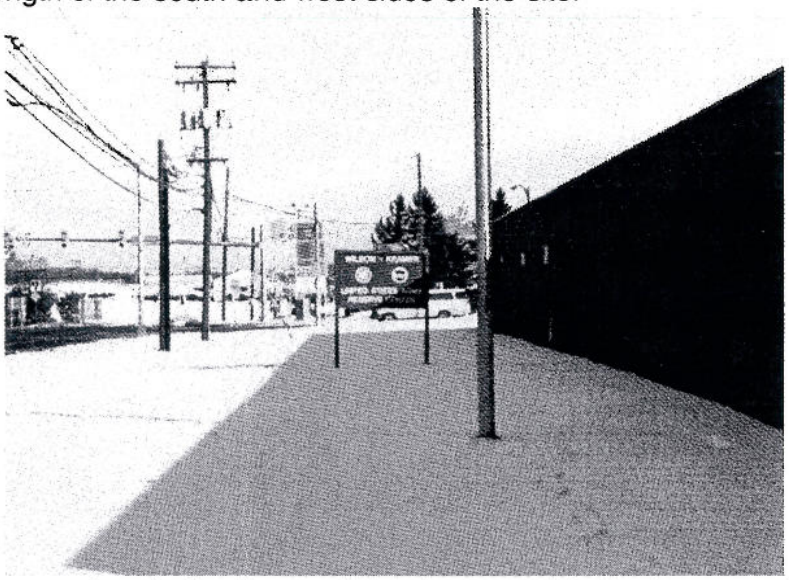
We recommend that the southern and eastern edges of the POV be curbed, and that the adjacent damaged areas of asphalt be repaired.

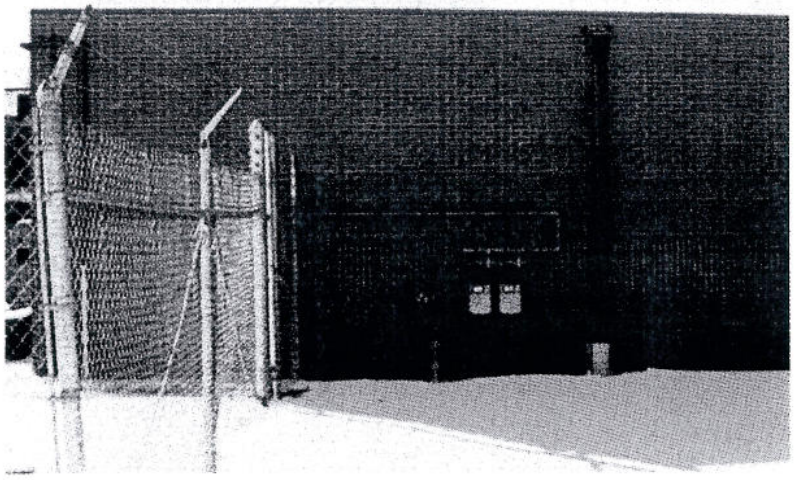
Sanitary

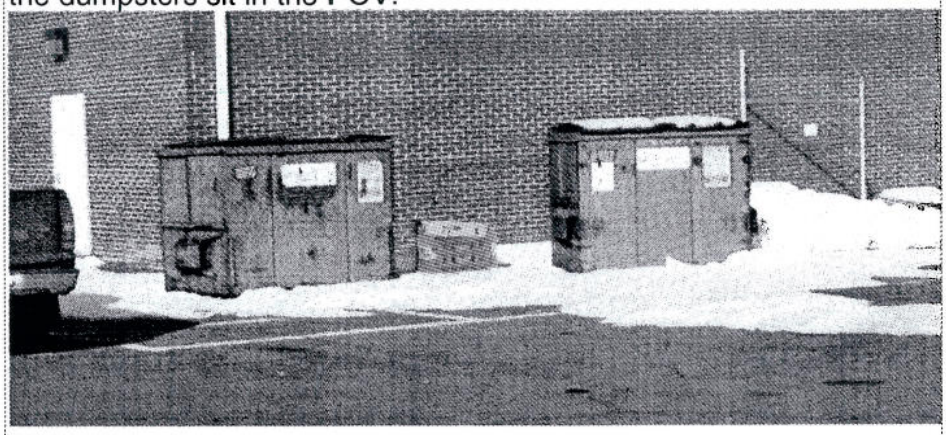
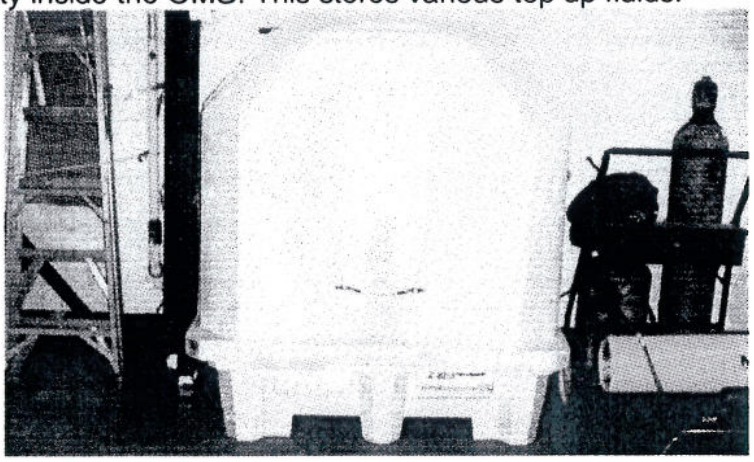
Mains

The sanitary sewer main runs down the middle of Avenue A. There have been no reports of problems with the 6" service connection from the facility to the main.

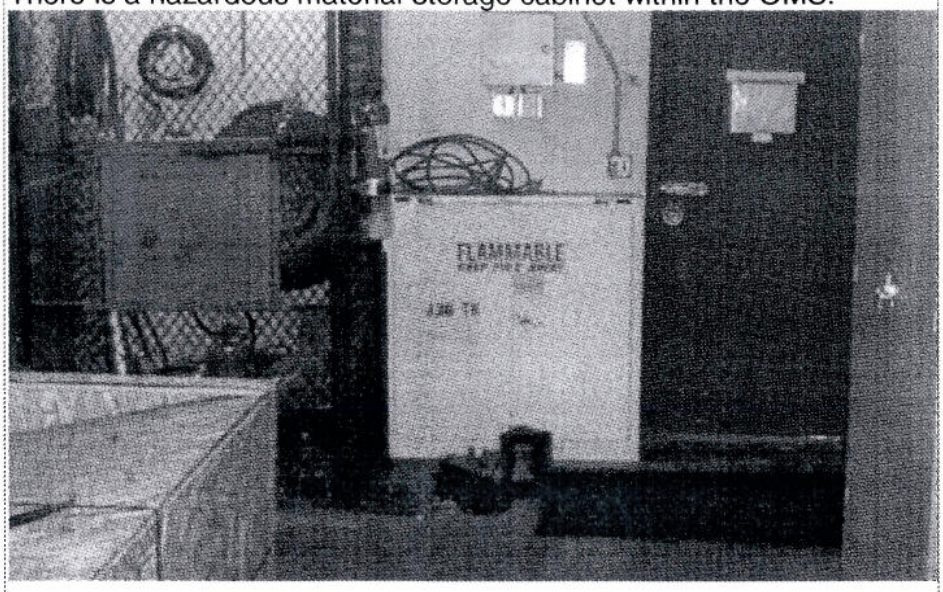
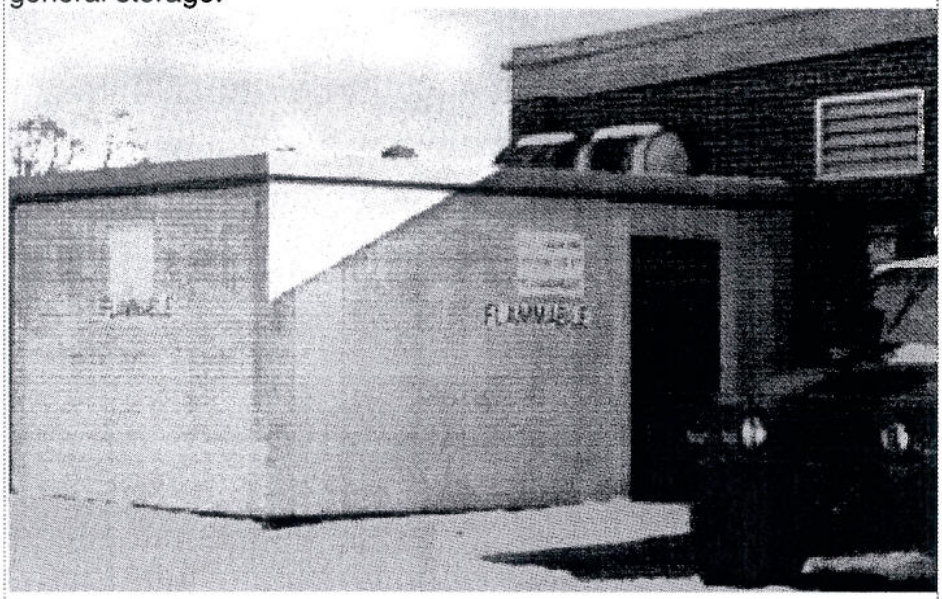
We recommend that the 6" service line be inspected with a tv camera for verification of the line's good condition.

	There is not a bathroom in the OMS. We recommend that a sanitary service line be provided to the OMS.
Lift Stations	N/A
Electrical	
Primary Service	Primary power equipment for the USARC is owned and maintained by Pennsylvania Power and Light Co. Three 50 KVA pole-mounted transformers supply underground service entrance conductors for the Training Building. The service entrance is 208Y/120 volt and consists of 4-500MCM copper RHW cables in a 4" conduit. The entrance is original 1961 construction and is installed under the training building. Condition and material of the conduit is unknown. There are no reported problems with the service. Capacity of the present entrance is marginal for a facility is this size and usage. Power service to the OMS is fed underground from the Training Building. Refer to the Maintenance building section for details. Overhead power lines (owned by Pennsylvania Power & Light) run the length of the south and west sides of the site.  Recommend replacing the service entrance cable due to age and unknown condition. This will likely require routing new conduit from the front of the building to the boiler room for a new entrance. The capacity should be upgraded to 600 amps.
Primary Switchgear	The existing 400 amp main switchgear is installed in the Training Building. Refer to the Training building section for details.
Site Lighting (MEP / POV)	MEP parking is lit with HPS floodlighting installed on wood poles around the perimeter of the space. Approximately half of the fixtures are not operating at this time. However, they appear to be in good condition. Lighting levels will be above current standards with all fixtures operating. Control is by a central photocell and contactor. POV parking is not specifically provided with any lighting. There are

	three unused wood poles along the east of the site that may be used for lighting the rear POV area. Configuration of the existing parking is such that Pennsylvania Power & Light may provide lighting by mounting on their existing poles. Recommend existing MEP lighting be relamped and new lighting be provided for the POV areas in accordance with current USAR standards. As an effort to improve aesthetics, replacement of the existing lighting with new steel or aluminum poles and shoebox type fixtures should be considered. Cost of new poles is included in the estimate.
Fire Alarm	The fire alarm system does not have any connection with the local fire department.
Lightning Protection System	N/A
Site Security system	N/A
Energy	
Steam Distribution	N/A
Natural Gas System	Natural gas is supplied by UGI. There have been no reports of concern with the supply. The OMS will require an increased gas supply (see Mechanical).  We recommend replacing the existing gas supply line from the meter to the OMS with a new 3" gas line.

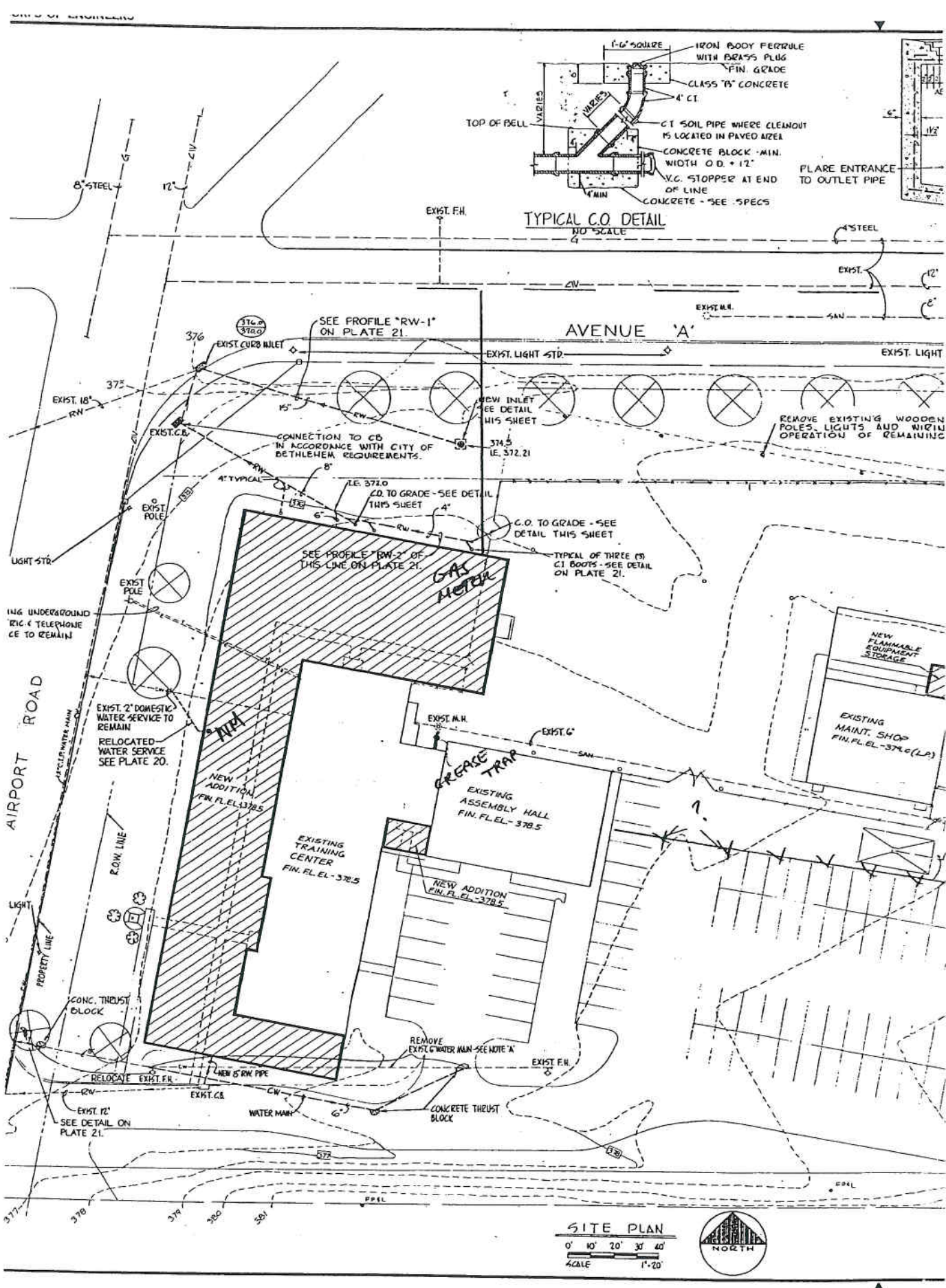
Heating Oil System	N/A
Historic	
Structures	The structures are less than 50 years old. We recommend that the historical status of the structures be determined
Archeology, Cultural	No archaeological or cultural assessments have been performed. We recommend that archaeological and cultural assessments be made of the buildings and site.
Hazmat	
Asbestos	Please see the building section of this assessment.
Incineration	N/A
Waste Removal – Hazardous	The facility does not generate hazardous waste.
Waste Removal - Dumpster	A private contractor removes the waste from the dumpster. At present the dumpsters sit in the POV.  We recommend that the dumpsters be set upon pads and screened.
Waste Oil Storage	Waste oil is not generated at this facility. All maintenance is performed off site. There is a plastic storage cabinet with spill storage capacity inside the OMS. This stores various top up fluids. 

Oil/Water Separator	There is an oil water separator downstream of the washrack before the flow enters the sanitary sewer. However there are reports that it is blocked. There are industrial truck washes in the neighborhood and vehicles could be washed there. We recommend that the washrack and oil/water separator be removed and the connection to the sanitary sewer capped. There is a grease trap outside the kitchen. There are no reports of problems, however there are no records of it being inspected. We recommend that the grease trap be inspected to verify its soundness.
Underground Tanks	At one time the facility was heated by oil. There was a 5000-gallon underground tank just east of the training center. This tank was removed in October 1996 and there is documentation to that effect.

Hazardous Material Storage	There is a hazardous material storage cabinet within the OMS.  We recommend that external hazardous material storage cabinets be provided. There is an external shed labeled flammable adjacent to the OMS. It is a metal building of a basic nature. However it is only being used for general storage.  We recommend that the flammable label be removed in order to help prevent anyone thinking it suitable for hazardous storage.

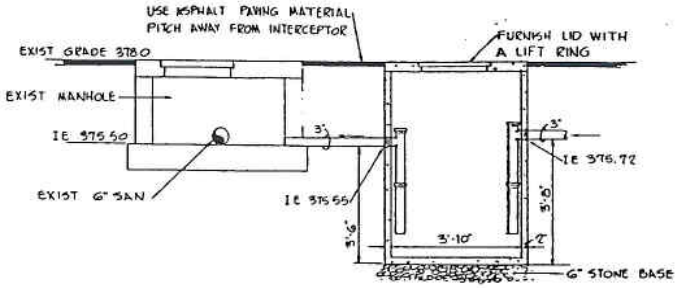
APPENDIX

01 - Site and Floor Plans

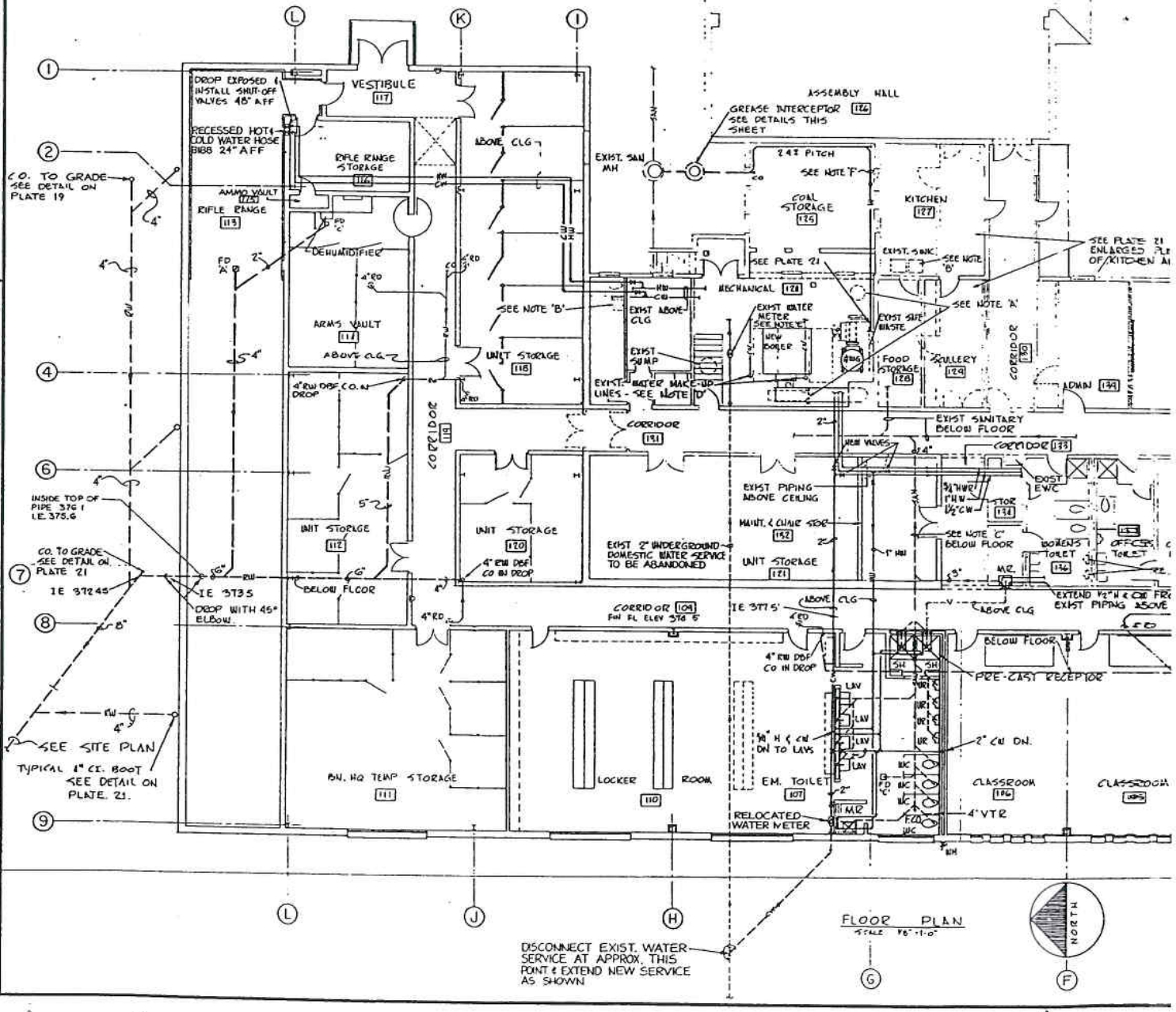

1'-6" SQUARE
IRON BODY FERRULE WITH BRASS PLUG
FIN. GRADE
CLASS "B" CONCRETE
4" C.I.
VARIES
TOP OF BELL
C.I. SOIL PIPE WHERE CLEANOUT IS LOCATED IN PAVED AREA
CONCRETE BLOCK - MIN. WIDTH O.D. + 12"
W.C. STOPPER AT END OF LINE
4" MIN
CONCRETE - SEE SPECS
PLARE ENTRANCE TO OUTLET PIPE
TYPICAL C.O DETAIL
NO SCALE
AVENUE 'A'
EXIST. F.H.
EXIST. LIGHT STD.
EXIST. M.H.
SEE PROFILE "RW-1" ON PLATE 21.
EXIST. CURB INLET
EXIST. 18"
EXIST. C.B.
CONNECTION TO CB IN ACCORDANCE WITH CITY OF BETHLEHEM REQUIREMENTS.
NEW INLET SEE DETAIL THIS SHEET
I.E. 372.21
REMOVE EXISTING WOODEN POLES, LIGHTS AND WIRIN OPERATION OF REMAINING
I.E. 372.0
C.O. TO GRADE - SEE DETAIL THIS SHEET
TYPICAL OF THREE (3) C.I. BOOTS - SEE DETAIL ON PLATE 21.
SEE PROFILE "RW-2" OF THIS LINE ON PLATE 21.
GAS METER
EXIST POLE
LIGHT STD.
UNDERGROUND TRIC. & TELEPHONE CE TO REMAIN
EXIST. 2" DOMESTIC WATER SERVICE TO REMAIN
RELOCATED WATER SERVICE SEE PLATE 20.
AIRPORT ROAD
NEW ADDITION FIN. FL. EL. 378.5
EXISTING TRAINING CENTER FIN. FL. EL. - 378.5
GREASE TRAP
EXISTING ASSEMBLY HALL FIN. FL. EL. - 378.5
NEW ADDITION FIN. FL. EL. - 378.5
NEW FLAMMABLE EQUIPMENT STORAGE
EXISTING MAINT. SHOP FIN. FL. EL. - 374.0 (LP)
EXIST. 6"
R.O.W. LINE
PROPERTY LINE
LIGHT
CONC. THRUST BLOCK
REMOVE EXIST. 6" WATER MAIN - SEE NOTE 'A'
RELOCATE EXIST. F.H.
NEW 8" RW PIPE
EXIST. C.B.
EXIST. 12"
SEE DETAIL ON PLATE 21.
WATER MAIN
CONCRETE THRUST BLOCK
SITE PLAN
SCALE 1"=20'
NORTH

FLOOR DRAIN SCHEDULE

TYPE	LOCATION	ZURN CAT NR.	REMARKS
A	RIFLE RANGE	Z - 530	W/SEDIMENT BUCKET
B	FOOD PREP. AREA	ZN-1800	DEPRESSED NB GRATE
C	TOILET	Z-215	W/5" SQUARE TYPE 'Y' GRATE



DETAILS o GREASE INTERCEPTOR
SCALE 1"=1'-0"



NOTES

A. REMOVE EXISTING ELECTRIC WATER HEATER, WATER STORAGE TANK & PIPE SUPPORTS & HEAT EXCHANGER.

B. REMOVE EXISTING FIXTURES & CAP OR PLUG PIPING AT WALL & FLOOR.

C. CO ORDINATE NEW WORK CLOSELY RELATIVE TO CUTTING & PATCHING OF EXISTING FLOOR

D. MODIFY EITHER ONE OF THE TWO EXISTING WATER MAKE-UP LINES FOR THE NEW BOILER INSTALLATION. REMOVE THE MAKE-UP LINE NOT BEING USED & CAP AT MAIN.

E. RELOCATE EXISTING WATER METER; CAP EXISTING SERVICE LINE AT FLOOR PIPING AFTER METER SHALL BE CAPPED AT CEILING.

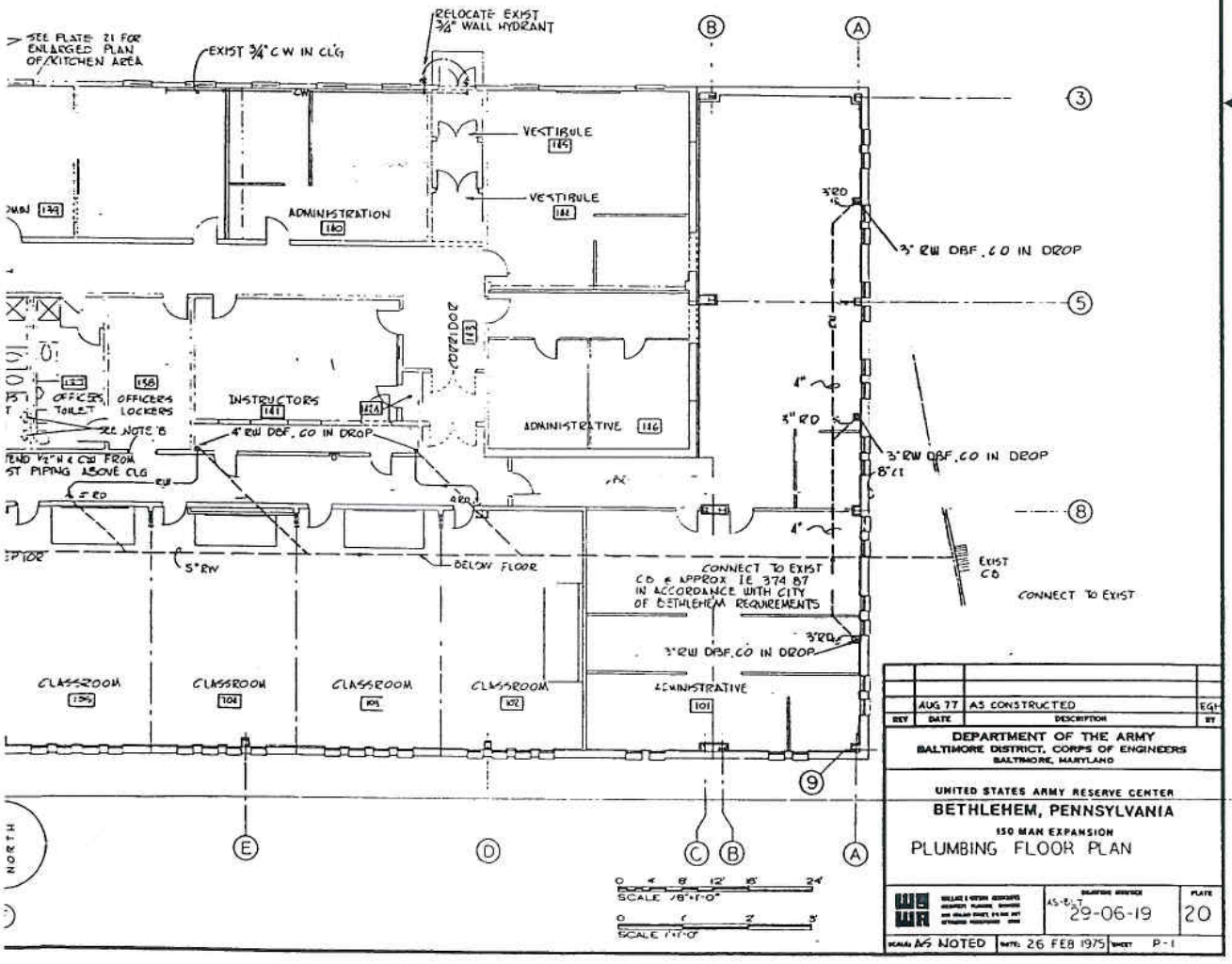
F. THIS RUN OF PIPING SHALL BE INSULATED WITH MINIMUM ¾" THICK FIBERGLAS KEEP PIPE AS HIGH AS POSSIBLE & TIGHT TO WALL

LEGEND

HW	HOT WATER
CW	COLD WATER
HWR	HOT WATER RETURN
W	WASTE
V	VENT
SAN	SANITARY
RW	RAINWATER
WC	WATER CLOSET
LAV	LAVATORY
UR	URINAL
MR	MOP RECEPTOR
RD	ROOF DRAIN
EWC	ELECTRIC WATER COOLER
SH	SHOWER
CB	CATCH BASIN
FD	FLOOR DRAIN
VTR	VENT THRU ROOF
HB	HOSE BIBB
WH	WALL HYDRANT
DBF	DOWN BELOW
CLG	CEILING
CO	CLEANOUT
FCO	FLOOR CLEANOUT
VC	VITRIFIED CLAY
DW	DISHWASHER
W CO	WALL CLEANOUT

FIXTURE CONNECTION SCHEDULE

FIXTURE	WASTE	VENT	CW	HW	REMARKS
WC	4"	2"	1½"	—	
UR	2"	2"	1"	—	
LAV	1½"	1½"	½"	½"	
MR	3"	2"	½"	½"	
SH	3"	2"	½"	½"	



REV	DATE	DESCRIPTION	BY
	AUG 77	AS CONSTRUCTED	EGH

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
BALTIMORE, MARYLAND

UNITED STATES ARMY RESERVE CENTER
BETHLEHEM, PENNSYLVANIA
150 MAN EXPANSION

PLUMBING FLOOR PLAN

WILLIAM B. WITTEN ASSOCIATES
ARCHITECTS — PLANNERS
200 ORIANA STREET, PHILADELPHIA, PA. 19147

DRAWING NUMBER	PLATE
29-06-19	20

SCALE AS NOTED | DATE: 26 FEB 1975 | SHEET P-1

02 - Customer Questionnaire

	site acreage	# of buildings	# of floors	total bldg gsf	customer questionnaire
Survey	4.5	2	1	29,124	

WILSON-KRAMER USAC

2940 AIRPORT ROAD
BETHLEHEM, PA

building features	N/A	YES	NO	status unknown	comments / recommendations
Building Environment					
Exterior					
Foundations have no cracks or bulges?			X		
Floors have cracks and voids?			X		
Exterior walls have cracks, rot, peeling, efflorescence, spalling?		X			SOME CRACKES DUE TO ROOF LEAKING ALONG WALL
Roof has water ponding, blisters, bare areas?		X			
Roof requires frequent patching and repairs		X			
Roof flashings are in good condition and without leaks?			X		
Doors and thresholds are in good condition and operation?		X			
Windows are in good operation and have no broken/missing glass?		X			CAUCKING CRACKING
Trim/fenestration is maintained and properly attached?		X			
Interiors					
Floor Finishes are appropriate for locations?			X		
Floor Finishes are in good condition?			X		
Stairways, treads, and railings are in good condition and maintained?			X		
Wall Finishes are in good condition?			X		
Ceilings are in good condition?			X		
Doors/hardware are in good condition?			X		
Window Treatment is not outdated and is operational?			X		
Signage as adequate for "wayfinding"			X		
Building Systems					
Mechanical					
Air conditioning throughout the building is adequate?			X		
Heating throughout the building is adequate?		X			
Air Handling Equipment operation is quiet and maintenance free?			X		
Ducts & Water Distribution piping is in good condition?			X		
Room air distribution is uniform with comfortable temperature			X		
System controls are fully operational and integrated?			X		
Ventilation (O.A. & Exh) fans are quiet, clean, and operational?			X		
Shop air/lubrication systems operates adequately?	X				
Shop vehicle exhaust removal systems are effective?		X			
Plumbing					
Fixtures are in good condition?			X		
Hot/cold Piping is adequate?		X			
Hot water heater is maintenance free and provides adequate supply?		X			
Fire sprinkler system has been inspected and is operational?	X				
Kitchen/Equipment is operational?		X			BUT OLD AND NEED UPDATING
Electrical					
Electric supply is adequate to all buildings?		X			
Power/light panels are not overloaded and do not trip frequently?		X			
Electrical wiring has performed adequately?		X			
Lighting fixtures are operational and provide adequate illumination?			X		
Power receptacles operate properly?		X			
Fire/Security alarm systems are maintenance free and operate properly?		X			
Telephone/Data Systems are adequate and have expansion capability?			X		
Emergency Generator has been inspected and is operational?	X				
Interior Transformers do not overheat or produce excessive noise?	X				
Elec/Tele Closets are adequately ventilated and have sufficient space?			X		
Transport					
Elevators have current inspection?	X				
Material Handling Crane(s) are operational?	X				

03 - Site meeting Roster & Notes

The Mason&Hanger Group Inc.
a Day & Zimmermann company

File | Page | of
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Date
Computed By
Checked By

Project | Location

Subject Wilson-Kramer USAR
Bethlehem, PA

Name	Representing	Tel / Mob. / e
Nolan Harrison	Mason & Hanger	859-252-9980 859-608-7147
Salvatore J. Zangari	FMS 99RSC.	610-974-5601
Harold K. Miller Jr	J. M. Waller Assoc./IMA-ARD	724-229-3022
Alan Kellum	Mason & Hanger	859-252-9980
David Parker	Mason & Hanger	859-252-9980 david.parker@mhgrp.com
Dale Adams	Mason & Hanger Group	859-252-9980 DALE.ADAMS@MHGRP.COM

Project FFA · Location BETHLEHEM, PA.
Date 2/21/2008 .
Subject BLDG. SF / PLUMBING FIXTURE COUNTS
Computed By DAVE ADAMS
Checked By

ORIGINAL BLDG. - 1959. 12" EXT. WALLS

156'-4" + 2'-0" = 158'-4"
46'-0" + 2'-0" = 48'-0"
158'-4" x 48'-0" = 7600 SF

21'-2" - 2'-0" = 19'-2"
7'-4" + 15'-8" + 18'-8" + 1'-4" = 43'-0"
19'-2" x 43'-0" = 824 SF.

ASSEMBLY HALL
70'-0" + 2'-0" = 72'-0"
50'-0" + 2'-0" = 52'-0"
72'-0" + 52'-0" = 3744 SF.

TOTAL ORIGINAL BLDG. - 12,168 SF

1975 ADDITION
61'-0" x 117'-0" = 7137 SF
86'-0" x 20'-0" = 1720 SF.
158'-4" x 38'-0" = 6017 SF

14,874 SF

TOTAL BLDG SF 27,042 SF. GSF

OMS (ORIGINAL BLDG.)

47'-4" x 55'-4" = 2619 SF. GSF.

ARMY FACILITY COMPONENT CODE LEGEND

FROM DA FORM 5034-R, JAN 94 REFERENCE AR 140-483

I. TRAINING BUILDING
A. ADMINISTRATIVE AREAS
(1) FULL TIME
(2) UNIT EXCLUSIVE
(3) UNIT COMMON
(4) RETENTION
(5) ADMINISTRATIVE SUPPORT
(a) GENERAL
(b) RCAS
(6) LOBBY
B. ASSEMBLY AREA
(1) ASSEMBLY AREAS
(2) CHAIR AND TABLE STORAGE
C. KITCHEN - STD DESIGN
D. WEAPONS AREA
(1) VAULT
(2) ARMORER
E. EDUCATIONAL AREAS
(1) CLASSROOMS
(2) LIBRARY READING ROOM
(3) LIBRARY STORAGE
(4) LEARNING CENTER
(5) TRAINING AIDS STORAGE
(6) COMSEC TRAINING
(7) COMSEC STORAGE
(8) USARF INSTRUCTOR ROOM
(9) USARF PUBLICATIONS STORAGE
F. STORAGE AREAS
(1) UNIT/INDIVIDUAL
(2) STAGING AREA
(3) SUPPLY OFFICE
(4) JANITORIAL STORAGE
(5) FLAMMABLE STORAGE
(6) CONTROLLED WASTE
(7) FACILITY MAINTENANCE
G. SPECIAL TRAINING AREAS
(1) RIFLE RANGE
(2) PHOTO LAB
(3) BAND ROOM
(4) MEDICAL SECTION
(5) PHYSICAL EXAM WING
(6) SCIF
(7) SOIL TESTING LAB
(8) G.O. CONFERENCE
(9) DRAFTING ROOM
(10) PHYSICAL READINESS
(11) WWNCCS
(12)
H. SUPPORT AREA
(1) MEN'S TOILETS & SHOWERS
(2) WOMEN'S TOILETS & SHOWERS
(3) UNISEX HANDICAP TOILET
(4) LOCKER ROOM
(5) VENDING ALCOVE
(6) BREAK AREA
(7) MECHANICAL
(8) ELECTRICAL
(9) TELEPHONE

II. MAINTENANCE SHOPS
A. ORGANIZATIONAL MAINTENANCE
(1) SHOP OFFICE
(2) UNISEX TOILET
(3) TOOL & PARTS ROOM
(4) STORAGE ROOM
(5) BATTERY ROOM
(6) FLAMMABLE STORAGE
(7) CONTROLLED WASTE STORAGE
(8)
(9)
B. AREA MAINTENANCE SUPPORT
(1) SHOP OFFICE
(2) MEN'S TOILET
(3) WOMEN'S TOILET
(4) LOCKER ROOM
(5) CLASSROOM/BREAK AREA
(6) TOOL ROOM
(7) SUPPLY ROOM
(8) BATTERY ROOM
(9) COMMO/ELECTRONICS SHOP
(10) INSTRUMENT REPAIR
(11) SMALL ARMS REPAIR
(12) SMALL ARMS VAULT
(13) FLAMMABLE STORAGE
(14) CONTROLLED WASTE STORAGE
(15)
(16)
(17)
C. JOINT MAINT AREAS (OMS/AMSA)
(1) WORK BAYS
(2) MECHANICAL/CUSTODIAL
(3)

III. UNHEATED STORAGE
A. UNIT/INDIVIDUAL STORAGE
B. STAGING AREA

IV. SUPPORTING FACILITIES
A. PRIVATELY-OWNED VEHICLE
(1) PARKING - CENTER (SY)
(2) PARKING - AMSA (SY)
B. MILITARY EQUIPMENT PARK
(1) OMS (SY)
(2) AMSA (SY)
C. WASH PLATFORMS
(1) OMS (EA)
(2) AMSA (EA)
D. COVERED STORAGE (SF)
E. MEP FENCING (LF)
F. MEP LIGHTING (EA)
G. ACCESS ROADS (SY)

HVAC CODE LEGEND	
H:	Room Heated Only
A:	Room Air-Conditioned Only
HA:	Room Heated & Air-Conditioned
U:	Room is Unconditioned

WILSON-KRAMER USAR CTR - REAL PROPERTY/SQUARE FOOTAGE SUMMARY
FACILITY DATA - PA008
TRAINING CENTER BUILDING

Room No.	Room Name	Room Dimensions			Room	Room	HVAC	Use	User	Remarks
		Length (ft)	Width (ft)	Height (ft)	Area (nsf)	Volume (cf)	Code *1.	Code *2.		
101A	Office	15.5	30.58	8	474	3,792	HA	IA2	130 CHEM.C0	
101B	Office	18.42	30.58	8	563	4,506	HA	IA1	130CHEM.CO	
101C	Office	9.58	11.67	8	112	894	HA	IA1	130 CHEM.CO	
101D	Office	15.5	11.67	8	181	1,447	HA	IA1	130 CHEM.CO	
101	Corridor	24	6	8	144	1,152	HA	IA1	COMMON	
101	Corridor	26	8.33	8	217	1,733	HA	IA1	COMMON	
102	Classroom	18.17	30.58	8	556	4,445	HA	IE1	744MP BN	
103	Classroom	18	30.58	8	550	4,404	HA	IE1	744MP BN	
104	Classroom	18.27	30.58	8	559	4,470	HA	IE1	744MP BN	
105	Classroom	18	30.58	8	550	4,404	HA	IE1	744MP BN	
106	Office	18.17	30.58	8	556	4,445	HA	IA2	744MP BN	
107	Male Rest	5.17	8.83	8	387	3,093	H	IH1	COMMON	
		12.83	26.58	8	355	2,844	H	IH1	COMMON	
108	F.Locker Rm	3.33	4.33	8	14	115	H	IH4	COMMON	
109	Corridor	100	6	8	600	4,800	H	IA3	COMMON	
110	Locker	48.17	30.58	8	1,473	11,784	H	IH4	COMMON	
111	Storage	33.75	30.58	8	1,362	10,892	H	IF1	COMMON	
		38	8.67	8	479	3,828	H	IF1	COMMON	
112	Ofc.Fac.	10.5	14.2	10	149	1,491	HA	IA1	744MP BN	
113	Storage	115	14	10	1,610	16,100	HA	IF1	744MP BN	
114	Arms Rm	20.17	26	10	524	5,244	U	IF1	744MP BN	
115	Ammo Stor	5.17	2	11	10	114	U	IF1	744MP BN	
116	Storage	18.17	11.5	11	209	2,299	H	IF1	744MP BN	
117	Vestibule	24.5	5	8	123	980	H	IA6	COMMON	
118	Storage	50.5	18.3	10	924	9,242	H	IF1	744MP BN	
119	Corridor	76	6.33	8	481	3,849	H	IA3	COMMON	
120	Storage	20	18.3	10	366	3,660	H	IF1	744MP BN	
121	Storage	38	20	8.92	760	6,779	H	IF1	130CHEM. CO	
122	Storage	19.2	6	8.92	115	1,028	H	IF1	744MP BN	
123	Storage	13	9.5	8.92	124	1,102	H	IF3	744MP BN	
123A	Janitor closet	6	4	8.92	24	214	U	IF4	COMMON	
124	Mech. Rm	26.5	19.17	14.5	508	7,366	H	IH7	COMMON	
125	Storage	18.8	14.8	8	278	2,226	H	IF2	744MP BN	
126	Assembly	70	50	20	3,500	70,000	H	IB1	COMMON	
127	Food Prep	14.67	19.33	8.92	284	2,529	H	IC	COMMON	
128	Food Storage	19.33	7.67	8	148	1,186	H	IC	COMMON	
129	Scullery	19.33	7.5	8.92	145	1,293	H	IC	COMMON	
130	Corridor	36	6.17	8	222	1,777	H	IA3	COMMON	
131	Corridor	147.5	6	8	885	7,080	H	IA3	COMMON	
132	NBC Storage	16.17	11.17	8	181	1,445	H	IF1	744MP BN	
133	Corridor	36	6.17	8	222	1,777	H	IA3	COMMON	

NOTES:
Note 1: See HVAC Code Legend
Note 2: See EMAAR Facility Data Use Code Legend

Assessment Conducted: XX MON 00

134	Storage	8.83	5	8	44	353	H	IF3	744MP BN	
135	Janitor Closet	8.5	5.17	8	44	352	U	IF4	COMMON	
136	Women toilet	15.17	10.33	8	157	1,254	H	IH1	COMMON	
137	Ofc. toilet	15.17	8.33	8	126	1,011	H	IH1	COMMON	
138	Break	15.17	10	8	152	1,214	H	IH6	COMMON	
139	Cmd. Ofc.	19.25	13.08	8	252	2,014	H	IA1	744MP BN	
140	Office	20.33	19.17	8	390	3,118	H	IA1	744MP BN	
140A	Office	29.1	19.17	8	558	4,463	H	IA1	744MP BN	
141	Office	25	12.17	8	304	2,434	H	IA1	744MP BN	
142	Tng Storage	36.5	3.5	8	128	1,022	H	IE5	744MP BN	
142A	Mat.Storage	6.7	2	8	13	107	U	IE5	744MP BN	
143	Corridor	15.17	7.67	8	116	931	H	IA3	COMMON	
144	Vestible	14.67	6.67	8.25	98	807	H	IA6	COMMON	
145	Portico	5.67	3.83	8.72	22	189	H	IA6	COMMON	
146	Office	26	25	8.92	650	5,798	H	IA2	744MP BN	
146	Corridor	26	6	8.92	156	1,392	H	IA3	COMMON	
146A	Office	13.75	13.67	8.92	188	1,677	H	IA2	744MP BN	
146B	Office	13.75	11.5	8.92	158	1,410	H	IA2	744MP BN	
Total Bldg Net Area (NSF)					21,194					
Circulation Net Area (Actual)					3,285					
Structure (Actual)					2,371					
Total Bldg Gross Area (GSF)					26,850					

NOTES:
Note 1: See HVAC Code Legend
Note 2: See EMAAR Facility Data Use Code Legend

Assessment Conducted: XX MON 00

WILSON-KRAMER USAR CTR - REAL PROPERTY/SQUARE FOOTAGE SUMMARY FACILITY DATA - PA000										
ORGANIZATIONAL MAINTENANCE SHOP (OMS)									Use	
Room No.	Room Name	Room Dimensions			Room	Room	HVAC		User	Remarks
		Length (ft)	Width (ft)	Height (ft)	Area (nsf)	Volume (cf)	Code *1.	Code *2.		
Bay1	repair	22.67	43.5	12	986.15	11833.74	H	IIA	744MP BATT	
Bay2	MV Stor	22.67	43.5	12	986.15	11833.74	H	IIA1	744MP BATT	
Paint Stor	Stor	8.5	6	8	51.00	408.00	U	IIA4	744MP BATT	
Cage1	Stor	12.33	8.5	10	104.81	1048.05	H	IIA1	744MP BATT	
Cage2	Ofc	11	8.5	10	93.50	935.00	H	IIA1	744MP BATT	
Cage3	Ofc	11	8.5	10	93.50	935.00	H	IIA1	744MP BATT	
Total Bldg Net Area (NSF)					2315.10	0.00				
Circulation Net Area (Actual)					0					
Structure (Actual)					2315.1					
Total Bldg Gross Area (GSF)					2524.1					

NOTES:
Note 1: See HVAC Code Legend
Note 2: See EMAAR Facility Data Use Code Legend

Assessment Conducted: XX MON 00

pointed out in the 1996 TFA that due to poor maintenance or no maintenance at all, the AC system was subject to severe damage in the winter of 1996 when the interface between water and refrigerant [shell and tube exchanger and chilled water piping] was damaged possibly as a direct result of improper changeover from summer to winter.

2.c. Over the life of the center the electrical system has been modified for numerous reasons (from the construction of the new section, to new lighting installation in part of the original center, to miscellaneous installations of exit lights, receptacles, HVAC system, etc.). Drawings have not been updated, some electrical switches no longer seem to control anything, ground fault interrupt circuits (GFIC) are installed in wet areas, and circuit breaker labeling is missing, non-legible and /or inaccurate. NEC changes have outpaced repairs and automation and new equipment is overloading some circuits. Consequently, as in the FY96 TFA, we are recommending that an NEC/Electrical Study be conducted and recommendations be made on repairs, and that NEC violations and upgrades be identified.

2.d. These systems represent the most costly to properly operate and maintain, and in most cases represent the areas that provide the most technically challenging maintenance problems, but are also critical to a quality work environment – recruitment, health and safety, retention and overall attitude of fulltime and reserve personnel.

3. The E2FA identified two Class I Regulatory findings, no Class II Regulatory, seven Class III management findings, and four negative Health and Safety finding. Suspected asbestos containing material was identified (re. ECAS photo 1 and RPMA Enclosure C). Significant findings included missing documentation concerning rifle range lead abatement clean-up, sub-surface conditions/test results at the time of the UST removal, oil/water separator system last service date, no asbestos management plan available for review, and no Hazardous Waste Plan in effect. Troops were unaware of what procedures to follow for disposal of hazardous waste or materials. A radon survey was performed in 1996; however, no records indicate that a secondary test was performed.

4. The condition of the Arms Room was determined to be satisfactory with no changes or upgrades necessary. A new DA Form 4604-R Security Construction Statement was issued for the storage of Category II arms at the facility.

5. 5. A Facility Condition Survey for both the main Center and the OMS was completed. The information has been forwarded directly via e-mail to LTC Gary Jackson, USARC-DCSENG. See Enclosure B.

James L. Hugar
LTC, EN, USAR
Team Leader

SECTION 2: FACILITY IDENTIFICATION

INSTALLATION NAME: **Wilson-Kramer USAR Center and OMS**
INSTALLATION NUMBER: **PA008**
STREET ADDRESS: **2940 Airport Road**
CITY/TOWN: **Bethlehem**
STATE: **PA**
ZIP CODE: **18017-2166**
RSC/RSG: **99th RSC, HQs Oakdale, PA 15071-5001**
FACILITY TYPE:

A. USARC:	X	B. AFRC:	___	C. OMS:	X	D. FLIGHT:	___
E. DS/GS:	___	F. MED:	___	G. WET:	___	H. FLIGHT:	___
I. ECS:	___	J. CTF:	___	K. OTHER:			

ASSESSMENT PERFORMED BY: **Fort Indiantown Gap Facility Engineer Team**
FACILITY ENGINEER TEAM INCLUDED:

LTC Jim Hugar

1LT Eric Burkholder

SFC Joseph Baran

REFER TO FOR INFORMATION:

LTC James L Hugar
Work: (717) 770-5582 DSN 977-5582 email: jhugar@usapc-emh1.army.mil
Home: (717) 866-2792

PERSONNEL CONTACTED ON SITE:

NAME/GRADE	DUTY POSITION	PHONE NUMBER
Mr. Joseph A. Burke	**Facility Coordinator**	**(610) 574-8207**

ASSESSMENT CONDUCTED FROM: **02 Nov 1999/0900** TO: **03 Nov 1999/1530**
DATE OF LAST ASSESSMENT: **24 October 1996 (Facility TFA)**

SECTION 1: EXECUTIVE SUMMARY

1. As part of the Total Facility Assessment (TFA) at the USAR facility, an environmental compliance assessment was conducted. The Wilson-Kramer USAR Center is located in close proximity to the Bethlehem Airport and sits beside the State Police Barracks along Delaware Avenue in Bethlehem, PA. PA008 USARC consists of 2 buildings, the main building or reserve center and the OMS. The OMS and military vehicle parking lot are within a closed perimeter consisting of a continuous seven feet high chain link fence. The surrounding area consists of a busy intersection and major highway with constant air traffic overhead.

2. The TFA identified two Class I Regulatory findings, no Class II Regulatory, seven Class III management findings, and four negative Health and Safety finding.

Finding Category	Finding ID	Law/Reg	Finding Summary
03	A.4.1.R	AR200-1	No documentation on-site for Range closure.
03	HW.1.2	OSHA	Hazardous Waste Plan needs improved.
03	HW.1.4.R	AR200-1	Annual HW inventory needs established.
HS	HM.1.2	CFR	No MSDS sheets for any substance.
HS	HM.35.9	CFR	Poor housekeeping/Improper storage of flammables.
01	HM.3.2	CFR	Inventory control for planning needs developed.
03	PO.5.2.R	AR200-1	Current SPCC Plan not available.
01	ST.95.3	CFR	UST removal documentation not available.
03	WA25.2	CFR	Oil/Water Separators not serviced regularly.
03	WQ.3.1	EO/USC	Backflow preventors not installed on all faucets.
HS	T2.1.4.R	AR200-1	No asbestos management plan.
03	T3.1.12.R	AR200-1	Radon survey outdated and not complete.
HS	HM.10.1	CFR	Hazardous communication prgrm needs established.

3. Significant findings are summarized in the comments below.

- No documentation on-site for the rifle range lead abatement clean-up. A lead testing company visited PA008 on 3Nov99 to collect samples from the rifle range. This company was contracted from the Huntsville COE. Also, there were no records to prove closure of the range that was previously in the assembly area.

SECTION 1: EXECUTIVE SUMMARY (CONT)

- The Oil/Water separator system has not been serviced since approximately 1997. No documentation available to prove that the system was unclogged by Safety Klean.
- A UST had been removed at PA008. The inspection team did not find records to document the subsurface conditions at the time of these removals.
- Suspected asbestos containing material was identified (re. ECAS photo 1). No asbestos management plan was available for review.
- No Hazardous Waste Plan is in effect. Troops do not know what procedures to follow for disposal.
- A radon survey was performed in 1996; however, no records indicate that a secondary test was performed (boiler room). Ecosphere Corp installed Radon Away system in room 101(b).

4. The Facility Coordinator was extremely frustrated with what he perceived as the lack of support his reserve center receives. He expressed his concerns about the lack of funds for general maintenance, yet, was dismayed to learn that his facility would be updating the men's and women's latrines for ADA purposes. Upon review of his comments to see if they were warranted in the environmental area, I compared the ECAS portions of the 1992, 1996, and this report's findings. Regrettably, Mr. Burke's honesty has much merit. The following is a quote from a 1992 ECAS report. "A library of applicable laws and regulations should be established at the facility, and additional support and assistance is required from the supporting installation in training, permits, hazardous waste/material, DRMO contract support, SPCC planning, and in environmental projects programming (1383 reports). Sufficient environmental support coordination is not being provided at the facility." Eight years later, this quote appears to still apply in many areas. Despite efforts to keep the Facility Coordinators informed on environmental matters, this may be an area of concern. As we advance through the third round of ECAS, we will try to pinpoint specific areas that may relate to this. We will also try to maximize our support where ever possible.

5. The TFA inspection team contacted Sgt Doanne (Unit motor sergeant) via fax, and answered many of his questions about the disposal of hazardous waste.

James L. Hugar
LTC, EN, USAR
FIG FET, Team Leader

SECTION 5: FINDING SHEETS

INSTALLATION NAME: Wilson-Kramer USARC Facility

INSTALLATION NUMBER: PA008 DATE: 2,3 Nov 1999

A.4.1.R #1 III FEDERAL FINDING Air Emissions

FINDING ID: A1-001
MANUAL QUESTION NUMBER: A-004-001-R
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: MAIN BLDG AND ASSEMBLY AREA
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: NO DOCUMENTATION WAS FOUND ON-SITE FOR ANY PREVIOUS RANGE CLEAN-UP AND/OR CLOSURES. 3NOV99, A LEAD-TESTING COMPANY COLLECTED SAMPLES TO RECONFIRM THAT THE RANGE MEETS ACCEPTABLE LEAD LEVELS. THIS FIRM WAS CONTRACTED THROUGH THE HUNTSVILLE COE.

CRITERIA: Lead exposure for personnel should be within specific limits (MP).

FINDING COMMENTS:

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): CST-1 HAS THE CLOSURE DOCUMENTATION FOR THIS FACILITY; HOWEVER, THE FACILITY NEEDS A COPY FOR THEIR RECORDS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.30.2 #1 I FEDERAL FINDING Hazardous Materials

FINDING ID: HM-002
MANUAL QUESTION NUMBER: HM-030-002
FINDING CATEGORY: CLASS I
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: MAIN BLDG AND OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: HAZARDOUS CHEMICALS UNDER OSHA ARE REQUIRED TO MEET SPECIFIC MSDS REPORTING REQUIREMENTS FOR PLANNING PURPOSES. FURTHER INVESTIGATION IS NEEDED TO VALIDATE IF SARA III, TIER I/II REQUIREMENTS ARE MEET.

CRITERIA: Installations/CW facilities, that are required to prepare or have available a MSDS sheet for a hazardous chemical under OSHA, are required to meet specific inventory reporting requirements for planning purposes (EO 12856; 40 CFR 370.20, 370.25, and 370.28).

FINDING COMMENTS: REQUIRE AN INVENTORY OF ALL HAZARDOUS CHEMICALS ON HAND. THIS DEFICIENCY HAS BEEN IDENTIFIED IN PREVIOUS VISITS AND NOTED ON ECAS REPORTS.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): PERFORM AN INVENTORY OF ALL HAZARDOUS CHEMICAL ON HAND, HAVE QUANTITY AND STORAGE LOCATIONS IDENTIFIED, OBTAIN THE MSDS FORMS, PROVIDE INFO TO COPY TO LOCAL EMERGENCY SUPPORT GROUP SUCH AS FIRE DEPT, EMS, ETC...

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.1.2 #1 HS FEDERAL FINDING Hazardous Materials

FINDING ID: HM-001
MANUAL QUESTION NUMBER: HM-001-002
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: MAIN BLDG AND OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: THE USARC DOES NOT HAVE ON FILE THE REQUIRED MSDS FOR EACH HAZARDOUS CHEMICAL USED OR STORED.

CRITERIA: Installations/CW facilities are required to have on file an MSDS for each hazardous chemical stored and used at the installation/CW facility (29 CFR 1910.1200(b)(3)(ii), 1910.1200(b)(4)(ii), 1910.1200(b)(6), 1910.1200(g)(1), and 1910.1200(g)(8)).

FINDING COMMENTS: NO MSDS ON-SITE. MOTOR SGT IN PROCESS OF ESTABLISHING FILE.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): ESTABLISH A CONTROL INVENTORY FILE ON HAZARDOUS CHEMICAL BEING USED OR STORED. UNIT IS AWARE OF DEFICIENCY AS THE MOTOR SGT IS IN THE PROCESS OF OBTAINING AN INCOMPLETE/MISSING MSDS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.10.1 #1 HS FEDERAL FINDING Hazardous Materials

FINDING ID: HM-004
MANUAL QUESTION NUMBER: HM-010-001
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: USARC AND OMS FACILITY
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: THE OMS DID NOT HAVE A FORMAL WRITTEN HAZARDOUS COMMUNICATION PROGRAM.

CRITERIA: Installations/CW facilities are required to have a written hazard communication program that is designed to provide all employees with information about the hazardous chemicals to which they are exposed (29 CFR 1910.1200(b)(1) and 1910.1200(e)(1)) [February 1995].

FINDING COMMENTS: PREVIOUS ECAS REPORTS HAVE DOCUMENTED THIS DEFICIENCY. COORDINATION NEEDS TO BE ESTABLISHED BETWEEN THE USARC'S AND THEIR SUPPORT HEADQUARTERS TO KEEP DOCUMENTATION ON-SITE.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE CST / 99TH RSC SHOULD DEVELOP A WRITTEN HAZARDOUS COMMUNICATION PROGRAM FOR THIS FACILITY.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HM.35.9 #1 HS FEDERAL FINDING Hazardous Materials

FINDING ID: HM-003
MANUAL QUESTION NUMBER: HM-035-009
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: ROOMS 111 & 112 OF MAIN BLDG
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: VARIOUS FLAMMABLE CHEMICALS WERE STORED IN A LOCKED OFFICE (ROOMS 111 & 112). SPRAY PAINT CONTAINERS, BLEACH, AND INSECTICIDE SPRAYS WERE MIXED TOGETHER IN A NONAPPROVED AREA.

CRITERIA: Areas where flammable/combustibles are stored must meet certain fire protection standards (29 CFR 1910.106 (d)(7)) [April 1995].

FINDING COMMENTS:

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): SEPARATE CHEMICALS BY INCOMPATIBLES (OXIDIZERS VS FLAMMABLES) AND STORE IN FIRE PROOF CABINETS OR IN APPROPRIATE STORAGE AREAS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HW.1.2 #1 III ARMY/DOD FINDING Hazardous Waste

FINDING ID: HW-001
MANUAL QUESTION NUMBER: HW-001-002
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: USARC
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: A HAZARDOUS WASTE MANAGEMENT PLAN WAS COMPLETED IN SEPT95 AND DOCUMENTED ON OUR PREVIOUS REPORTS; HOWEVER, NO ONE AFFILIATED WITH THE HAZARDOUS WASTE IS AWARE THAT THE PLAN EXISTS NOR DO THEY KNOW WHAT TO DO WITH THE WASTE.

CRITERIA: Specific persons should be designated responsible for areas where hazardous waste is stored for all sizes of generators and TSDFs, and the precise nature of their responsibilities should be specified (MP).

FINDING COMMENTS: NO PROGRAM EXISTED EXCEPT FOR THE PAPER DOCUMENT. EXECUTION OF THE HAZARDOUS WASTE MANAGEMENT PROGRAM NEEDS TO BE PLACED INTO EFFECT. ALSO, TRAINING RECORDS NEED TO BE FILED AND KEPT AT THE FACILITY (HW 25.2, SQG).

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): COMMUNICATION AND SUPERVISON IS NEEDED AT THIS FACILITY TO GET THE HAZARDOUS WASTE PROGRAM INTO EFFECT. FURTHER TRAINING AND SPECIFIC GUIDANCE SHOULD BE GIVEN FOR A PROPER FUNCTIONING OMS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

HW.1.4.R #1 III ARMY/DOD FINDING Hazardous Waste

FINDING ID: HW-002
MANUAL QUESTION NUMBER: HW-001-004-R
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: NO EVIDENCE WAS FOUND OF ANNUAL HAZARDOUS WASTE INVENTORIES.

CRITERIA: Each facility will conduct an annual inventory of hazardous waste (AR 200-1, para 6-4c).

FINDING COMMENTS: PREVIOUS DOCUMENTATION SUPPORTS THE FINDING OF INSUFFICIENT ENVIROMENTAL SUPPORT COORDINATION NOT BEING PROVIDED AT THIS FACILITY WHICH INDIRECTLY AFFECTS THE LACK OF KNOWLEDGE ON THE AMOUNT OF HW INVENTORY.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): ADEQUATE SUPPORT IS NOT BEING GIVEN TO THIS USARC. A MANAGEMENT PLAN HAS BEEN ESTABLISHED BUT THE LACK OF AWARENESS, TRAINING, AND SUPERVISION HAS CREATED CONFUSION. ONCE A PROPER DISPOSAL SYSTEM HAS BEEN ESTABLISHED, ANNUAL INVENTORIES OF ALL WASTE MUST BE DONE.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

ST.95.3 #1 I FEDERAL FINDING Storage Tanks

FINDING ID: ST-001
MANUAL QUESTION NUMBER: ST-095-003
FINDING CATEGORY: CLASS I
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: UST LOCATED OUTSIDE FRONT ENTRANCE OF USARC
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: NO CLOSURE, TESTING, OR INSPECTION DOCUMENTATION EXISTS FOR THE REMOVAL OF A UST IN NOV97.

CRITERIA: UST closure must be done according to specific requirements (40 CFR 280.10(c) and 280.71(b)) [March 1995].

FINDING COMMENTS: UST REMOVED, NOV97, NO DOCUMENTATION TO SUPPORT CLOSURE. PERIODIC INTEGRITY TESTING (ST.5.4) SHOULD ALSO HAVE BEEN CONDUCTED ON AN ANNUAL BASIS THAT WOULD SUPPORT THE CLOSING OF THE UST.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE FACILITY MANAGER SHOULD CONTACT CST-1 FOR CLOSURE DOCUMENTATION AND HAVE THE CST SCHEDULE AN INSPECTION AND/OR SAMPLE COLLECTION IF NO CLOSURE REPORT EXISTS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

T2.1.4.R #1 HS ARMY/DOD FINDING Asbestos

FINDING ID: T2-001
MANUAL QUESTION NUMBER: T2-001-004-R
FINDING CATEGORY: HEALTH/SAFETY
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: ROOM 111, MAIN BLDG
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: NO ASBESTOS MANAGEMENT PLAN ON SITE (T2.2.3.R). TILES IN A STORAGE/SUPPLY ROOM (111) ARE ERODING AND MAY BE PROPAGATING ASBESTOS.

CRITERIA: Facilities are required to prepare, coordinate, and execute an Installation Asbestos Management Plan (AR 200-1, para 10-3).

FINDING COMMENTS: FACILITY MANAGER SHULD ENSURE TO MINIMIZE TROOP MOVEMENT THROUGH ROOM 111 DUE TO THE POSSIBILITY OF ASBESTOS PARTICLES.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): IF FURTHER DAMAGE OCCURS TO TILES IN STORAGE ROOM, ASBESTOS TESTING MAY BE NEEDED TO VALIDATE IF ASBESTOS EXISTS. ASBESTOS HAD BEEN REMOVED IN THE PAST FROM PIPING DURING A PAST HVAC UPGRADE. TILES SHOULD BE MAINTAINED TO AVOID DAMAGE AND COSTLY ASBESTOS INSPECTIONS AND CLEAN-UPS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

T3.1.12.R #1 III ARMY/DOD FINDING Radon

FINDING ID: T3-001
MANUAL QUESTION NUMBER: T3-001-012-R
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: BOILER ROOM / MAIN BLDG
IFS FACILITY NUMBER:
FACILITY TYPE: USARC(MB) - U.S. ARMY RESERVE CENTER - MAIN BLDG

FINDING DESCRIPTION: DOCUMENTATION EXISTS FOR THE INITIAL RADON TESTING AND RELATIVE LEVELS FOR TESTED AREAS. A SECOND TEST WAS NEEDED IN THE BOILER ROOM BECAUSE OF HIGH RECORDED LEVELS OF RADON. NO RECORDS EXIST TO SHOW THAT A SECOND TEST WAS EVER COMPLETED.

CRITERIA: Facilities are required to perform mitigation of structures as required by measured results (AR 200-1, Table 11-1).

FINDING COMMENTS: COULD NOT FIND DOCUMETATION TO SUPPORT A SECONDARY TEST TO VALIDATE THE LEVELS OBTAINED FROM THE BOILER ROOM FROM THE INITIAL TEST.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE FACILITY MANAGER SHOULD CREATE A WORK ORDER FOR MITIGATION ACTIONS ACCORDING TO THE LEVEL REQUIREMENTS. BOILER ROOM INITIAL MEASUREMENTS DID NOT EXCEED 20PCI/L; HOWEVER, 17PCI/L FOUND IN THE BOILER ROOM DOES FALL INTO A CATEGORY. IF DOCUMENTATION DOES NOT EXIST, VERIFY WITH ECOSPHERE CORPERATION WHOM INSTALLED THE RADONAWAY SYSTEM ON SEPT96 TO DETERMINE IF THEY EVALUATED THE BOILER ROOM FOR THE SECOND TEST.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

WQ.3.1 #1 III STATE FINDING Water Quality

FINDING ID: WQ-001
MANUAL QUESTION NUMBER: WQ-003-001
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: SINK IN OMS.
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: FAUCET IN OMS DID NOT HAVE A VACUUM BREAKER TO PREVENT BACKFLOW.

CRITERIA: Installations/CW facilities are required to comply with state and local water quality regulations (EO 12088, Section 1-1 and 42 USC 300h-7(h)).

FINDING COMMENTS:

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): THE FACILITY MANAGER SHOULD SUBMIT A WORK ORDER TO INSTALL A VACUUM BREAKER ON THE SINK FAUCET IN THE OMS.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960		
PERM	X	SEMI-PERM		TEMP		REHAB		CONVERSION	1975		
INSNO	42805	BLDG_NUM	1	GSF	26,850	NSF	21,119	SITE	4.49AC		
ADD/ALT.	1975							STORY HT	1		

ROOF COMPONENT		Yr_Install	EC	VG	GC	AC	FC	PC
ROOF COVERING	(%)							
ELASTROMERIC (EPDM)	100	1995		X				
BUILT-UP (MULTI-PLY)								
BALLAST (GRAVEL/STONE) Y/N	Y							
OTHER (DESCRIBE)								
METAL ROOFING	(%)							
CORRUGATED								
STANDING SEAM								
FLAT SEAM								
OTHER (DESCRIBE)								
SHINGLES & TILES	(%)							
ASPHALT SHINGLES								
CONCRETE TILES								
OTHER (DESCRIBE)								
ROOF EDGES	(LF)							
SHEET METAL								
COPPER	120							
ALUMINUM	356							
FLASHING	(LF)							
SHEET METAL		1995		X				
COPPER	126							
ALUMINUM	356							
NEOPRENE (RUBBER)								
OTHER (DESCRIBE)								
ROOF DRAINS (EA.)	10							
GUTTERS & DOWNSPOUTS								
ALUMINUM		1995		X				
STEEL GALVANIZED								
COPPER								
OTHER (DESCRIBE)								
ROOF INSULATION								
FIBERBOARD								
FIBERGLASS								
OTHER (DESCRIBE) RIGID		1995		X				
OVERALL CONDITION %	16.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

New EPDM roof installed in 1995.

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

EXTERIOR (STRUCTURAL):		Yr_Install	EC	VG	GC	AC	FC	PC
FRAME STEEL								
CONCRETE BLOCK (CMU)	100	1960		X				
PRE-ENGINEERED								
OTHER								
EXTERIOR FINISH:	%							
BRICK VENEER	100	1960/1975			X			
STUCCO								
WOOD								
METAL SIDING								
OTHER (DESCRIBE)								
FOUNDATION	%							
SLAB	100	1960/1975		X				
CRAWL								
BASEMENT								
OTHER (DESCRIBE)								
OVERALL CONDITION %	23.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PAINTING EXTERIOR	%	Yr_Install	EC	VG	GC	AC	FC	PC
FASCIA & TRIM		1990		X				
STUCCO								
WOOD								
CONCRETE								
GUTTERS & DOWNSPOUTS								
DRIP EDGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	21.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

WINDOWS % or # OPENINGS		Yr_Install	EC	VG	GC	AC	FC	PC
ALUMINUM AWNING TYPE		1997	X					
ALUMINUM SINGLE HUNG	100	1997	X					
ALUMINUM FIXED								
STEEL PROJECTED								
STEEL FIXED								
WOOD								
DOUBLE HUNG								
CASEMENT								
WEATHER-STRIPPING		1997	X					
SCREENS		1997	X					
OTHER (DESCRIBE)								
OTHER (DESCRIBE)								
OVERALL CONDITION %	10.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

New windows installed in 1997.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

SITE			Yr_Install	EC	VG	GC	AC	FC	PC
ASPHALT	SY	10408	1960/95						X
CONCRETE	SY	5	1960					X	
GRAVEL	SY								
LIGHTING	EA	7	1960		X				
FENCE/GATES	LF	707	1960		X				
SIDEWALKS	LF	63	1960					X	
CURB/GUTTER	LF	110	1960					X	
SEWER LINES									
WATER LINES									
DRAINAGE			1960			X			
LANDSCAPING			1960			X			
IRRIGATION									
WASH RACK/PLATFORM			1960					X	
GREASE RACK									
OTHER (DESCRI SIGN			1960			X			
OVERALL CONDITIO TION		30.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

HAZARDOUS STORAGE and UNDERGROUND TANKS

	GSF/GAL	YR_BLT_RE	YES/NO
POL STORAGE			NO
HAZARDOUS WASTE STORAGE			YES
UNDERGRD STORAGE TANKS			NO
ABOVEGRD STORAGE TANKS			NO
STORAGE TANKS UPGRADED			N/A

SIGNS OF POOR COMPONENT CONDITIONS

ROOF: Leakage, missing shingles, or tiles, sagging or decaying roof structures, damaged trusses, plugged roof drains, vibration from mechanical equipment, damaged insulation, etc.
PAINTING: Peeling, cracking, etc.
SITE: Drainage problems, inadequate parking for MEP and/or POV. Large pot- holes or cracks in pavement. Limited site lighting, etc.
EXTERIOR: Peeling paint, cracked or loose mortar joints, oxidized sheet metal, frame lines out of plumb, loose siding, structural cracks, etc.
WINDOWS: Cracked, broken, required glazing, etc.

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**
Very Good Condition (VG): All items well maintained, many having been repaired, overhauled or replaced when they show signs of wear and tear. **Rating range: 16% to 23.9%.**
Good Condition (GC): No obvious maintenance required, but neither is everything new. Appearance and utility are above the standard. **Rating range: 24% to 38.9%.**
Average Condition (AC): Some evidence of deferred maintenance and normal obsolescence with age in that a few minor repairs are needed. **Rating range 39% to 58.9%.**
Fair Condition (FC): Evidence of badly worn components. Much repair is needed. Many items need overhauling or replacement. **Rating range 59% to 75.9%.**
Poor Condition (PC): Evidence of components being worn out. Repair and overhaul is needed. Excessive deferred maintenance and abuse. Approaching abandonment, major reconstruction, or replacement. **Rating range: 76% to100%.**

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

INTERIOR		Yr_Install	EC	VG	GC	AC	FC	PC
PARTITIONS	(%)							
BLOCK PARTITIONS	50	1960			X			
DRYWALL/GYPSUM	40	1960/75			X			
FOLDING PARTITIONS	10							
OTHER (DESCRIBE)								
DOORS:	(%)							
ENTRANCE DOORS								
ROLLING OVERHEAD		1960			X			
METAL DOORS (OFFICE)	98	1960			X			
WOOD DOORS (OFFICE)	2							
OTHER (DESCRIBE)								
DOOR SETS/LOCKS		1960			X			
OTHER								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PAINTING & COVERING	%							
DRYWALL & CEILINGS	50	1990		X				
MASONRYWALLS	50	1990		X				
MILLWORK & TRIM		1990		X				
OTHER (DESCRIBE)								
OVERALL CONDITION %	21.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CEILING	%	Yr_Install	EC	VG	GC	AC	FC	PC
PLASTER CEILINGS	5	1960			X			
DRYWALL CEILINGS	60	1975						
ACOUSTICAL CEILINGS	25							
SUSPENDED CEILINGS		1960/1975		X				
OTHER (DESCRIBE) EXPOSED	10							
OVERALL CONDITION %	30.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FLOORING	%	Yr_Install	EC	VG	GC	AC	FC	PC
RESILIENT TILE FLOORING	40	1960/1975			X			
CONCRETE	10							
ASBESTOS TILE	40	1960			X			
CARPET/CARPET TILES	1							
CERAMIC TILES	9	1960/1975			X			
OTHER								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FACILITY CONDITION SURVEY

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FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

ELECTRICAL		Yr_Install	EC	VG	GC	AC	FC	PC
TRANSFORMERS POLE MTD								
SINGLE PHASE AMP								
3-PHASE AMP	400	1960/1975			X			
OUTLETS		1960/1975			X			
PANELBOARDS								
CIRCUIT BREAKERS		1960/1975			X			
FLUORESCENT FIXTURES		1960/1975			X			
INCANDESCENT FIXTURES								
HIGH INTENSITY DISCHARGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CONVEYING SYSTEMS		Yr_Install	EC	VG	GC	AC	FC	PC
ELEVATOR								
STAIRS								
OVERALL CONDITION %								

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

HEATING & COOLING		Yr_Install	EC	VG	GC	AC	FC	PC
BOILER FUEL	N.GAS	1993	X					
BOILER MBH RATING	494							
BOILER TYPE								
HOT WATER & STEAM				X				
OTHER (DESCRIBE)								
HEATING SYSTEMS								
UNIT HEATERS-SUSPENDED		1960			X			
HEATING & VENTILATING UNIT								
FIN TUBE RADIATOR		1993	X					
FURNACES- FORCED AIR								
FORCED HOT WATER								
OTHER (DESCRIBE) BASEBOARD		1960		X				
COOLING SYSTEMS								
CHILLED WATER, AIR COOLED		1993	X					
CONDENSER								
ROOFTOP SINGLE ZONE UNITS								
ROOFTOP MULTI-ZONE								
SELF-CONTAINED, WATER								
SELF-CONTAINED, AIR COOL								
SPLIT SYS/AC CONDENSER								
WINDOW UNITS								
OTHER (DESCRIBE)								
BOILER MFG/ADDRESS:		WELL-McCLAIN						
SERIAL # ML-93 03011052		BTUH_HEAT		400000	REFRIG_TYP			
MODEL# 47B SERIES		BTU_COOL			TONNAGE		21.8	
OVERALL CONDITION %	18.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

PLUMBING	FUEL	Yr_Install	EC	VG	GC	AC	FC	PC
WATER HEATER (GAL)	100	1975			X			
RESTROOM & FIXTURES	#							
DRINKING FOUNTAIN	1	1960/1975			X			
SHOWERS	4	1960/1975			X			
LAVATORIES	8	1960/1975			X			
URINALS	5	1960/1975			X			
WATER CLOSETS	7	1960/1975			X			
KITCHEN/FOOD SERVICE								
HANDICAP ACCESSIBLE Y/N	N							
PIPING &VALVES								
COPPER		1960/1975			X			
CAST IRON PIPE		1960/1975			X			
STEEL PIPE		1960/1975			X			
PLASTIC PIPE								
FIRE PROTECTION								
STANDPIPE								
SPRINKLERS								
OTHER PULL STATIONS		1960/1975			X			
OVERALL CONDITION %	36.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PARKING (POV)	SY	6888	(MEP)	6044	KITCHEN	YES/NO	YES
SIDEWALKS	SY	94	LF	182	FIRING RANGE	YES/NO	YES
CURB/GUTTERS	LF	210			FIRING RANGE ACTIVE	YES/NO	NO
ACCESS ROADS	SY	780			FIRE RANGE CONVERTED	YES/NO	YES
DRAINAGE LINES	LF				VAULT	YES/NO	YES
WATER LINES	LF						
SEWER LINES	LF						
FENCING	LF	600					
LIGHTING	EA	10					
IRRIGATION	LF						

GROSS SQ. FT.	26,850	VERIFIED FROM:		EMAAR	X	DATE	11/3/99
STORIES	1			416TH E2FA	X	DATE	
ZIP CODE	18017-2166			FIELD	X	DATE	1/7/97
AS BUILT ON SITE	YES	DATE	1961	DA2877		DATE	
SITE PLAN	YES	DATE	1960	OTHER		DATE	

Team Number: FIG.#1
Team Members: LTC.J HUGAR LT. E. BURKHOLDER , SFC BARAN
Date of Survey: 11/3/99

ADDITIONAL COMMENTS:
HVAC RENOVATIONS DATED 6/4/93 DRAWING #8950 SHEETS 1 OF 7
AS BUILD 29-06-46 BUILT MAY 1961

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

FUNCTIONAL INDICATORS

1. DESIGN CHARACTERISTICS: Appealing or poor or antiquated style or design, traffic and noise levels, maintenance or serviceability, security, antiterrorism, evacuation, market acceptance or resistance, environmentally responsible or safe, eye appeal, symmetry, scale, orientation, interaction or appropriate blend of materials, glazing, durability, colors, etc., suitable for the occupancy, distinctive motif or special purpose use or architectural.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. PHYSICAL LAYOUT: Suitable room layout and orderly flow, overall room or bay size, net versus gross space, volume, column, beam or mechanical run obstructions, appropriate wall heights, lighting levels, natural light and ventilation, ingress-egress, traffic patterns and doors, adequate support facilities, work, storage, cabinet size and placement.

	EC	VG	GC	AC	FC	PC
Ratings		X				

3. MECHANICAL EQUIPMENT: Inadequate or excess number of poorly spaced or antiquated plumbing or electrical and lighting fixtures, HVAC, conveyance, appliances, PA systems and other equipment, service or power requirements, energy consumption or efficiency, actual versus rated capacity or performance, abnormal operating costs, proper leak detection or emission controls, pressure differentials, technological changes, (e.g. electric vs. standing pilot ignition, etc.), appropriate air quality and changes.

	EC	VG	GC	AC	FC	PC
Ratings		X				

4. SITE ASSESSMENT: Land use, size, shape, topography, access, easements or other encroachments, utilities, soil types, stability, drainage and percolation, water table and use, erosion, vegetation, flood plain, wetlands, coastal, brush, or fault areas, presence of hazardous contaminants.

	EC	VG	GC	AC	FC	PC
Ratings		X				

5. FIRE PROTECTION REQUIREMENTS: Proper rating, detection for life safety and security, signaling controls, communications, signs, standpipe, sprinklers, extinguishers, hydrants, vents, draft curtains, fans, pumps, door and smoke controls, standby power, emergency phones, appropriate exits, overhangs, stairways, roofing classification, safety or double glazing.

	EC	VG	GC	AC	FC	PC
Ratings		X				

6. HANDICAPPED REQUIREMENTS: ADA compliance, ramps, elevators, drinking fountains, restroom, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

7. ENVIRONMENTAL CONDITIONS: Water, soil, radon, asbestos, UREA formaldehyde foam insulation, PCB's, CFC's, high-voltage lines, halon, heavy metals or lead contamination, run-off, emissions or sediment containment, septic tanks, demolition constraints, disposal or remediation. Evidence of leakage, absence of plants or animals, sick or stressed plants or animals, discolored soil or water, noxious odors, presence of discarded batteries, abandoned wells, sumps, tanks, barrels or other containers of paints, thinners, heating oil, petroleum or other hazardous chemical substances. Abandoned firing ranges, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

8. WEATHER EXTREMES: Appropriate insulation levels, heat gain or loss, shading, energy equivalency trade-off, window treatments, glass strength, proper trusses, size, spacing, pitch and drainage for rain and snow loading, proper flashing and penetrations, proper connections for hurricane force winds, uplift exposure.

	EC	VG	GC	AC	FC	PC
Ratings		X				

9. EARTHQUAKES: Appropriate bracing, connections to structural shell or foundation, shear walls, overhang exposure, irregular shape, framing stress, torsion, distance from other structures.

	EC	VG	GC	AC	FC	PC
Ratings		X				

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	001	BUILD_TYP	USARC	YEAR BUILT	1960	

EXTERNAL INDICATORS

1. PHYSICAL FACTORS: Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, known clean-up sites, nuisances, waste dumps, swamp, toxic industry, floodplain, drainage, water table, sinkholes, fault zones, soil types, landslides, etc., local ecosystem, endangered species, habitat areas.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. INFRASTRUCTURE: Highest and best use, quality, availability and source of utilities, public service, fire stations, street improvements, traffic patterns, public transportation and shipping facilities, parking, retail, recreation, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

3. ECONOMIC: Supply-Demand imbalance, saturation or monopoly, competition or alternatives, industry or major plant relocation's, employment development and growth patterns, utility costs, labor and materials, vacancy and building rates, zoning, land use, air rights, etc.

	EC	VG	GC	AC	FC	PC
Ratings			X			

ADDITIONAL COMMENTS OR REMARKS:

MINOR ROOF LEAK LOCATIONS INDENTIFIED; WORK ORDERS IN SYSTEM TO CORRECT.

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

Very Good Condition (VG): All items well maintained, many having been repaired, overhauled or replaced when they show signs of wear and tear. **Rating range: 16% to 23.9%.**

Good Condition (GC): No obvious maintenance required, but neither is everything new. Appearance and utility are above the standard. **Rating range: 24% to 38.9%.**

Average Condition (AC): Some evidence of deferred maintenance and normal obsolescence with age in that a few minor repairs are needed. **Rating range 39% to 58.9%.**

Fair Condition (FC): Evidence of badly worn components. Much repair is needed. Many items need overhauling or replacement. **Rating range 59% to 75.9%.**

Poor Condition (PC): Evidence of components being worn out. Repair and overhaul is needed. Excessive deferred maintenance and abuse. Approaching abandonment, major reconstruction, or replacement. **Rating range: 76% to100%.**

SIGNS OF POOR COMPONENT CONDITIONS

HVAC: Inadequate or poorly spaced equipment. Antiquated systems, high operating costs, furnaces or boilers in poor repair, rusted ductwork, etc.

FLOORING: Cracks, sagging, worn or torn spots. Expansion joints separation, etc.

PAINTING: Peeling, cracking, etc.

CEILING: Missing tiles, water stained, cracked or broken, etc.

WINDOWS: Cracked, broken, required glazing, etc.

PLUMBING: Leaking faucets or pipe connections. Inadequate or antiquated plumbing fixtures.

INTERIOR: Cracks in drywall, plaster, or block. Open joints in millwork, missing or loose hardware, peeling paint, mildew, smoke or water stains, dampness, insect or rodent damage, etc.

ELECTRICAL: Defective wiring, broken, inadequate or poorly spaced, antiquated or tarnished lighting fixtures or service equipment.

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960		
PERM	X	SEMI-PERM		TEMP		REHAB		CONVERSION			
INSNO	42805	BLDG_NUM	2	GSF	2,524	NSF	2,315	SITE	4.49AC		
ADD/ALT.								STORY HT	1		

ROOF COMPONENT		Yr_Install	EC	VG	GC	AC	FC	PC
ROOF COVERING	100%							
ELASTROMERIC (EPDM)								
BUILT-UP (MULTI-PLY)	100%	1960				X		
BALLAST (GRAVEL/STONE) Y/N								
OTHER (DESCRIBE)								
METAL ROOFING	(%)							
CORRUGATED								
STANDING SEAM								
FLAT SEAM								
OTHER (DESCRIBE)								
SHINGLES & TILES	(%)							
ASPHALT SHINGLES								
CONCRETE TILES								
OTHER (DESCRIBE)								
ROOF EDGES	(LF)							
SHEET METAL								
COPPER								
ALUMINUM	252	1960				X		
FLASHING	(LF)							
SHEET METAL	15							
COPPER								
ALUMINUM								
NEOPRENE (RUBBER)								
OTHER (DESCRIBE)								
ROOF DRAINS (EA.)	0							
GUTTERS & DOWNSPOUTS								
ALUMINUM		1994		X				
STEEL GALVANIZED								
COPPER								
OTHER (DESCRIBE)								
ROOF INSULATION								
FIBERBOARD								
FIBERGLASS								
OTHER (DESCRIBE): SANDWHICH PANELS		1960	X					
OVERALL CONDITION %	58.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

ORIGINAL ROOF MINOR MAINTENANCE REQUIRED. ROOF SHOULD BE CHECKED ANNUALLY.

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

EXTERIOR (STRUCTURAL):		Yr_Install	EC	VG	GC	AC	FC	PC
FRAME STEEL								
CONCRETE BLOCK (CMU)	100	1960			X			
PRE-ENGINEERED								
OTHER								
EXTERIOR FINISH:	%							
BRICK VENEER	100	1960			X			
STUCCO								
WOOD								
METAL SIDING								
OTHER (DESCRIBE)								
FOUNDATION	%							
SLAB	100	1960			X			
CRAWL								
BASEMENT								
OTHER (DESCRIBE)								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PAINTING EXTERIOR	%	Yr_Install	EC	VG	GC	AC	FC	PC
FASCIA & TRIM		1960			X			
STUCCO								
WOOD								
CONCRETE								
GUTTERS & DOWNSPOUTS								
DRIP EDGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	38.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:
BRICK EXTEIOR

WINDOWS % or # OPENINGS		Yr_Install	EC	VG	GC	AC	FC	PC
ALUMINUM AWNING TYPE	8	1960				X		
ALUMINUM SINGLE HUNG	8	1960				X		
ALUMINUM FIXED								
STEEL PROJECTED								
STEEL FIXED								
WOOD								
DOUBLE HUNG								
CASEMENT								
WEATHER-STRIPPING								
SCREENS								
OTHER (DESCRIBE)								
OTHER (DESCRIBE)								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FACILITY CONDITION SURVEY

version 06-98

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

SITE			Yr_Install	EC	VG	GC	AC	FC	PC
ASPHALT	SY								
CONCRETE	SY								
GRAVEL	SY								
LIGHTING	EA								
FENCE/GATES	LF								
SIDEWALKS	LF								
CURB/GUTTER	LF								
SEWER LINES									
WATER LINES									
DRAINAGE									
LANDSCAPING									
IRRIGATION									
WASH RACK/PLATFORM									
GREASE RACK									
OTHER (DESCRI SIGN									
OVERALL CONDITION %									

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

SEE PA008-001 FOR SITE INFO

HAZARDOUS STORAGE and UNDERGROUND TANKS

	GSF/GAL	YR_BLT_RE	YES/NO
POL STORAGE			YES
HAZARDOUS WASTE STORAGE			NO
UNDERGRD STORAGE TANKS			NO
ABOVEGRD STORAGE TANKS			NO
STORAGE TANKS UPGRADED			NO

SIGNS OF POOR COMPONENT CONDITIONS

ROOF: Leakage, missing shingles, or tiles, sagging or decaying roof structures, damaged trusses, plugged roof drains, vibration from mechanical equipment, damaged insulation, etc.

PAINTING: Peeling, cracking, etc.

SITE: Drainage problems, inadequate parking for MEP and/or POV. Large pot- holes or cracks in pavement. Limited site lighting, etc.

EXTERIOR: Peeling paint, cracked or loose mortar joints, oxidized sheet metal, frame lines out of plumb, loose siding, structural cracks, etc.

WINDOWS: Cracked, broken, required glazing, etc.

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

Very Good Condition (VG): All items well maintained, many having been repaired, overhauled or replaced when they show signs of wear and tear. **Rating range: 16% to 23.9%.**

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FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

INTERIOR		Yr_Install	EC	VG	GC	AC	FC	PC
PARTITIONS	(%)							
BLOCK PARTITIONS	100	1960			X			
DRYWALL/GYPSUM								
FOLDING PARTITIONS								
OTHER (DESCRIBE)								
DOORS:	(%)							
ENTRANCE DOORS		1960				X		
ROLLING OVERHEAD		1975			X			
METAL DOORS (OFFICE)		1960			X			
WOOD DOORS (OFFICE)								
OTHER (DESCRIBE)								
DOOR SETS/LOCKS		1960				X		
OTHER								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PAINTING & COVERING	%							
DRYWALL & CEILINGS								
MASONRYWALLS	100	1960					X	
MILLWORK & TRIM								
OTHER (DESCRIBE)								
OVERALL CONDITION %	65.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CEILING	%	Yr_Install	EC	VG	GC	AC	FC	PC
PLASTER CEILINGS								
DRYWALL CEILINGS								
ACOUSTICAL CEILINGS								
SUSPENDED CEILINGS								
OTHER (DESCRIBE) EXPOSED	100%	1960			X			
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FLOORING	%	Yr_Install	EC	VG	GC	AC	FC	PC
RESILIENT TILE FLOORING								
CONCRETE		1960			X			
ASBESTOS TILE								
CARPET/CARPET TILES								
CERAMIC TILES								
OTHER								
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

ELECTRICAL		Yr_Install	EC	VG	GC	AC	FC	PC
TRANSFORMERS (KVA)								
SINGLE PHASE AMP								
3-PHASE AMP	400	1960				X		
OUTLETS		1960				X		
PANELBOARDS		1960			X			
CIRCUIT BREAKERS		1960			X			
FLUORESCENT FIXTURES		1960				X		
INCANDESCENT FIXTURES								
HIGH INTENSITY DISCHARGE								
OTHER (DESCRIBE)								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

CONVEYING SYSTEMS		Yr_Install	EC	VG	GC	AC	FC	PC
ELEVATOR								
STAIRS								
OVERALL CONDITION %								

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

HEATING & COOLING		Yr_Install	EC	VG	GC	AC	FC	PC
BOILER FUEL	N.GAS							
BOILER MBH RATING								
BOILER TYPE								
HOT WATER & STEAM								
OTHER (DESCRIBE)								
HEATING SYSTEMS								
UNIT HEATERS-SUSPENDED		1960			X			
HEATING & VENTILATING UNIT								
FIN TUBE RADIATOR								
FURNACES- FORCED AIR					X			
FORCED HOT WATER								
OTHER (DESCRIBE) INFRA-RED				X				
COOLING SYSTEMS								
CHILLED WATER, AIR COOLED								
CONDENSER								
ROOFTOP SINGLE ZONE UNITS								
ROOFTOP MULTI-ZONE								
SELF-CONTAINED, WATER								
SELF-CONTAINED, AIR COOL								
SPLIT SYS/AC CONDENSER								
WINDOW UNITS								
OTHER (DESCRIBE)								
BOILER MFG/ADDRESS:								
SERIAL #		BTUH_HEAT		75,000	REFRIG_TYP			
MODEL#		BTU_COOL			TONNAGE			
OVERALL CONDITION %	32.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:
INFRA RED GAS HEATING SYSTEM
ALSO AIR HEATING SYSTEM.

FACILITY CONDITION SURVEY

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FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

PLUMBING	FUEL	Yr_Install	EC	VG	GC	AC	FC	PC
WATER HEATER (GAL)								
RESTROOM & FIXTURES	#							
DRINKING FOUNTAIN								
SHOWERS								
LAVATORIES								
URINALS								
WATER CLOSETS								
KITCHEN/FOOD SERVICE								
HANDICAP ACCESSIBLE Y/N	Y							
PIPING &VALVES								
COPPER		1960				X		
CAST IRON PIPE								
STEEL PIPE								
PLASTIC PIPE								
FIRE PROTECTION								
STANDPIPE								
SPRINKLERS								
OTHER								
OVERALL CONDITION %	50.0%							

ADDITIONAL COMMENTS OR SUGGESTED REPAIRS:

PARKING (POV)	SY		(MEP)		KITCHEN	YES/NO	NO
SIDEWALKS	SY		LF		FIRING RANGE	YES/NO	NO
CURB/GUTTERS	LF				FIRING RANGE ACTIVE	YES/NO	NO
ACCESS ROADS	SY				FIRE RANGE CONVERTED	YES/NO	NO
DRAINAGE LINES	LF				VAULT	YES/NO	NO
WATER LINES	LF						
SEWER LINES	LF						
FENCING	LF						
LIGHTING	EA						
IRRIGATION	LF						

GROSS SQ. FT.	2,524	VERIFIED FROM:		EMAAR	X	DATE	11/3/99
STORIES	1			416TH E2FA	X	DATE	
ZIP CODE	18017-2166			FIELD		DATE	
AS BUILT ON SITE	NO	DATE		DA2877		DATE	
SITE PLAN	YES	DATE	1960	OTHER		DATE	

Team Number: FIG/#1

Team Members: LTC. J. HUGAR,LT. E.BURKHOLDER,SFC. J BARAN

Date of Survey: 11/3/99

ADDITIONAL COMMENTS:

SEE PA008-001 FOR SITE INFO

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

FUNCTIONAL INDICATORS

1. DESIGN CHARACTERISTICS: Appealing or poor or antiquated style or design, traffic and noise levels, maintenance or serviceability, security, antiterrorism, evacuation, market acceptance or resistance, environmentally responsible or safe, eye appeal, symmetry, scale, orientation, interaction or appropriate blend of materials, glazing, durability, colors, etc., suitable for the occupancy, distinctive motif or special purpose use or architectural.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. PHYSICAL LAYOUT: Suitable room layout and orderly flow, overall room or bay size, net versus gross space, volume, column, beam or mechanical run obstructions, appropriate wall heights, lighting levels, natural light and ventilation, ingress-egress, traffic patterns and doors, adequate support facilities, work, storage, cabinet size and placement.

	EC	VG	GC	AC	FC	PC
Ratings				X		

3. MECHANICAL EQUIPMENT: Inadequate or excess number of poorly spaced or antiquated plumbing or electrical and lighting fixtures, HVAC, conveyance, appliances, PA systems and other equipment, service or power requirements, energy consumption or efficiency, actual versus rated capacity or performance, abnormal operating costs, proper leak detection or emission controls, pressure differentials, technological changes, (e.g. electric vs. standing pilot ignition, etc.), appropriate air quality and changes.

	EC	VG	GC	AC	FC	PC
Ratings				X		

4. SITE ASSESSMENT: Land use, size, shape, topography, access, easements or other encroachments, utilities, soil types, stability, drainage and percolation, water table and use, erosion, vegetation, flood plain, wetlands, coastal, brush, or fault areas, presence of hazardous contaminants.

	EC	VG	GC	AC	FC	PC
Ratings		X				

5. FIRE PROTECTION REQUIREMENTS: Proper rating, detection for life safety and security, signaling controls, communications, signs, standpipe, sprinklers, extinguishers, hydrants, vents, draft curtains, fans, pumps, door and smoke controls, standby power, emergency phones, appropriate exits, overhangs, stairways, roofing classification, safety or double glazing.

	EC	VG	GC	AC	FC	PC
Ratings		X				

6. HANDICAPPED REQUIREMENTS: ADA compliance, ramps, elevators, drinking fountains, restroom, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

7. ENVIRONMENTAL CONDITIONS: Water, soil, radon, asbestos, UREA formaldehyde foam insulation, PCB's, CFC's, high-voltage lines, halon, heavy metals or lead contamination, run-off, emissions or sediment containment, septic tanks, demolition constraints, disposal or remediation. Evidence of leakage, absence of plants or animals, sick or stressed plants or animals, discolored soil or water, noxious odors, presence of discarded batteries, abandoned wells, sumps, tanks, barrels or other containers of paints, thinners, heating oil, petroleum or other hazardous chemical substances. Abandoned firing ranges, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

8. WEATHER EXTREMES: Appropriate insulation levels, heat gain or loss, shading, energy equivalency trade-off, window treatments, glass strength, proper trusses, size, spacing, pitch and drainage for rain and snow loading, proper flashing and penetrations, proper connections for hurricane force winds, uplift exposure.

	EC	VG	GC	AC	FC	PC
Ratings		X				

9. EARTHQUAKES: Appropriate bracing, connections to structural shell or foundation, shear walls, overhang exposure, irregular shape, framing stress, torsion, distance from other structures.

	EC	VG	GC	AC	FC	PC
Ratings	X					

FAC_ID	PA008	FAC_INT	FEE	FA_NUM	002	BUILD_TYP	OMS	YEAR BUILT	1960	

EXTERNAL INDICATORS

1. **PHYSICAL FACTORS:** Proximity of desirable or unattractive natural or artificial features or barriers, general neighborhood maturity, conformity, deterioration, rehabilitation or static character, known clean-up sites, nuisances, waste dumps, swamp, toxic industry, floodplain, drainage, water table, sinkholes, fault zones, soil types, landslides, etc., local ecosystem, endangered species, habitat areas.

	EC	VG	GC	AC	FC	PC
Ratings		X				

2. **INFRASTRUCTURE:** Highest and best use, quality, availability and source of utilities, public service, fire stations, street improvements, traffic patterns, public transportation and shipping facilities, parking, retail, recreation, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

3. **ECONOMIC:** Supply-Demand imbalance, saturation or monopoly, competition or alternatives, industry or major plant relocation's, employment development and growth patterns, utility costs, labor and materials, vacancy and building rates, zoning, land use, air rights, etc.

	EC	VG	GC	AC	FC	PC
Ratings		X				

ADDITIONAL COMMENTS OR REMARKS:

CONDITION RANKINGS

Excellent Condition (EC): All items that can normally be repaired or refinished, have recently been corrected or replaced such as a new roof, paint, furnace replacement or overhaul, etc. **Rating range: 0% to 15.9%.**

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Poor Condition (PC): Evidence of components being worn out. Repair and overhaul is needed. Excessive deferred maintenance and abuse. Approaching abandonment, major reconstruction, or replacement. **Rating range: 76% to100%.**

SIGNS OF POOR COMPONENT CONDITIONS

HVAC: Inadequate or poorly spaced equipment. Antiquated systems, high operating costs, furnaces or boilers in poor repair, rusted ductwork, etc.

FLOORING: Cracks, sagging, worn or torn spots. Expansion joints separation, etc.

PAINTING: Peeling, cracking, etc.

CEILING: Missing tiles, water stained, cracked or broken, etc.

WINDOWS: Cracked, broken, required glazing, etc.

PLUMBING: Leaking faucets or pipe connections. Inadequate or antiquated plumbing fixtures.

INTERIOR: Cracks in drywall, plaster, or block. Open joints in millwork, missing or loose hardware, peeling paint, mildew, smoke or water stains, dampness, insect or rodent damage, etc.

ELECTRICAL: Defective wiring, broken, inadequate or poorly spaced, antiquated or tarnished lighting fixtures or service equipment.

WA.25.2 #1 III FEDERAL FINDING Wastewater

FINDING ID: WA-001
MANUAL QUESTION NUMBER: WA-025-002
FINDING CATEGORY: CLASS III
FINDING TYPE: Negative EXISTING NOV: NO
LOCATION: VEHICLE WASH RACK OUTSIDE OF OMS
IFS FACILITY NUMBER:
FACILITY TYPE: OMS - ORGANIZATIONAL MAINTENANCE SHOP

FINDING DESCRIPTION: PREVIOUS REPORTS INDICATE A CLASS III FINDING OF A CLOGGED OIL/WATER SEPARATOR AT THE VEHICLE WASH RACK. THE FACILITY MANAGER RECOLLECTED THAT SAFETY KLEEN HAD CORRECTED THE PROBLEM IN 1997; HOWEVER, NO DOCUMENTATION IS AVAILABLE TO SUPPORT THE CLAIM. VEGETATION AND SEDIMENT STILL EXIST IN THE DRAIN.

CRITERIA: Installations/CW facilities shall not introduce specific pollutants into a POTW/FOTW (40 CFR 403.5(b)).

FINDING COMMENTS: NO DOCUMENTATION TO SUPPORT CLAIM THAT THE OIL/WATER SEPARATOR HAD BEEN UNCLOGGED BY SAFETY CLEAN. SEDIMENT AND VEGETATION STILL EXIST. PROBLEM WAS REPORTED ON PREVIOUS TFA'S.

SUGGESTED/ALTERNATIVE CORRECTIVE ACTION(S): FACILITY MANAGER NEEDS TO WRITE A WORK ORDER TO HAVE THE WASH RACK DRAIN INVESTIGATED AND/OR UNCLOGGED.

STATUS OF CORRECTION:

********** INSTALLATION'S RESPONSE: **********

1) CORRECTIVE ACTION (CA) SELECTED:_____
_____
_____
_____
2) CURRENT STATUS OF THE CA:_____
3) ARE ADDED DETAILS OR COST DATA NEEDED TO DESCRIBE THIS CA?: Y__ N__
EXPLAIN:_____
_____
_____
4) ESTIMATED COMPLETION DATE FOR CA:_____
5) REVIEWER'S REMARKS:_____
_____
_____
_____

NAME/OFFICE/PHONE:_____ DATE:_____

SECTION 6: RPMA PROJECT DOCUMENTATION & COST ESTIMATES

PROJECT NUMBER: E2FA 00-01
PROJECT NAME: Develop Asbestos Management Plan
PROJECT DESCRIPTION: Research Real Property records, test for remaining ACM and develop an ACM Management Plan
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:

Asbestos Containing Material (ACM) has been identified to be present in various materials throughout the Center and OMS from testing conducted in 1987 (See Attachments – Biospherics Inc, DACA31-87-D-0016, DO#001 pages 103-108 and drawings).

ACM Associated with Mechanical Systems: An ACM removal contractor removed ACM from piping and boilers as part of the heating system replacement around 1993. It appears that the pipe insulation on both the domestic water lines and the heating and heating/chilled water supply and return lines, in accessible areas of the center and OMS that contained ACM have had that removed. This should be verified by reviewing the ACM Removal contract that was awarded before the HVAC Replacement Contract. [NOTE: These Real Property Records were turned over from the FIG DPW/416th files to the 99th RSC.

ACM Associated with Architectural Systems: This material is subject to physical contact during day-to-day actives. According to the Biospherics Report, both the 12"X12"(sampled in corridor outside room 121) and 9"X9"(sampled at room 139) floor tile contain Chrysotile at <1% and 1 to 2% respectively. [See Biospherics Report page 105]. Ceiling Tile (both 2'x2' and the 12"x12") were sampled and tested and resulted in a finding of "No Asbestos Fibers Detected". No sampling/testing was conducted on the two part plaster ceiling and wall. The report recommends that the two-part plaster ceiling and wall "...be treated as ACM until further sampling is performed to show otherwise." Likewise no indication of testing or the possibility that the floor tile mastic may contain Asbestos was indicated in the report
JUSTIFICATION: An Asbestos Management Plan, asbestos survey, and testing by individuals certified in accordance with the Asbestos Hazardous Response Act are required. This is necessary to protect the environment, health and safety of soldiers and support personnel associated with the Center and OMS as well as the liability of the Army and personnel liability of the Commander and Staff. It should also be noted that this sampling and testing consisted of only one sample of a like material, where sampling and testing standards usually dictate that 3 samples be taken to confirm test results.

SKETCHES: Biospherics Inc, DACA31-87-D-0016, DO#001 pages 103-108 and drawings
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $6586

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS INCORPORATED
TABLE 2.19.1

Results of Bulk Asbestos analyses of samples Collected for
EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center
at Bethlehem, Pennsylvania (First Floor)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME%)
87-12-029-220	11/25/87	White and grey, fibrous over chicken wire boiler exhaust flue insulation; boiler room	Chrysotile	60-65%
87-12-029-221	11/25/87	White, fibrous, block pipe straight section insulation; boiler room	Chrysotile Amosite	5-10% 25-30%
87-12-029-222	11/25/87	Grey, fibrous pipe elbow lagging; boiler room	Chrysotile	15-20%
87-12-029-223	11/25/87	White, fibrous, block condensate pipe insulation straight section; boiler room	Chrysotile Amosite	35-40% 5-10%
87-12-029-222	11/25/87	White, fibrous, block steam supply line insulation; boiler room	Chrysotile Amosite	20-25% 20-25%
87-12-029-225	11/25/87	Grey, fibrous pipe elbow lagging on steam supply line; boiler room	Chrysotile Amosite	35-40% 5-10%
87-12-029-226	11/25/87	Grey, air-cell steam pipe insulation straight section; boiler room	Chrysotile	35-40%
87-12-029-227	11/25/87	Grey, fibrous steam pipe" elbow lagging; boiler room	Chrysotile	35-40%

*NAFD -- No Asbestos Fibers Detected
3484F

DACA 31-87-D-0016
Delivery Order No.-0001

BIOSPHERICS INCORPORATED

2.19.2 U.S. ARMY RESERVE CENTER, BETHLEHEM, NEW ADDITION

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

1. 12' x 12', white interlocking ceiling tile

ASBESTOS-COMTAINING MATERIALS SAMPLED/OBSERVED:

o None

FUNCTIONAL AREAS

a. General Building Space (All rooms and corridors; drawing ref.: Bethlehem, new addition)

o No asbestos containing materials were observed.

PROJECT NUMBER: E2FA 00-08
PROJECT NAME: Seal Asphalt Pavement in POV Parking Lot
PROJECT DESCRIPTION: Clean, fill or seal cracks and damaged asphalt surfaces in the East POV lot and access road. Slurry seal or coat surface and stripe parking positions.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The existing asphalt overlay in the East side POV parking and access road are showing wide reflective or linear cracking. Cracks allow the penetration of moisture that will destroy the pavement though the freeze /thaw cycles. Moisture will also cause overlays to separate and undermine the base matter by slowly carrying fines from the base. Develop the parking stalls with the unit to reflect the best configuration and traffic flow.

JUSTIFICATIONS: Failure to make these repairs in the appropriate time frame will result in increased cost to the USARC as a result of increased repair costs from additional damage to the paved surfaces. .

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $14,988.29

PROJECT NUMBER: E2FA 00-09
PROJECT NAME: Remove Abandoned Wooden Lighting Poles
PROJECT DESCRIPTION: Remove and dispose of 3 wooden light poles.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
Three wooden lighting poles are abandoned on the East side (Rear of the OMS) POV Lot. These poles are no longer serving a purpose and only detract from the appearance of the facility and represent a potential safety hazard due to the location along the rear exit as well as eventual decay and possibility of injury or property damage. Poles may have to be disposed of as hazardous material depending on the type decay retardant used.

SKETCHES: None
PHOTOS: Attached
FIELD NOTES: None
COST ESTIMATE: $309

PROJECT NUMBER: E2FA 00-13
PROJECT NAME: Complete Closure of Service Pit in OMS
PROJECT DESCRIPTION: Remove the two tile ducts (8") that project above the floor, to at least 2-1/2 inches below the surface of the finished floor. Backfill the tile exhaust ducts, in 6' lifts with crushed stone, tamp each lift until unyielding. Install vapor barrier and cap with 4 inches of concrete flush with the existing floor. Surface (finish) concrete to match the existing floor. Determine if any other shop equipment is connected to the pit electrical systems prior to removal. Disconnect and remove any surface mounted electrical, pull wires and remove any conduit, hangers and boxes that are carrying only electrical wiring for service (grease) pit exhaust system the pit lighting. Cut conduit flush with the masonry surface and seal opening flush with the floor. Close, seal and insulate (R-30) roof penetration from the inside. Do not remove exterior exhaust hood (Remove as part of future roof replacement). Label electrical panel to reflect changes. Dispose of all debris.

DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The previous effort at closing the service (grease) pit failed to complete the closure. Exhaust fan, vent duct (8" galvanized duct) that ran from the pit to the ceiling mounted exhaust fan were not removed. Electrical wires, conduit, hangers and boxes that appear to service the pits exhaust fan and lighting, likewise have not been removed. Ductwork is taking up valuable floor space in the OMS, will free up electrical circuit, removal of exhaust fan will allow closure of the roof penetration when the built up roof is replaced.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 364

PROJECT NUMBER: E2FA 00-15
PROJECT NAME: Install Self-Contained PTAC Unit in OMS Office
PROJECT DESCRIPTION: Install a self-contained Packaged Terminal Air Conditioner (PTAC) gas fired heating and electrical air conditioning unit (similar to a Suburban Model DLII-0912E, Heating – 12000 BTU/Hr, Cooling – 9520 BTU/Hr 208/230 V, 1090/1135 Watts), associated gas piping, valves and electric in the OMS office. Update mechanical and electrical drawings and include equipment operating and maintenance instructions, parts list and service frequency schedule.
DESCRIPTION OF CURRENT CONDITIONS AND JUSTIFICATION:
The existing HV system was not designed to heat the office (self help constructed) within the OMS. Energy efficiency, OSHA air change requirements, and a working office temperature of 68 Heat/ 78 AC cannot be achieved unless system additions are made.

NOTE: RCAS drop was run to this building to support full time manning but personnel are not working in space due to conditions. Additional self help work to increase energy efficiency of this office space is encouraged. Coordinate with 416th FETDA FIG if assistance is needed in developing a Bill of Material.

SKETCHES: None
PHOTOS: None
FIELD NOTES: None
COST ESTIMATE: $ 4060

SECTION 1: EXECUTIVE SUMMARY

1. The Fort Indiantown Gap Facility Engineer Team assessed the Wilson-Kramer USAR Center and OMS on 2-3 November 1999. The facility consists of two buildings: the main administrative building (approximately 26,850 gross square feet) and a two-bay Organizational Maintenance Shop (OMS / approximately 2,524 gross square feet). The main building and OMS were constructed in 1960 and an expansion of the center was completed 1975. Both buildings are constructed of brick veneer and moderate-slope roofs with ballasted, single ply EPDM roofing installed in 1992/1994. The OMS still has the original built-up roof. The buildings are fully utilized along with the military equipment parking (MEP) although overcrowding was not evident. The surrounding area is developed property. The Lehigh Valley International Airport is directly across the highway, the State Police Barracks adjoins on the south side, and commercial/light industry is located on the North and East sides. The entire complex comprises of approximately five acres. The 744th Military Police Battalion and the 130th Chemical Company occupy the facility. The overall condition of the facility is good. In general the areas observed were clean and well maintained, with some minor house cleaning efforts required in the supply rooms and OMS.

2. This E2FA identified 18 new RPMA projects to include replacement of the OMS roof and sealing/striping the POV parking areas. Eleven items have been identified for the facility management specialist for accomplishment through small purchases with the use of the IMPAC program or as self-help projects. Areas of major concern revolve around the lack of emphasis on facility maintenance for the more sophisticated systems in the building– electrical/mechanical/roofing. We are further concerned that the RSC has approved work requests to replace the HVAC system and the roofs on these buildings. Information on these work requests that relate to the age of the HVAC and Roofing systems is not accurate. The DA Form 4283's are not reflective of the actual conditions or requirements and may have been inadvertently submitted for the wrong facility. Components of the HVAC and roof (newer installation) are still under manufacture's warranty. Consequently, we recommend that two existing work requests for the replacement of the roofs and HVAC systems be dropped at this time and that an effort be made to perform routine maintenance and repairs and to pursue warranty support where applicable.

2.a. We have prepared a separate description of work requirements for the replacement of the OMS roof as part of this E2FA as well as detailed descriptions of maintenance and repairs to the EPDM membranes of the center roof.

2.b. Like the roofing systems, we recommend the replacement of the HVAC system also be dropped. Maintenance issues associated with the HVAC system and controls for the USAR Center building and the OMS can be resolved through maintenance and repair. There is far more evidence of inadequate maintenance on the HVAC systems than system failure due to poor design, construction or failure due to age. Reports of fin tube radiation sweating during the summer months, as well as water stains at this type of heating only unit, indicate that the conversion from heating to AC failed to shut down the building zones that are not air-conditioned. Filters throughout the center require changing, part of the controls system on the make-up air unit in the OMS is non-operative, and it is questionable if the unoccupied setbacks were working on the center system. This does not appear to be a one-time situation, as was

SECTION 2: IFS SPREADSHEET

FACID	PA008	
SITE VISIT DATE	9-Jan-02	
SITE NAME	Wilson Kramer USARC	
Building #1	26,890	Gross Square Feet
Building #2	2,521	Gross Square Feet
Building #3	165	Gross Square Feet
Building #4		Gross Square Feet
Building #5		Gross Square Feet
POV Pavement	5,864	Square Yards
MEP Pavement	3,736	Square Yards
Roads	707	Square Yards
Sidewalk	90	Square Yards
Fence Line	670	Linear Feet

	Width	Rolling/Hinged/Other		
Gate #1	20'	☐	☑	☐
Gate #2	4'	☐	☑	☐
Gate #3	26'	☐	☑	☐
Gate #4	4'	☐	☑	☐
Gate #5		☐	☐	☐

Gate Type is either: 1) Slide-By/Rolling 2) Hinged or 3) Other

Completed by:	SFC Douglas Killough
Verified by:	LTC Douglas Garner
Date:	9-Jan-02

NOTES: If a measured number is not within 10% of preexisting data the difference needs to be documented.

Meeting - 2/11/2003 · Tuesday.
FACILITY ASSESSMENT -
BETHLEHEM, PA. (99th RSC).

Util. Co - PP & L - ~~PAA~~ Pennsylvania Power/Light.
Gas Co. - UGI - United Gas Industries.
Water/Sew - Bethlehem Sewerage & Water

Paper Removal - Waste Mgmt. Co.

27 FT people authorized.
21 - Military.
6 - Civilian.

Wash Rack - Plumb to San. Sewer
w/ Oil-Water separator.

Grease trap - Don't know - will look.
Perimeter fence - Never had one - Don't need one particularly
Fence Replacement (?) Exp. on Motor pool. 1988 or late 80's
Wash Rack drain is clogged.

---

1. Cracks - Walls/Floors?
Roof - Age? Over 10 years - Replaced entirely - over 18 years old.
New Windows?
Asbestos - Floor Materials? Known
Restrooms Adequate - Renovated for Accessibility. - Original Condition

Vault is Certified --
Kitchen - Regd - Is working - operating

No Sprinkler System

Any below ground tanks (fuel oil tanks etc)?
Will check for Records of any removal.

Location of utilities is toward Airport Rd. (Water ~~Sanitary~~
Sanitary to Avenue A.

New trailers coming to site - w/ power requirements
Pole Mounted transformers - will look.
(Dgas meter only -

Boiler - Was been replaced at some point down the road.
Chiller - 27 yrs old approx. Could have been Replaced/Rebuilt.

Boiler Room floor below fin. floor. w/ sump pit/pump.

Hydrant tests unavailable.
City Hydrant out in front of Bldg.

04 – Property Utilization

04 Property Utilization

ZEMAR Condition Assessment

Not available at time

of Full Facility Assessment

05 - Work Orders

05 WORK ORDERS

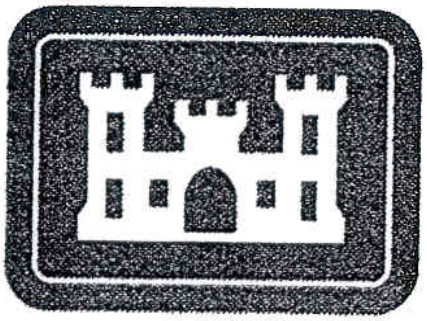
See 416th TRACER II REPORT in this Appendix.

06 – Asbestos Report

FINAL
ASBESTOS-CONTAINING MATERIALS BUILDING INSPECTION REPORT BETHLEHEM UNITED STATES ARMY RESERVE CENTER

REWEI Project 94348-B

Prepared for



United States Army Corps of Engineers
Baltimore District
10 South Howard Street
Baltimore, MD 21201

September 1995

FINAL
ASBESTOS-CONTAINING MATERIALS
BUILDING INSPECTION REPORT
BETHLEHEM
UNITED STATES ARMY RESERVE CENTER
REWEI Project 94348-B

Prepared for

United States Army Corps of Engineers
Baltimore District
10 South Howard Street
Baltimore, MD 21201

By

R. E. WRIGHT ENVIRONMENTAL, INC.
3240 Schoolhouse Road
Middletown, PA 17057
(717) 944-5501

September 1995

Respectfully submitted,

Kathleen G. Horvath
Building Inspector

Reviewed by:

Charles A. Kuzma
Project Director

Joan E. Killian
Asbestos Specialist

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Appendix B, Laboratory Results, R. E. Wright Environmental, Inc. . Following Text

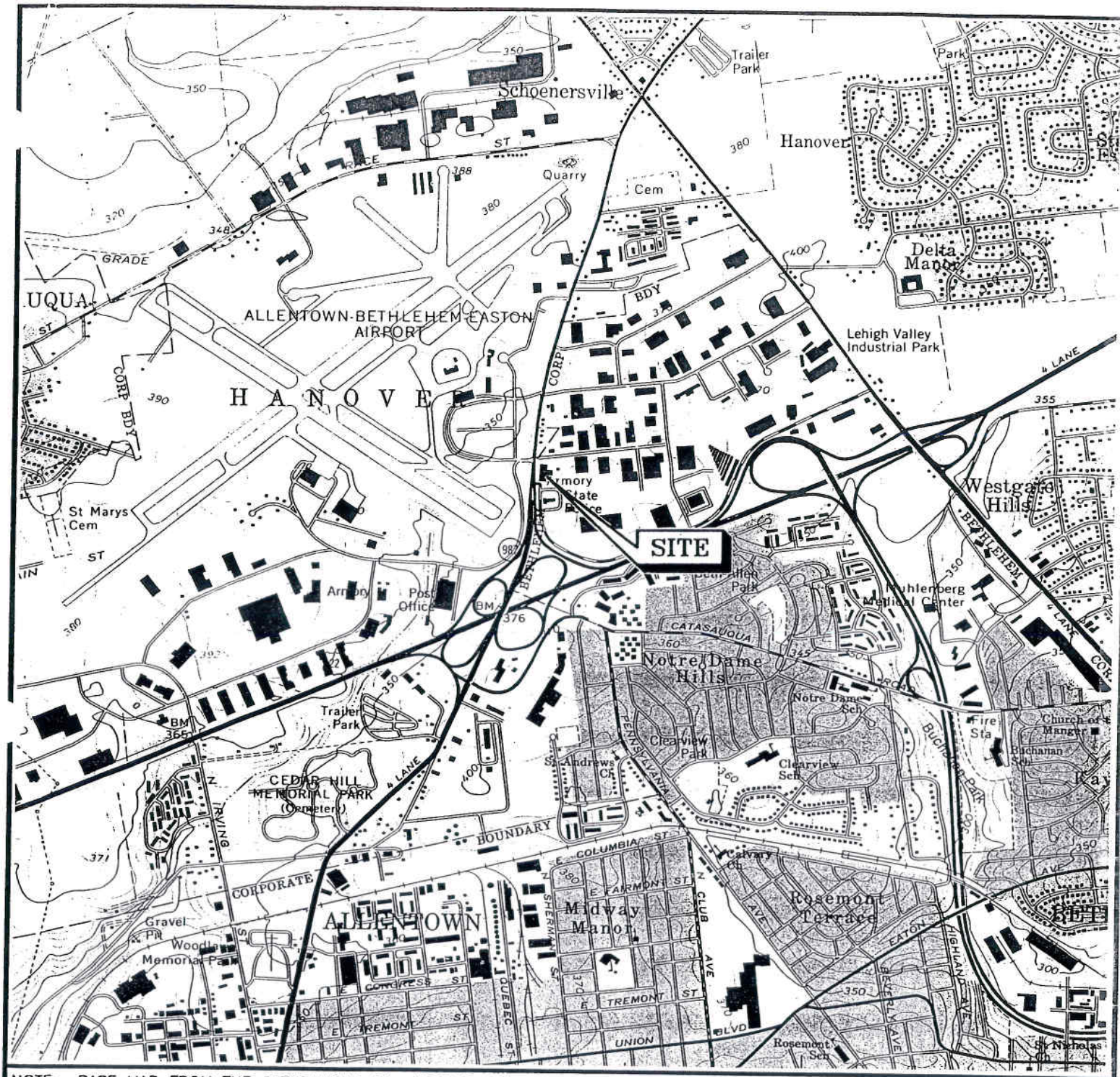
1.0 INTRODUCTION

R. E. Wright Environmental, Inc. (REWEI) conducted an asbestos-containing material (ACM) survey at the Bethlehem United States Army Reserve Center (USARC) located in Bethlehem, Lehigh County, Pennsylvania (Figure 1). The purpose of the survey was to locate and identify friable and non-friable ACMs within the building. Specifically, REWEI was contracted to provide the following services:

1. Review the 1987 Biospherics, Inc. building survey performed at the Bethlehem USARC. Perform a visual inspection to provide information on data gaps from the Biospherics, Inc. report, and confirm the existence or absence of ACMs previously identified.

2. Collect samples of accessible suspect ACMs within the referenced project area according to the United States Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulations.

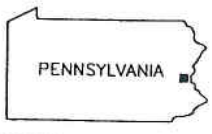
3. Analyze all bulk samples collected utilizing polarized light microscopy (PLM).



NOTE: BASE MAP FROM THE CATASAUQUA, PA., USGS 7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE 1964.

2000' 0 2000'

SCALE IN FEET



QUADRANGLE LOCATION

FIGURE 1

U.S. ARMY CORPS OF ENGINEERS
BETHLEHEM U.S. ARMY RESERVE CENTER
BETHLEHEM, LEHIGH CO., PA

SITE LOCATION MAP

drawn	checked	drawing no.
SS	KGH	94348-004-AA
date 04/27/96	approved JEK	

r.e. wright environmental, inc.
total environmental solutions
middletown, pa wayne, pa westminster, md norfolk, va

4. Compile a final report which details all sample results, identifies REWEI sample locations, and provides recommendations based upon the results.

The EPA distinguishes between friable and non-friable forms of ACM. Friable ACM can be "crumbled or reduced to powder by hand pressure." Friable materials are considered the most hazardous type of ACM because the asbestos fibers can easily become airborne and be inhaled.

It is possible to suspect that a material or product contains asbestos by visual observation, but a positive identification can only be made by laboratory analysis. The EPA requires that asbestos content of suspect materials be determined by collecting bulk samples and analyzing them by PLM utilizing dispersion staining techniques. The PLM technique determines both the percent and type of asbestos in a bulk material.

The EPA identifies three categories of ACM used in buildings:

1. **Surfacing Materials** - ACM sprayed or troweled on surfaces (walls, ceilings, structural members) for acoustical, decorative, or fireproofing purposes. This includes plaster and fireproofing insulation.

2. **Thermal System Insulation** - Insulation used to inhibit heat transfer or prevent condensation on pipes, boilers, tanks, ducts, and various other components of hot and cold water systems and heating, ventilating, and air conditioning systems. Thermal system insulation includes pipe lagging, pipe wrap, blanket insulation, mudded joint compounds, and a variety of other products.

3. **Miscellaneous Materials** - Other asbestos-containing products and materials such as floor tile, ceiling tile, roofing felt, concrete pipe, outdoor siding, gaskets, fabrics, etc.

For the purpose of this investigation, these categories were used to identify separate homogenous areas and to assign unique sample identification numbers. Surfacing materials are identified with a S prefix; thermal system insulation is identified with a **TSI** prefix; and miscellaneous materials are identified with a **M** prefix. The number following the prefix indicates the unique homogeneous area of the sample. The last number in the sample identification represents the sample number collected within the homogeneous area.

2.0 REGULATORY STANDARDS

This building inspection was completed in accordance with protocols developed in the EPA AHERA regulation (40 CFR 763). This regulation addresses issues of identifying, evaluating, and maintaining ACMs and dictates the training standards to which all asbestos professionals must be trained.

The EPA National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulation (40 CFR 61) established procedures for controlling asbestos fiber emissions during demolition and renovation projects in public and private buildings. The NESHAP requires building owners to conduct ACM surveys to identify friable materials within their facility prior to demolition or significant renovation that would break up the material or preclude access to the material for subsequent removal.

3.0 SITE CHARACTERISTICS

On Thursday, April 13, 1995, and Monday, May 8, 1995, Ms. Joan Killian (REWEI's Asbestos Specialist) and Ms. Kathleen Horvath (REWEI's Building Inspector) conducted a building inspection to identify ACMs in the Bethlehem USARC located in Bethlehem, Lehigh County, Pennsylvania. Ms. Killian is an EPA-accredited and Pennsylvania-licensed Building Inspector and Management Planner (Pennsylvania Department of Labor and Industry [DLI] No. 001625). Ms. Horvath is an EPA-accredited, Pennsylvania licensed Building Inspector (DLI No. 016308). During the inspection, REWEI personnel were accompanied by Mr. Tom LaBlanc, Commander at Bethlehem USARC.

The Bethlehem USARC contains approximately 27,600 square feet of finished office space and is constructed of steel and masonry. The structure was reportedly built in the 1940s, with a newer addition constructed in the 1970s (Rooms 101A-D, 112, and 146A-B). A detached garage on-site is also constructed of steel and masonry.

4.0 SURVEY METHODOLOGY

The Bethlehem USARC was visually inspected for the presence of material that is suspected to contain asbestos. Prior to collecting any samples, distinct homogeneous sampling areas and specific sampling sites were determined according to AHERA protocol. A homogeneous sampling area can be described as any material that is identical in appearance, identical in color, and has the same installation date. As these materials were identified, bulk samples were obtained and placed into individual containers for transportation to the laboratory. If suspect materials were identified as being positive or negative for asbestos content in the Biospherics, Inc. report, sampling was not done in order to avoid data duplication.

Each bulk sample collected was assigned an unique sample identification number and its location and material description noted. Each material was classified as either friable or non-friable.

In assessing the fiber release potential, the current condition of all suspect ACM was noted. Evidence of deterioration, physical or water damage, air erosion of the materials due to proximity to an air plenum, high vibration or contact potential was evaluated.

Materials visually identified as non-asbestos (fiberglass, foam, rubber, wood, etc.) were not sampled.

5.0 LABORATORY ANALYSIS

All bulk samples collected by REWEI were analyzed for asbestos content at Scientific Laboratories, Inc. (Sci Lab) of New York, New York, by PLM according to EPA Interim Method 600/M4-82-020. This type of analysis requires a microscopist to treat a portion of the bulk sample with an oil of specific refractive index. This prepared slide is then subjected to a variety of tests, while being viewed under varying polarizations of light. Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains over one percent of any type of asbestos is considered an ACM and must be handled according to the Occupational Safety and Health Administration (OSHA) and EPA regulations if disturbed.

Sci Lab is a minority-owned business which is accredited for analysis of bulk asbestos samples by the National Voluntary Laboratory Accreditation Program (NVLAP). Sci Lab's NVLAP laboratory code is 1904-01. Sci Lab's microscopists successfully participate in the American Industrial Hygiene Association (AIHA) Proficiency in Analytical Testing (PAT) program.

6.0 INSPECTION AND SAMPLING RESULTS

A review of sampling results performed by Biospherics, Inc. (DACA 31-87-D-0016, Delivery Order No. 001), indicated ACMs had been located in the Boiler Room (Room 125) and consisted of exhaust duct insulation, straight pipe insulation, and pipe elbow laggings. ACM was also identified in the detached garage and consisted of insulation around pipe fittings. ACMs in the general building space included steam pipe insulation, pipe elbow insulation, and black 9-inch by 9-inch floor tiles. Laboratory results from the Biospherics, Inc., survey are attached in Appendix A.

No suspect materials were observed in the Boiler Room (Room 125) during REWEI's inspection. All thermal insulation, including elbows and sections, appeared to be newly installed fiberglass and in good condition. Obvious signs of asbestos abatement in this room included encapsulated (painted) bare piping.

The detached garage was visually inspected by REWEI, and no suspect materials were observed. Obvious evidence of abatement at locations where suspect material had been located were observed.

A total of 14 bulk samples were collected by REWEI and analyzed by PLM. Bulk sample results are included in Appendix B. The following materials were identified during the building inspection.

6.1 Friable ACM

Laboratory testing from the Biospherics, Inc., survey identified six sources of friable ACM in the building and included pipe elbows and block straight pipe section insulation, both associated with thermal system insulation. REWEI's visual inspection confirmed the amounts and locations of the friable ACM identified during Biospherics' survey. Friable ACMs are listed on Table 1 and shown on Figure 2.

6.2 Non-Friable ACM

Non-friable ACM identified at the Bethlehem USARC during sampling by Biospherics, Inc., includes 9-inch by 9-inch floor tiles and black mastics (sampled by REWEI) used to secure floor tiles. Since there is no way to distinguish between different homogeneous areas of mastic, all black mastic should be considered an ACM. The amounts and locations of those floor tiles and mastic are listed on Table 1 and shown on Figure 3.

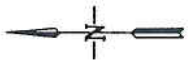
TABLE 1

ACMS IDENTIFIED AT BETHLEHEM USARC

REWEI Project 94348

Material	Percent Asbestos	Location	Estimated Amount
Friable ACMs			
Gray fibrous pipe elbow laggings on hot water return pipe (approximately 4 inches outside diameter [O.D.]) and steam pipe to boilers (approximately 3 inches and 8 inches O.D.)*	15-35	See Figure 2	40 linear feet
White fibrous block pipe insulation on straight runs with cloth cover; sampled on main steam line (approximately 5 inches O.D.), steam supply line (approximately 8 inches O.D.), and hot water circulating system (approximately 4 inches O.D.)*	25-50	See Figure 2	450 linear feet
Non-Friable ACMs			
9-inch by 9-inch black floor tiles with white mottles and gray floor tiles with white mottles in a checkerboard pattern*	1-2	See Figure 3	3,072 square feet
Black mastic beneath floor tiles	5-10	See Figure 3	20,667 square feet

* Sampled by Biospherics, Inc.



AINING INSULATION WRAP

ULATION WRAP

ATION SUSPECTED TO CONTAIN ASBESTOS

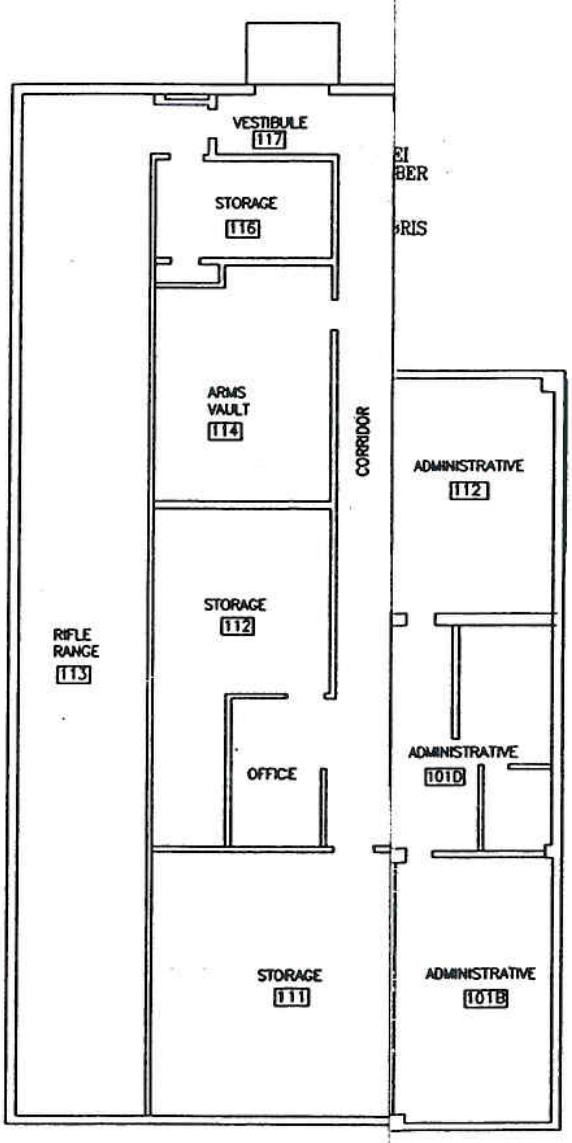


FIGURE 2

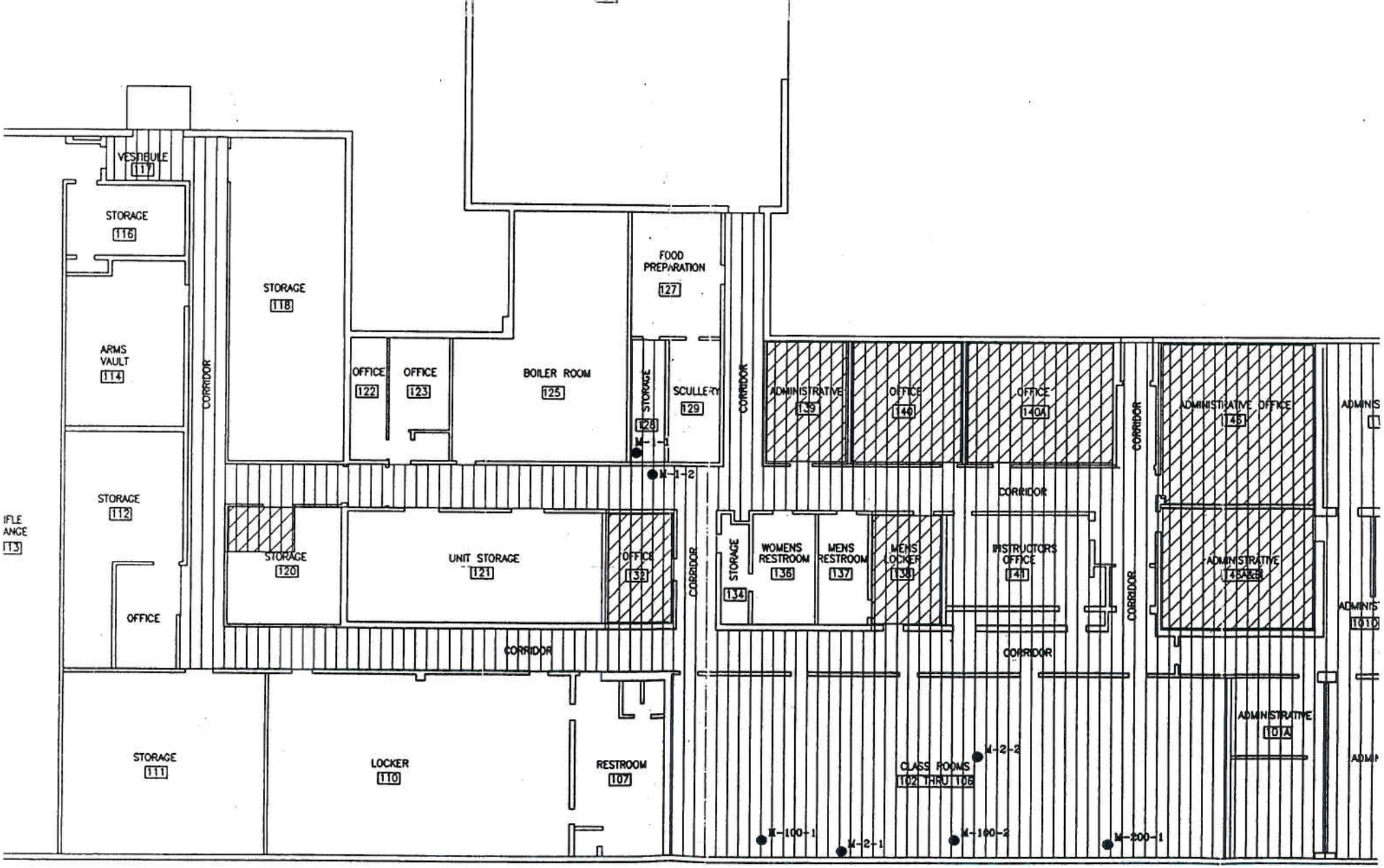
client: UNITED STATES ARMY CORPS OF ENGINEERS
BETHLEHEM, LEHIGH CO., PENNA.

title: BETHLEHEM U.S. ARMY RESERVE CENTER
LOCATIONS OF FRIABLE ASBESTOS
CONTAINING PIPE INSULATION

drawn	checked	scale	sheet no.
VHC	KGH	AS NOTED	1
designed		date 8/3/95	
job no. 94348		file no. 94348-006-C	

r.e. wright environmental, inc.
total environmental solutions
middletown, pa wayne, pa westminster, md norfolk, va

date	by	approved



MAIN BUILDING FLOOR PLAN

10' 0 10'
SCALE IN FEET

Verify Scale			
bar is one inch on original drawing			
0 — 1"			
If not one inch on this sheet, adjust	no.	description	date

6.3 Non-ACM

The remaining samples were found to be non-ACM:

1. 12-inch by 12-inch interlocking ceiling tiles with gouge pattern (sampled by Biospherics, Inc.)
2. 2-foot by 2-foot white ceiling tile with pinhole pattern (sampled by Biospherics, Inc.)
3. 12-inch by 12-inch beige floor tiles with brown streaks (sampled by REWEI)
4. 12-inch by 12-inch gray/white mottled floor tiles (sampled by REWEI)
5. 12-inch by 12-inch blue/white mottled floor tiles (sampled by REWEI)
6. Ceiling and wall plaster (sampled by REWEI)

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

ACMs identified at the Bethlehem USARC building include mudded pipe elbow insulation, pre-formed block insulation on straight pipe lines, 9-inch by 9-inch black floor tiles, and black mastic. Most of the material observed was in good to fair condition. Some areas of pipe insulation showed significant damage, and debris from the insulation was observed on the ceiling tiles in Rooms 140 and 140A. If the building is to be either renovated or demolished, laws require the removal of ACM prior to the start of either activity.

Laws and regulations do not require the removal of ACM that is not currently presenting a significant hazard. Non-friable floor tiles and mastic pose limited health threat to building occupants unless they are disturbed or damaged. Damage to the 9-inch by 9-inch floor tiles and black mastic should be avoided during any maintenance, renovation, or other activities. This material may remain in place but should not be buffed, sanded, stripped, or treated in any way that produces dust.

7.2 Recommendations

All pipe insulation which does not visually appear to be fiberglass should be considered asbestos containing. The ACM on most pipes indicated on Figure 2 appears to be in good condition, except where indicated on Figure 2. Any disturbance of this material creates the potential for fiber release and exposure in this area. REWEI recommends that all of the friable pipe insulation in the building be removed by a qualified asbestos abatement contractor and replaced with a non-asbestos pipe insulation.

Floor tile and mastic which contains asbestos is considered by the EPA to be non-friable material. It may remain in place as long as it is maintained in good condition and is not damaged by sanding, scraping, or otherwise abrading the surface of the tiles since such activities may cause release of asbestos fibers.

All the black 9-inch by 9-inch floor tiles in the facility were identified as ACM, and samples of black mastic were also identified as an ACM. The floor tiles and mastic must be treated as asbestos and should be incorporated into an operations and maintenance (O&M) program. If floor tiles or mastic are to be removed, proper precaution should be taken just as with any asbestos abatement project.

Asbestos abatement is very labor intensive and there are numerous state, federal, and local regulations which apply to the asbestos abatement industry. To help limit legal liability, an experienced, qualified firm should be employed to design remediation, write removal specifications, and monitor the abatement project. A firm with properly certified individuals can help ensure that proper government authorities are contacted, that asbestos removal specifications are written in conformance with EPA and OSHA regulations, and EPA and OSHA regulations are followed during asbestos abatement and disposal, and that identified ACM is removed safely from the facility. REWEI recommends that all abatement be performed by an EPA-accredited, Pennsylvania-licensed asbestos removal contractor.

REWEI understands that completion of this contract includes development of a site-specific O&M program which addresses maintenance of non-friable ACMs which are to remain in the facility following removal of all friable ACM. The purpose of the O&M program is to avoid ACM disturbance or damage and establish procedures to accomplish this goal. The O&M program will include recommendations for building occupant awareness, specialized training for custodial and maintenance personnel, cleaning of any debris, periodic visual inspections, and periodic air monitoring. Design of this O&M program is ongoing. A draft document will be submitted for USACE review at a later date.

Every effort was made to identify all accessible ACM within the facility. As a result of this survey, and to the best of our knowledge, understanding, and belief, all ACMs have been identified and locations are listed in this report.

8.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions, and recommendations expressed in this report are based only on conditions which were observed during the inspections of April 13, 1995, and May 8, 1995. REWEI and this report make no representation or assumptions as to past conditions or future occurrences.

This inspection was non-destructive in nature. Any conditions or materials which were not able to be visually observed on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials which lay beneath the surface. Our selection of sample locations and frequency is based on our observation and the assumption that like materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. This report should not be used as a bidding document or as a project specification document.

APPENDIX A

Laboratory Results, Biospherics, Inc.

SECTION 2.19

2.19.1 U.S. ARMY RESERVE CENTER, BETHLEHEM, FIRST FLOOR

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

1. 2' x 2', white ceiling tile

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED:

1. White and grey, fibrous insulation boiler exhaust flue
2. White, fibrous, block insulation
3. Grey, fibrous or powdery, pipe fitting lagging
4. Grey, air-cell insulation
5. 9" x 9", black floor tile
6. Two coat plaster ceilings
7. 12" x 12", blue floor tile white mottle

FUNCTIONAL AREAS

A. Mechanical Room Areas (Boiler room; drawing ref.: AS-BLT 29-06-46 SH. 42)

- Severely damaged white and grey, fibrous exhaust duct insulation and debris is ACM. Pipe straight section insulation is white, fibrous, block and grey, air-cell. Both insulation types have exposed endings and the block insulation is cracking. Grey, fibrous pipe elbow laggings have exposed ends.

Hazard Assessment
Rating I - High to Very High

B. General Building Space (All other rooms and corridors; drawing ref.: AS-BLT 29-06-46 SH. 42)

- ACM TSI - White, fibrous, steam pipe insulation, grey, powdery or fibrous, pipe elbow lagging located above suspended ceilings. Fittings as noted on floor plans. Debris located above ceilings in rooms 140, 141, 145, and 146.

- Black, 9" x 9" floor tiles are ACM.

- 12" x 12", blue floor tile with white mottle should be considered ACM in the absence of further sampling

- Plaster ceilings and walls noted on floor plans should be treated as ACM until further sampling is performed to show otherwise.

Hazard Assessment
Rating II - Moderate to High

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TABLE 2.19.1

Results of Bulk Asbestos Analyses of Samples Collected for EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center at Bethlehem, Pennsylvania (First Floor)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME %)
87-12-029-220	11/25/87	White and grey, fibrous over chicken wire boiler exhaust flue insulation; boiler room	Chrysotile	60-65%
87-12-345-221	11/25/87	White, fibrous, block pipe straight section insulation; boiler room	Chrysotile Amosite	5-10% 25-30%
87-12-029-222	11/25/87	Grey, fibrous pipe elbow lagging; boiler room	Chrysotile	15-20%
87-12-029-223	11/25/87	White, fibrous, block condensate pipe insulation straight section; boiler room	Chrysotile Amosite	35-40% 5-10%
87-12-029-224	11/25/87	White, fibrous, block steam supply line insulation; boiler room	Chrysotile Amosite	20-25% 20-25%
87-12-029-225	11/25/87	Grey, fibrous pipe elbow lagging on steam supply line; boiler room	Chrysotile Amosite	30-35% 5-10%
87-12-029-226	11/25/87	Grey, air-cell steam pipe insulation straight section; boiler room	Chrysotile	35-40%
87-12-029-227	11/25/87	Grey, fibrous steam pipe elbow lagging; boiler room	Chrysotile	35-40%

*NAFD -- No Asbestos Fibers Detected

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TABLE 2.19.1

Results of Bulk Asbestos Analyses of Samples Collected for EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center at Bethlehem, Pennsylvania (First Floor), continued

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME %)
87-12-029-228	11/25/87	White, fibrous, block insulation on suspended H.E.U.; boiler room	Chrysotile Amosite	15-20% 15-20%
87-12-029-229	11/25/87	12" x 12", blue floor tile with white mottle; corridor outside room 123	Chrysotile	<1%
87-12-029-230	11/25/87	White, 2' x 2' ceiling tile with pinhole pattern; corridor outside room 121	NAFD*	---
87-12-029-231	11/25/87	White, fibrous block main steam pipe insulation straight section; corridor by room 121	Chrysotile Amosite	25-30% 5-10%
87-12-029-232	11/25/87	Grey, fibrous hot water return pipe elbow lagging; main corridor outside room 123	Chrysotile	15-20%
87-12-029-234	11/25/87	Grey, powdery pipe elbow lagging; assembly room	Chrysotile	15-20%
87-12-029-235	11/25/87	Black, 9" x 9" floor tile with white mottle; room 139	Chrysotile	1-2%

NAFD -- No Asbestos Fibers Detected

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2.19.2 U.S. ARMY RESERVE CENTER, BETHLEHEM, NEW ADDITION

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

1. 12" x 12", white interlocking ceiling tile

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED:

- None

FUNCTIONAL AREAS

A. General Building Space (All rooms and corridors; drawing ref.: Bethlehem, new addition)

- No asbestos containing materials were observed.

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TABLE 2.19.2

Results of Bulk Asbestos Analyses of Samples Collected for EHSC and Fort Indiantown Gap, PA from U.S. Army Reserve Center at Bethlehem, Pennsylvania (New Addition)

BIOS #	DATE SAMPLED	LOCATION/DESCRIPTION	ASBESTOS TYPE	CONTENT (VOLUME %)
87-12-029-233	11/25/87	White, 12" x 12", interlocking ceiling tile with gouge pattern; rifle range	NAFD*	---

*NAFD -- No Asbestos Fibers Detected

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2.19.3 U.S. ARMY RESERVE CENTER, BETHLEHEM, SHED-MOTOR VEHICLE STORAGE

NON-ASBESTOS-CONTAINING MATERIALS SAMPLED:

- o None

ASBESTOS-CONTAINING MATERIALS SAMPLED/OBSERVED:

1. Grey, fibrous pipe elbow lagging

FUNCTIONAL AREAS

A. Enitre Garage Area (drawing ref.: AS-BLT 39-15-02 SH. 11)

- o ACM TSI -Observed eight fittings in garage area. Material similar to those sampled in the main building (refer to sample B/234).

Hazard Assessment
Rating III - Low to Moderate

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BULK MATERIAL/ASBESTOS SAMPLING FORM

CLIENT/CONTACT	EHSC, Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/220
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-220
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [ ]	P [X]	L [ ]	L [X]	L [ ]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [X]	F [X]	M [ ]	M [ ]	M [X]
Troweled [X]	Other [ ]		H [ ]	G [ ]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: White and grey, fibrous over chicken wire, boiler exhaust flue insulation.

LOCATION: Boiler room.

SIMILAR MATERIALS: Entire exhaust flue.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Severely damaged/cracking; debris on floor.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/221

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-221

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: White, fibrous, block pipe straight section insulation on hot water circulating system from pump number one with cloth cover.

LOCATION: Boiler room.

SIMILAR MATERIALS: Other piping in boiler room.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed section ending.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

CLIENT/CONTACT	EHSC, Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/222
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-222
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [X]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging on hot water circulating system from pump number two.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other pipe elbows.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/223

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-223

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: White, fibrous, block, condensate pipe straight section with cloth cover (subordinate line).

LOCATION: Boiler room.

SIMILAR MATERIALS: Other pipe straight section insulaton.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/224

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-224

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [X]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [ ]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~8" O.D.

DESCRIPTION: White, fibrous, block with cloth cover on steam supply line to boiler number one.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other steam supply lines.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Cracking in some places.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC.

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/225

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-225

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [X]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~8" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging on steam supply line to boiler number one.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other steam supply pipe elbows.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Some smaller pipe elbows are fiberglass reinsulated.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/226

FACILITY SAMPLED Bethlehem BIOS #: 87-12-029-226

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~8" O.D.

DESCRIPTION: Grey, air-cell insulation on steam pipe straight section to boiler number two.

LOCATION: Boiler room.

SIMILAR MATERIALS: On other pipe straight sections.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

	EHSC,		
CLIENT/CONTACT	Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/227
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-227
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [X]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~3" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging on steam pipe to boiler number two.

LOCATION: Boiler room.

SIMILAR MATERIALS: Other pipe fittings in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

CLIENT/CONTACT	EHSC, Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/228
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-228
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [ ]	Other [X]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~12" O.D. x 5 L.F.

DESCRIPTION: White, fibrous, block on suspended H.E.U. with cloth cover.

LOCATION: Boiler room.

SIMILAR MATERIALS: Other insulation in boiler room.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/229

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-229

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [ ]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [X]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: 12" x 12", blue floor tile with white mottle.

LOCATION: Corridor outside room 123.

SIMILAR MATERIALS: Other floor tile throughout building.

SAMPLE LOCATION MARKED: Tape & I.D. [ ]
Sample location was not marked [X]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

	EHSC,		
CLIENT/CONTACT	Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/230
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-230
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [ ]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [X]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: White, 2' x 2', suspended ceiling tile with pinhole pattern.

LOCATION: Corridor outside room 121.

SIMILAR MATERIALS: Other ceiling tile in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [ ]
Sample location was not marked [X]

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BULK MATERIAL/ASBESTOS SAMPLING FORM

CLIENT/CONTACT EHSC, Fort Indiantown Gap, PA
FACILITY SAMPLED Bethlehem
SAMPLING DATE November 25, 1987
FIELD I.D.# 11-25-FIG-JK-B/231
BIOS # 87-12-029-231
SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [X]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~5" O.D.

DESCRIPTION: White, fibrous, block pipe insulation straight section on main steam line with cloth cover.

LOCATION: Corridor by room 121.

SIMILAR MATERIALS: Other pipe straight section insulation.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Under suspended ceiling.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA FIELD I.D.# 11-25-FIG-JK-B/232

FACILITY SAMPLED Bethlehem BIOS # 87-12-029-232

SAMPLING DATE November 25, 1987 SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [X]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~4" O.D.

DESCRIPTION: Grey, fibrous pipe elbow lagging with cloth cover on hot water return pipe.

LOCATION: Main corridor outside room 123.

SIMILAR MATERIALS: Other pipe fittings in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Above suspended ceiling; ACM insulations end at or before additions.

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BULK MATERIAL/ASBESTOS SAMPLING FORM

	EHSC,		
CLIENT/CONTACT	Fort Indiantown Gap, PA	FIELD I.D.#	11-25-FIG-JK-B/233
FACILITY SAMPLED	Bethlehem	BIOS #	87-12-029-233
SAMPLING DATE	November 25, 1987	SAMPLED BY	Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [ ]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [X]	M [ ]	F [ ]	M [X]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [ ]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: White, 12" x 12", interlocking ceiling tile with gouge pattern.

LOCATION: Room 232, rifle range.

SIMILAR MATERIALS: Other tiles throughout range area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

3483F

DACA 31-87-D-0016
Delivery Order No. 0001

BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA — FIELD I.D.# 11-25-FIG-JK-B/234

FACILITY SAMPLED Bethlehem — BIOS # 87-12-029-234

SAMPLING DATE November 25, 1987 — SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [X]	Tile [ ]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [X]	M [ ]	M [X]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [ ]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): ~2" O.D.

DESCRIPTION: Grey, powdery pipe elbow lagging.

LOCATION: Assembly room.

SIMILAR MATERIALS: Other pipe fittings in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [X]
Sample location was not marked [ ]

COMMENTS: Exposed endings.

3483F

DACA 31-87-D-0016
Delivery Order No. 0001

BIOSPHERICS® INCORPORATED

BULK MATERIAL/ASBESTOS SAMPLING FORM

EHSC,

CLIENT/CONTACT Fort Indiantown Gap, PA — FIELD I.D.# 11-25-FIG-JK-B/235

FACILITY SAMPLED Bethlehem — BIOS # 87-12-029-235

SAMPLING DATE November 25, 1987 — SAMPLED BY Ted Mitchell

MATERIAL TYPE		ACM	FRIAB	COND	ACCESS	OCCUP	HAZARD
Pipe insl [ ]	Tile [X]	Y [X]	L [X]	P [ ]	L [ ]	L [X]	L [X]
Sprayed [ ]	Wallboard [ ]	N [ ]	M [ ]	F [ ]	M [ ]	M [ ]	M [ ]
Troweled [ ]	Other [ ]		H [ ]	G [X]	H [X]	H [ ]	H [ ]

QUANTITY (diam/lin.ft./Sq.ft): Not determined.

DESCRIPTION: Black, 9' x 9' floor tile with white mottle.

LOCATION: Room 139.

SIMILAR MATERIALS: Floor tiles in other rooms in this area.

SAMPLE LOCATION MARKED: Tape & I.D. [ ]
Sample location was not marked [X]

3483F

APPENDIX B

Laboratory Results, R. E. Wright Environmental, Inc.

SciLab

Environmental Lab Services

SCIENTIFIC LABORATORIES, INC.
42 West 24th Street New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 4/20/95
Date Examined 4/23/95

SciLab Job No. 04952332
P.O. # N/A
Page 1 of 1

RE: Army Corps of Engineers; #94348-Hbg. & Beth USARC

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
M-100-1	04952332-01	No	NAD

Location: Bethlehem USARC; 12x12 VFT

Description: Beige, Homogeneous, Floor Tile
Asbestos Types:
Other Material: Non-fibrous 100. %

M-100-2	04952332-02	No	NAD

Location: Bethlehem USARC; Bethlehem USARC; 12x12 VFT

Description: Beige, Homogeneous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 100. %

M-200-1	04952332-03	No	NAD

Location: Bethlehem USARC; 12x12 VFT

Description: Grey, Homogeneous, Floor Tile
Asbestos Types:
Other Material: Non-fibrous 100. %

Reporting Notes:

Analyzed by: Ranga Yeragudipati

*NAD/NSD = no asbestos detected; NA = not analyzed; Bulk Asbestos Analysis per 40 CFR 763, Subpart F, Appendix A and ELAP Analysis Protocols 198.1/198.4 for New York samples; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This report relates ONLY to the items tested.

NBS Signatory:_____

Environmental Lab Services

42 West 24th Street

SCIENTIFIC LABORATORIES, INC.
New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 5/10/95
Date Examined 5/12/95

SciLab Job No. 05952175
P.O. # N/A

RE: Bethleham USARC; Project#94348

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
S-1-1	05952175-01	No	NAD
1	**Location:** Rm 136 at Exhaust Fan on Wall		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100. %		
S-1-2	05952175-02	No	NAD
1	**Location:** Rm 136 Ceiling		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100. %		
S-1-3	05952175-03	No	NAD
1	**Location:** Rm 136 Wall at Sinks		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100. %		
S-2-1	05952175-04	No	NAD
2	**Location:** Rm 127 Ceiling		
	Description: Off White, Homogeneous, Plaster		
	Asbestos Types:		
	Other Material: Cellulose 10. %, Non-fibrous 90. %		
S-3-1	05952175-05	No	NAD
	Location: Rm 128 Ceiling		
	Description: Off White, Homogeneous, Dry Wall		
	Asbestos Types:		
	Other Material: Cellulose 40. %, Non-fibrous 60. %		

SciLab

42 West 24th Street

SCIENTIFIC LABORATORIES, INC.
New York, New York 10010 212/741-2053 FAX: 212/741-2056

Environmental Lab Services

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 5/10/95
Date Examined 5/12/95

SciLab Job No. 05952175
P.O. # N/A

RE: Bethleham USARC; Project#94348

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
S-2-3 2	05952175-06 **Location:** Rm 129 Ceiling	**No**	NAD
	Description: Off White, Homogeneous, Plaster **Asbestos Types:** **Other Material:** Cellulose Trace, Non-fibrous 99. %		
S-2-4 2	05952175-07 **Location:** Rm 127 Ceiling	**No**	NAD
	Description: Off White, Homogeneous, Plaster **Asbestos Types:** **Other Material:** Cellulose Trace, Non-fibrous 99. %		
M-1-1	05952175-08 **Location:** Rm 128 Beneath Blue 12X12	**Yes**	5 %
	Description: Black, Homogeneous, Mastic **Asbestos Types:** Chrysotile 5. % **Other Material:** Cellulose Trace, Non-fibrous 94. %		
-1-2	05952175-09 **Location:** Hall at Rm 128 Beneath Blue 12X12		NA/PS
	Description: Mastic **Asbestos Types:** **Other Material:**		
2-1	05952175-10 **Location:** Rm 104	**Yes**	10 %
	Description: Black, Homogeneous, Mastic **Asbestos Types:** Chrysotile 10. % **Other Material:** Non-fibrous 90. %		

SciLab

Environmental Lab Services

42 West 24th Street

SCIENTIFIC LABORATORIES, INC.
New York, New York 10010 212/741-2053 FAX: 212/741-2056

PLM Bulk Asbestos Report

R.E. Wright Environmental, Inc.
Attn: Joan E. Killian
3240 Schoolhouse Road
Middletown, PA 17057-3595

Date Received 5/10/95
Date Examined 5/12/95

SciLab Job No. 05952175
P.O. # N/A

RE: Bethleham USARC; Project#94348

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
M-2-2	05952175-11		
5	**Location:** Rm 104		NA/PS

Description: Mastic
Asbestos Types:
Other Material:

Reporting Notes:

Analyzed by: Bella Chernis Bella Chernis

*NAD/NSD = no asbestos detected; NA = not analyzed; Bulk Asbestos Analysis per 40 CFR 763, Subpart F, Appendix A and ELAP Analysis Protocols 198.1/198.4 for New York samples; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This report relates ONLY to the items tested.

NBS Signatory: PWEL

07 - FCA (Green-Amber-Red)

07 FCA (Green-Amber-Red)

See 416th TRACER II REPORT

in this Appendix.

08 - Physical Security Survey Report

08 PHYSICAL SECURITY SURVEY REPORT

N/A available at time of Full Facility Assessment.

09 – Vulnerability Assessment

09 Vulnerability Assessment

Not available at time of this FULL FACILITY ASSESSMENT

10 – Arms Vault Certification

DEPARTMENT OF THE ARMY
U.S. ARMY FACILITY ENGINEER GROUP
FACILITY ENGINEER CENTER - NORTHEAST
FT. INDIANTOWN GAP TEAM
FTIG BLDG 19-76, FISHER AVENUE
ANNVILLE, PA 17003-5029

REPLY TO
ATTENTION OF:

AFRC-ENIL-FE-E

09 JAN 2002

MEMORANDUM FOR: Mr. Sal Zangari
Wilson-Kramer USAR Center
2940 Airport Road
Bethlehem, PA 18107

SUBJECT: Arms Vault Security Construction Statement: Wilson-Kramer USAR Center, Bethlehem, PA008

1. Enclosed for your information and use are two copies of DA Form 4604-R (Security Construction Statement) for the Arms Vault, which is required to be posted inside the vault to document that the facility is in compliance with AR 190-11 dated 12 February 1998.

2. One of the copies should be kept in the unit administrator's permanent files in the U.S. Army Reserve Center. The other copy should be mounted to either the interior wall of the arms vault or the interior vault door surface.

3. The DA Form 4604-R shall be reviewed during physical security surveys and inspections and revalidated by engineer personnel every five years as per paragraph 2-2d of AR 190-11.

4. Point of contact for this action is LTC Garner, telephone: (607) 770-2696.

Encl

DOUGLAS F. GARNER
LTC, EN, USAR
Team Leader

CF: 99th RSC Provost Marshal's Office, 5 Lobaugh Street, Oakdale, PA 15071

SECURITY CONSTRUCTION STATEMENT

For use of this form, see AR 190-11; the proponent agency is ODCSOPS

INSTRUCTIONS

This form will be prepared in three copies. The original will be maintained permanently in the files of the individual signing the form. The first copy will be maintained in the using unit/organizational files. The second copy will be filed permanently in the arms/ammunition storage facility. All entries except item 7 will be typed written.

1. THE CONSTRUCTION OF THIS FACILITY CONFORMS TO THE CRITERIA OF AR 190-11 WHICH IS IN EFFECT ON THIS DATE EXCEPT AS INDICATED HEREON

This facility meets the minimum structural criteria specified of AR 190-11 dated 12 February 1998, for existing facilities located outside a military installation, and therefore meets the construction standards for Category II storage of arms, ammunition, and explosives.

The IDS of this facility meets the acceptable standards as outlined in Paragraph 3.6.a of AR 190-11, dated 12 February 1998.

This evaluation was based on a visual inspection of the arms vault and relied on a previous review of as-built drawings. The 416th ENCOM should be notified and scheduled to visit as part of any modifications or repairs to the hood and/or ventilation system above the Armorer's workbench and the roof-mounted exhaust fan. An alternative would be, if exposed during such work, to document existing conditions of the intrusion bars, providing, as a minimum, photos and sketches of the intrusion bars, identifying size, spacing, and method of anchoring.

It is also recommended that the Ammo Storage Vault, Room 115, be kept secure, as the common wall it shares with the Arms Room is not as thick as the remaining walls.

2. ROOM AND BUILDING NUMBER, STREET AND INSTALLATION ADDRESS

Wilson-Kramer USAR Center
2940 Airport Road
Bethlehem, PA 18107

3. THIS APPLIES TO

a. ☒ AN EXISTING STRUCTURE
b. ☐ CONSTRUCTION OF NEW FACILITY
c. ☐ MODIFICATION OF EXISTING FACILITY *(Explain)*

4. NAME OF OFFICIAL SIGNING IN ITEM 7 BELOW	GRADE	6. ADDRESS OF OFFICIAL
Douglas F. Garner, PE	LTC, EN, USAR	Building 19-76 Ft. Indiantown Gap Annville, PA 17003
5. ORGANIZATION FIG FE Team Facility Engineer Center – NE U.S. Army Facility Engineer Group		
7. SIGNATURE DF Garner		DATE SIGNED 09 JAN 2002

DA FORM 4604-R, 1 MAR 77

11 - Functional Space Details

Project Number : PA008
Project Title : Space Analysis
Date : 03 Feb 2003

Functional Space Details - ANALYSIS/ENGLISH

Type 1: USARC, AFRC, RTS, BPC, NCO Academy and Adjacent Buildings

	Authorized	Approved	Existing	Memo
I. Training Building				
A. Administrative Areas	9874.0	9874.0	4535.0	
(1) Full Time	2760.0	2760.0		1A1
(2) Unit Exclusive	1800.0	1800.0		1A2
(3) Unit Common	3864.0	3864.0		1A3
(4) Retention	250.0	250.0		1A4
(5) Admin. Support	720.0	720.0		
(a) General	240.0	240.0		1A5a
(b) RCAS	480.0	480.0		1A5b
(6) Lobby Area	480.0	480.0		1A6
B. Assembly Area	3300.0	3300.0	3500.0	
(1) Assembly Areas	3000.0	3000.0		1B1
(2) Chair and Table Storage	300.0	300.0		1B2
C. Kitchens - Std. Design	811.0	811.0	577.0	1C
D. Weapons Area	650.0	650.0	534.0	
(1) Vault	550.0	550.0		1D1
(2) Armorer	100.0	100.0		1D2
E. Educational Areas	2340.0	2720.0	2356.0	
(1) Classrooms	1200.0	1600.0		1E1
(2) Library Reading Room	300.0	300.0		1E2
(3) Library Storage	120.0	160.0		1E3
(4) Learning Center	200.0	200.0		1E4
(5) Training Aids Storage	120.0	160.0		1E5
(6) COMSEC Training	200.0	200.0		1E6
(7) COMSEC Storage	200.0	100.0		1E7
(8) USARF Instructor Classroom	0.0	0.0		1E8
(9) USARF Publication Storage	0.0	0.0		1E9
F. Storage Areas	7765.0	7165.0	6520.0	
(1) Unit/Individual Equipment	5631.0	5631.0		1F1
(2) Staging Area	564.0	564.0		1F2
(3) Supply Office	720.0	720.0		1F3
(4) Janitorial Storage	50.0	50.0		1F4
(5) Flammable Storage	0.0	0.0		1F5
(6) Controlled Waste Storage	0.0	0.0		1F6
(7) Facility Maintenance	800.0	200.0		1F7
G. Special Training Areas	1800.0	2400.0	181.0	
(1) Rifle Range	0.0	0.0		1G1
(2) Photo Lab	0.0	0.0		1G2
(3) Band Room	0.0	0.0		1G3
(4) Medical Section Area	0.0	400.0		1G4
(5) Physical Exam Wing	0.0	0.0		1G5
(6) SCIF	0.0	0.0		1G6

Project Number : PA008
Project Title : Space Analysis
Date : 03 Feb 2003

Functional Space Details - ANALYSIS/ENGLISH

Type 1: USARC, AFRC, RTS, BPC, NCO Academy and Adjacent Buildings

	Authorized	Approved	Existing	Memo
(7) Soils Testing Lab	0.0	0.0		1G7
(8) G.O. Conference Room	0.0	0.0		1G8
(9) Drafting Room	0.0	0.0		1G9
(10) Physical Readiness Area	1600.0	1600.0		1G10
(11) AGCCS	200.0	200.0		1G11
(12) Family Support	0.0	200.0		1G12
(13)	0.0	0.0		1G13
(14)	0.0	0.0		1G14
(15)	0.0	0.0		1G15
H. Support Area	5459.0	5759.0	3172.0	
(1) Men's Toilets and Showers	450.0	450.0		1H1
(2) Women's Toilets and Showers	225.0	225.0		1H2
(3) Unisex Handicap Toilet	75.0	75.0		1H3
(4) Locker Room	1600.0	1600.0		1H4
(5) Vending Alcove	48.0	48.0		1H5
(6) Break Area	218.0	218.0		1H6
(7) Mechanical/Custodial	2643.0	2643.0		1H7
(8) Electrical	100.0	260.0		1H8
(9) Telephone	100.0	240.0		1H9
Total Center Net Training Area	31999.0	32679.0		
Circulation Allowance (15% or 22%)	7039.8	7189.0		Circ - Trng
Structural Allowance (10% of Net)	3199.9	3268.0		Struc - Trn
Total Center Gross Area	42238.7	43136.0	26420.0	
Outgranted Area			0.0	
Total Center Available Gross Area			26420.0	
II. Supporting Facilities				
A. Privately Owned Vehicle (POV) Parking - Center (SY)	4235.0	4235.0		2A1
B. Access Roads (SY)	424.0	424.0		2B
C.	0.0	0.0		2C

III. Total Square Footage for:	Center
A. Authorized Size	42238.7
B. Approved Size	43136.0
C. Existing Size of Alteration	26420.0
D. Size of Addition	16716.0
E. Size of New Building	0.0

IV. Center Statistics:	Total Personnel	Weekend
A. Rated Capacity	300	
B. Largest Drill Weekend	151	3
C. Largest Admin Weekend	56	3
D. Largest Maintenance Weekend	4	2
E. Weekends Per Month	3	

Project Number : PA008
Project Title : Space Analysis
Date : 03 Feb 2003

Functional Space Details - ANALYSIS/ENGLISH
Type 2: OMS Shop Main and Adjacent Buildings

	Authorized	Approved	Existing	Memo
I. Maintenance Shops				
Organizational Maintenance Shop	2187.0	2801.0	2478.0	
(1) Shop Office	480.0	480.0		IA1
(2) Unisex Toilet	75.0	200.0		IA2
(3) Tool and Parts Storage	96.0	96.0		IA3
(4) Storage Room	96.0	96.0		IA4
(5) Battery Room	50.0	50.0		IA5
(6) Flammable Storage	50.0	50.0		IA6
(7) Controlled Waste Storage	96.0	96.0		IA7
(8) Work Bays	1120.0	1120.0		IA8
(9) Mechanical/Custodial	124.0	133.0		IA9
(10) Special EQ Alco	0.0	200.0		IA10
(11) IT Closet	0.0	280.0		IA11
Total Shop Net Area	2187.0	2801.0		
Structural Allowance (10% of Net)	218.7	280.0		Struc - OMS
Total Shop Gross Area	2405.7	3081.0	2704.0	
Outgranted Area			0.0	
Total Shop Available Gross Area			2704.0	
II. Supporting Facilities				
A. Privately Owned Vehicle (POV) Parking - Shop (SY)	4235.0	4235.0		IIA1
B. Military Equipment Park (MEP) Shop (SY)	8100.0	8100.0		IIB1
C. Wash Platforms OMS (EA)	2	2		IIC1
D. MEP Fencing (LF)	1080.0	1080.0		IID
E. MEP Lighting (EA)	6	6		IIE
F. Access Roads (SY)	424.0	424.0		IIF

III. Total Square Footage for:	Shop
A. Authorized Size	2405.7
B. Approved Size	3081.0
C. Existing Size of Alteration	2704.0
D. Size of Addition	377.0
E. Size of New Building	0.0

IV. Center Statistics:	Total Personnel	Weekend
A. Rated Capacity	300	
B. Largest Drill Weekend	151	3
C. Largest Admin Weekend	56	3
D. Largest Maintenance Weekend	4	2
E. Weekends per Month	3	

Project Number : PA008
Project Title : Space Analysis
Date : 03 Feb 2003

Functional Space Details - ANALYSIS/ENGLISH
Type 7: Unheated Storage

	Authorized	Approved	Existing	Memo
I. Equipment Storage				
A. Unheated Storage	1580.0	1580.0	0.0	
(1) Unit/Individual Storage	1436.0	1436.0		IA1
(2) Staging Area	144.0	144.0		IA2
Total Unheated Storage Net Area	1580.0	1580.0		
Structural Allowance (10% of Net)	158.0	158.0		Struc - Un
Total Unheated Storage Gross Area	1738.0	1738.0	0.0	
Outgranted Area			0.0	
Total Unheated Storage Available Gross Area			0.0	
II. Supporting Facilities				
A. Privately Owned Vehicle (POV)				
(1) Parking (SY)	4235.0	4235.0		IIA1
B. Fencing (LF)	0.0	0.0		IIB
C. Lighting (EA)	0	0		IIC
D. Access Roads (SY)	424.0	424.0		IID

III. Total Square Footage for:	Storage
A. Authorized Size	1738.0
B. Approved Size	1738.0
C. Existing Size of Alteration	0.0
D. Size of Addition	0.0
E. Size of New Building	1738.0

Project Totals - ANALYSIS/ENGLISH

	Authorized Size	Approved Size	Existing Size for Alteration	Size Of Addition	Size Of New Building
Center	42,238	43,136	26,420	16,716	0
OMS	2,405	3,081	2,704	377	0
UNH STG	1,738	1,738	0	0	1,738
Totals (SF) :	46,381	47,955	29,124	17,093	1,738

Project Number : PA008
Project Title : Space Analysis
Date : 2/3/2003

Functional Space Details - ANALYSIS/ENGLISH

Type 16: Land

	Authorized	Approved	Existing	Memo
I. Land (Acres)	0.00	0.00	4.50	Land

Outgranted Area	4.50
Total Available Acres	0.00

12 - Assigned Unit Data

12 ASSIGNED UNIT DATA

NOT AVAILABLE AT TIME OF FULL FACILITY ASSESSMENT

13 – Oil Tank Removal

OIL TANK REMOVAL OCT 96

ENGINEERING TECHNOLOGIES ASSOCIATES, INC.

3458 ELLICOTT CENTER DRIVE
ELLICOTT CITY, MD 21043
(410) 461-9920 BALT.
(301) 621-4690 WASH.

UST CLOSURE REPORT
FOR
WILSON KRAMER USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017-2166
CONTRACT NO. DACA31-95-D-0106
DELIVERY ORDER NO. 0004

OIL TANK REMOVAL - OCT 96

Prepared by:

Engineering Technologies Associates, Inc.
3458 Ellicott Center Dr.
Ellicott City, MD 21043

November 1996

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1.0 INTRODUCTION

This closure report has been completed in response to the removal of a 5,000 gallon underground storage tank at the Wilson Kramer United States Army Reserve Center in Bethlehem, PA. The tank was used to store #2 fuel oil for the purpose of space heating, thereby exempting the tank from state or federal regulation. The removal was done as part of an ongoing contract with the Corps of Engineers (COE), Contract No. DACA31-95-D-0106.

2.0 RELEASE INVESTIGATION AND CONFIRMATION STEPS

2.1 EVIDENCE OF RELEASE AND RELEASE DETECTION

Release detection monitoring was not conducted prior to excavation and removal of the tanks.

2.2 ACTIONS TAKEN TO REMOVE THE TANK

The tank was removed for permanent closure on October 30, 1996.

Approximately 1,610 gallons of fuel oil and 60 gallons of sludge was removed from this tank prior to excavation of the tank. Hazleton oil was used to supply Vac-trucks to remove all liquid from the tank. Copies of the Non-hazardous waste manifest are included in Appendix B.

The tank was removed using a backhoe. Copper supply and return lines were removed, and the pump in the boiler room was dismantled and removed. The tank and lines were inspected for holes (none were evident), loaded onto a flatbed and transported by Sensenig Salvage to their recycling facility in Chambersburg, PA. A two foot thick concrete hold down pad was present below the tank, and was left in place.

3.0 SAMPLING

No groundwater was encountered in either excavation, the only required sampling was of soil.

Soil samples were taken in the excavation and in the stockpiled soil, prior to backfill operations. Samples were analyzed for Naphthalene, Fluorene, Phenanthrene, Benzo(a)anthracene, Benzo(a)pyrene by EPA method 8270B. The new PADER sampling criteria, which took effect August 1, 1996, was used even though the tanks are not regulated by the state of Pennsylvania.

Soil sample results are included in Appendix C. Sample results are all well below regulatory action levels.

All sampling and laboratory analysis were completed using written quality assurance and quality control (QA/QC) standards overseen by the CQC manager. Laboratory analysis were performed in accordance with USEPA method 8270B and as specified in the WLSI Quality Assurance Plan.

4.0 TANK AND PIPING DISPOSAL

The tank and piping were hauled off-site to be scrapped by Sensenig Salvage in Chambersburg, PA. A copy of the "Certificate of Storage Tank Disposal" is included in Appendix E.

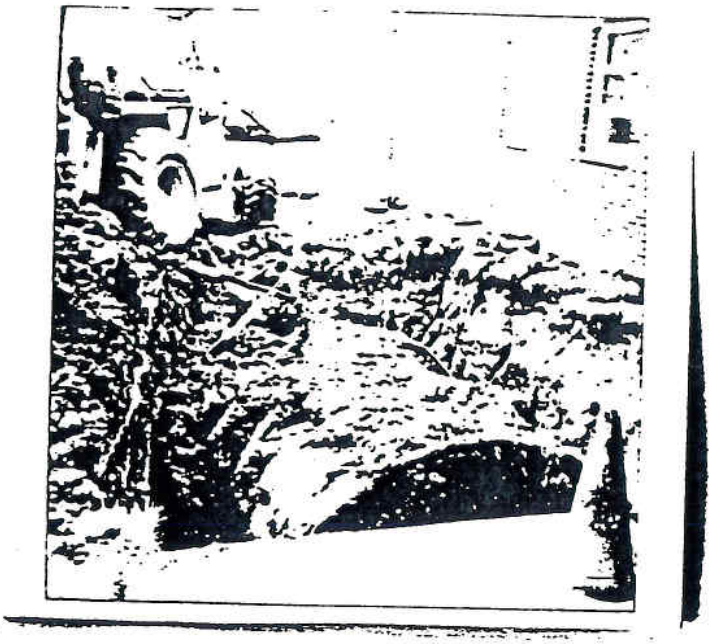
5.0 CLOSURE REPORT REQUIREMENTS

This tank, having been used to store fuel oil for the purpose of space heating, is exempt from regulation by the state or federal government. This closure report is supplied to the Corps of Engineers as a part of the contract agreement, and does not serve to fulfill any regulatory requirements.

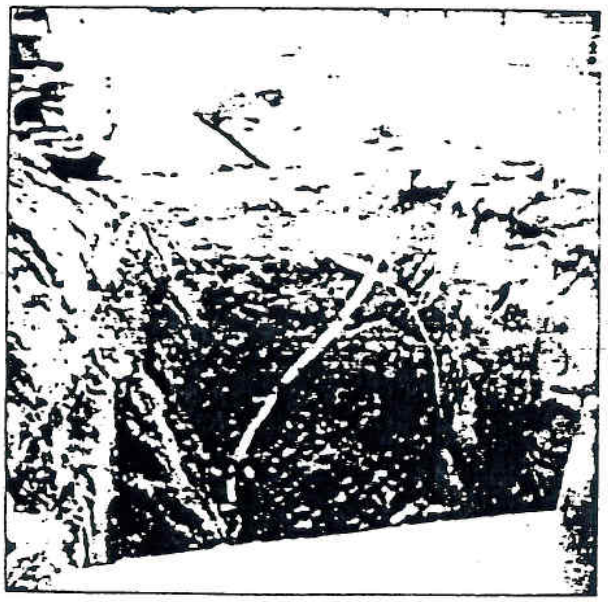
6.0 SITE RESTORATION

The excavations was backfilled with crushed stone and soil. Topsoil, seed and straw were placed over all the disturbed areas.

APPENDIX A

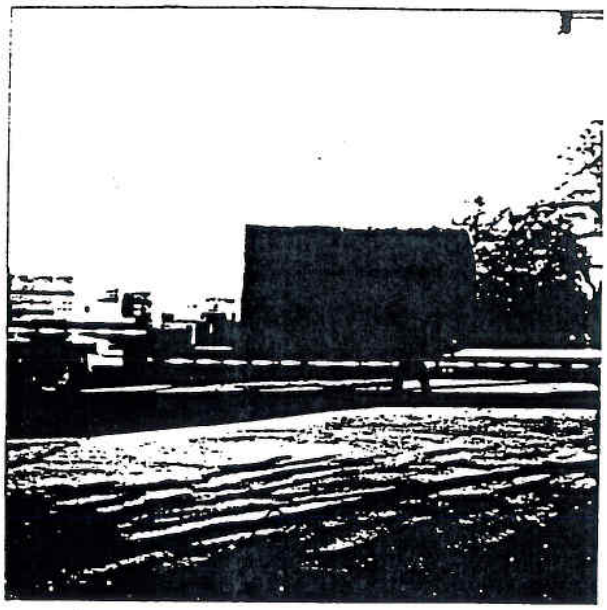


10/30/96–UST EXPOSED TO TOP PRIOR TO REMOVAL



10/30/96–EXCAVATION FOLLOWING TANK REMOVAL

DESIGNED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC.	WILSON KRAMER USARC PHOTOGRAPHIC SHEET 1	
DRAWN R.G. 11/6/96 DATE	ENGINEERS • PLANNERS • SURVEYORS		
CHECKED ____ DATE	3400 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043		
APPROVED ____ DATE		SCALE: NA CONTRACT NO: DACA41-95-D-0106 DATE: 11/5/96 SHEET:	



10/31/96—TANK LOADED ONTO FLATBED READY FOR TRANSPORTATION

DESIGNED ____ DATE DRAWN R.G. 11/5/96 DATE CHECKED ____ DATE APPROVED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS • PLANNERS • SURVEYORS 3400 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 [illegible]	WILSON KRAMER USARC PHOTOGRAPHIC SHEET 2	
		SCALE: NA	CONTRACT NO.: [illegible]-95-D-0106 DATE: 11/5/96 SHEET:

APPENDIX B

"Certificate of Storage Tank Disposal"

Transfer of Responsibility to

Sensenig Salvage

Chambersburg, Pennsylvania

PHONE: (717) 369-4283 DATE _____

The undersigned Salvage Facility accepts responsibility for the disposal of the tank(s) listed below in accordance with current Federal, State and Local regulations.

Having been permanently removed from service, these tanks ARE NOT . . . . .

1. Vapor free
2. Suitable for storage of Food Liquids intended for Human or Animal consumption.
3. Suitable for Underground storage of FLAMMABLE/COMBUSTIBLE/HAZARDOUS Liquids or materials.

5000	Gallon tank	Former Contents	heating oil
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	
	Gallon tank	Former Contents	

Owner Location
Name: USARC
Address: 2940 Airport Rd.
Bethlehem, Pa
Signature: [signature]
Date: 10-31-96

* CONTRACTOR *

E.T.A.

Salvage Facility
Sensenig Salvage
792 Coble Road
Chambersburg, PA 17201
Signature: Keith Sensenig
Date: 10-31-96

E... ...0005...58

HAZLETON OIL SALVAGE LTD.

P.O. Box No. 2339 Hazleton, PA 18201
Phone# 800-458-3496 EPA#PA0000101816

H.O.S. LTD. TAKES FULL RESPONSIBILIT
For The Pickup, Transportation And Disposit
Of All Waste Effluent Accepted By Our Compa
YOU CAN TRUST US WITH *ALL* YOUR DISPOSAL NEED

WORK ORDER # 023421

Customer PO # _____

Phone _____

Bill To: Engineering Technologies Assoc. Inc

Address 3458 Ellicott center Dr

City: State Ellicott city MD Zip 21043

Date 10/30/96 Driver Ken / Vehicle F3

Job Site USARC

Address ~~[illegible]~~ City Bethlehem

Time Arrived _____ Time Finished _____

QUANTITY	UNITS	IF PRICED: USE AS YOUR INVOICE	UNIT PRICE	TOTALS
1610	gal	Waste #2 oil pumped from underground 5K tank		

TANK CLEANING	Yes	No	EXCESS TANK TIME	hrs.	min.	
Driver Signature if COD		CK. #	Cash?	NET 15 DAYS	Sum Total	

GENERATOR CERTIFIES HIS PRODUCT AS NON-HAZARDOUS

Accepted by: SIGN _____ Accepted by PRINT _____ Representitive of: _____

HAZLETON OIL SALVAGE LTD.

P.O. Box No. 2339 Hazleton, PA 18201
Phone# 800-458-3496 EPA#PA0000101816

H.O.S. LTD. TAKES FULL RESPONSIBILIT
For The Pickup, Transportation And Dispositi
Of All Waste Effluent Accepted By Our Compa
YOU CAN TRUST US WITH *ALL* YOUR DISPOSAL NEE

WORK ORDER # 023644

Customer PO # _____

Phone _____

Bill To: [illegible]

Address 3458 Ellicott Cent. [illegible]

City: State Ellicott City Zip Maryland 21043

Date 10/30/[illegible] Driver [illegible] Vehicle [illegible]

Job Site USARC

Address Beth Bloom City [illegible]

Time Arrived _____ Time Finished _____

QUANTITY	UNITS	IF PRICED: USE AS YOUR INVOICE	UNIT PRICE	TOTALS
60	gals	#2 oil tank bottoms (USARC Beth)	$ 80	$ 48 0
		USARC Bloom		$ 312 0
		Vac Tk Service		300

TANK CLEANING	Yes	No	EXCESS TANK TIME	hrs. min.		
Driver Signature if COD		CK #	Cash?	NET 15 DAYS	Sum Total	$ 660 00

GENERATOR CERTIFIES HIS PRODUCT AS NON-HAZARDOUS

Accepted by SIGN [illegible] Accepted by PRINT 201111 Representitive of:

APPENDIX C

PHONE ORDER TAKEN BY: _____

DATE ORDERED: / /

Wright Laboratory Services, Inc.
CHAIN OF CUSTODY RECORD

DATE REQUESTED: / /

REPORT TO: ENGINEERING TECHNOLOGIES ASSOCIATES.	CONTACT Robert Gribben	PHONE NO. (301) 606-3815 x110	SALESMAN
	PROJECT NAME KRAMER USARC	PROJECT NO.	P.O. NO.
	DATE SAMPLED 10-30-96	SAMPLER(S) Bill BRIGHAM	

BILL TO:

ANALYSES TO BE PERFORMED

	SAMPLE DESCRIPTION/LOCATION	TIME OF SAMPLING	TOTAL NO. OF CONTAINERS	EPA METHOD 8270 B *	REMARKS
1	Soil / BETH -1	1424	1	1	Supply
2	Soil / BETH -2	1426	1	1	& TANK
3	Soil / BETH -3	1428	1	1	FAR END
4	Soil / BETH -4	1430	1	1	Stock Pile
5					
6					
7					
8					
9					
10					

REMARKS: * Naphthalene, Fluorene, Phenanthrene, Benzo(a)anthracene, Benzo(a)pyrene (8290B)

Due 11-07-96 38 10-31-96 08

SHIPPING CARRIER:

SHIPPING TICKET NUMBER:

CHAIN-OF-CUSTODY SEAL: INTACT BROKEN ABSENT

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME
[signature]	10/30	1420	[signature]	10/30	1430	[signature]	10/13	1615
RECEIVED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
RELINQUISHED BY:	DATE	TIME	RELINQUISHED BY:	DATE	TIME	RECEIVED BY: JHK	DATE 10-30-96	TIME 1810

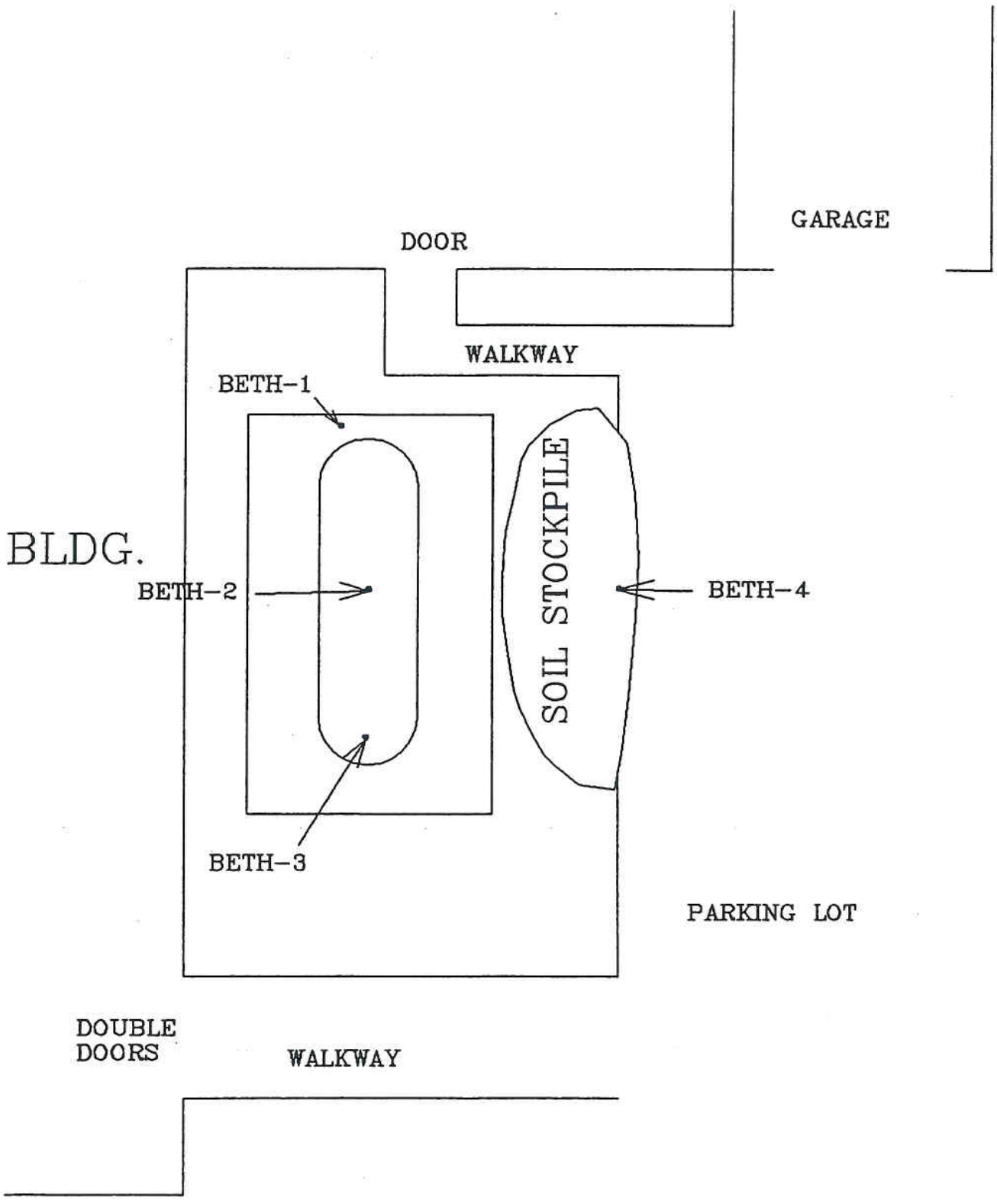
WHITE - ORIGINAL CANARY - CUSTOMER MAILING PINK - FILE GOLDENROD - CUSTOMER

NOV-05-1996 10:01 7179480143 94% P.25

SAMPLE TRACKING NOTEBOOK

SITE LOCATION KRAMERUSARC

SAMPLE NUMBER	SAMPLE MATRIX	NUMBER OF BOTTLES	SAMPLE CONTAINER SIZE	REMOVED BY	REMOVED DATE + TIME	RETURNED BY	RETURNED BY DATE + TIME	SAMPLE LOCATION (TANK EXC, PIPELINE EXC EXCAVATION SOIL)
BETH - 1	EPA 8220 B	1	4 oz	W. T. Brigham	12/30/96 1424			TANK Supply
BETH - 2	↓	1	↓	↓	↓ 1426			↓ ℄
BETH - 3	↓	1	↓	↓	↓ 1428			↓ FAR END
BETH - 4	↓	1	↓	↓	↓ 1420			↓ Stockpile



DESIGNED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC.	WILSON KRAMER USARC SAMPLING LOCATIONS	
DRAWN R.G. 11/5/98 DATE	ENGINEERS • PLANNERS • SURVEYORS		
CHECKED ____ DATE	3438 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043 BALTO. 461-6920 WASH. 621-4680		
APPROVED ____ DATE		SCALE NA	CONTRACT NO. DACA31-96-D-0106 DATE 11/5/98 SHEET

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-1

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:24 PM
Location	: Beth 1	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	84	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	420	ug/kg	70	8270B
Benzo(a)pyrene	360	ug/kg	70	8270B
Fluorene	140	ug/kg	100	8270B
Naphthalene	N.D.	ug/kg	100	8270B
Phenanthrene	880	ug/kg	100	8270B
Benzo(a)anthracene	500	ug/kg	Dry Weight	
Benzo(a)pyrene	430	ug/kg	Dry Weight	
Fluorene	170	ug/kg	Dry Weight	
Naphthalene	< 120	ug/kg	Dry Weight	
Phenanthrene	1000	ug/kg	Dry Weight	

N.D. - Not Detected

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-1

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT		
GAS CHROMATOGRAPH MASS SPEC.			
BASE NEUTRAL COMPOUNDS			
2-Fluorobiphenyl	68	% Recovery	Surrogate
Nitrobenzene-d5	58	% Recovery	Surrogate
Terphenyl-d14	100	% Recovery	Surrogate
WATER QUALITY			
Total Solids	87	%	Duplicate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	21:05
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-2

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:26 PM
Location	: Beth 2	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	83	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	430	ug/kg	70	8270B
Benzo(a)pyrene	390	ug/kg	70	8270B
Fluorene	N.D.	ug/kg	100	8270B
Naphthalene	N.D.	ug/kg	100	8270B
Phenanthrene	160	ug/kg	100	8270B
Benzo(a)anthracene	520	ug/kg	Dry Weight	
Benzo(a)pyrene	470	ug/kg	Dry Weight	
Fluorene	< 120	ug/kg	Dry Weight	
Naphthalene	< 120	ug/kg	Dry Weight	
Phenanthrene	190	ug/kg	Dry Weight	

N.D. - Not Detected

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT	
GAS CHROMATOGRAPH MASS SPEC.		
BASE NEUTRAL COMPOUNDS		
2-Fluorobiphenyl	85	% Recovery Surrogate
Nitrobenzene-d5	78	% Recovery Surrogate
Terphenyl-d14	99	% Recovery Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	21:32
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name	: Engineering Tech.	Customer PO#	:
Job Number	: ET2135-RG-MC	Date Sampled	: 10/30/96 02:28 PM
Location	: Beth 3	Date Received	: 10/30/96
Sample State	: Soil Grab	Date Approved	: 11/05/96
Collector	: WJB	Discard Date	: 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	83	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	370	ug/kg	70	8270B
Benzo(a)pyrene	320	ug/kg	70	8270B
Fluorene	180	ug/kg	100	8270B
Naphthalene	110	ug/kg	100	8270B
Phenanthrene	740	ug/kg	100	8270B
Benzo(a)anthracene	450	ug/kg	Dry Weight	
Benzo(a)pyrene	390	ug/kg	Dry Weight	
Fluorene	220	ug/kg	Dry Weight	
Naphthalene	130	ug/kg	Dry Weight	
Phenanthrene	890	ug/kg	Dry Weight	

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-3

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT	
GAS CHROMATOGRAPH MASS SPEC.		
BASE NEUTRAL COMPOUNDS		
2-Fluorobiphenyl	83	% Recovery Surrogate
Nitrobenzene-d5	72	% Recovery Surrogate
Terphenyl-d14	99	% Recovery Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	21:59
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

ATTN: Mr. Rob Gribben
ENGINEERING TECH. ASSOC. INC.
3458 ELLICOTT CENTER DRIVE
SUITE 101
ELLICOTT MD 21043

November 5, 1996

LAB ANALYSIS REPORT

Job Name : Engineering Tech.
Job Number : ET2135-RG-MC
Location : Beth 4
Sample State : Soil Grab
Collector : WJB

Customer PO# :
Date Sampled : 10/30/96 02:30 PM
Date Received : 10/30/96
Date Approved : 11/05/96
Discard Date : 11/17/96

TEST/PARAMETER	RESULT	UNITS	DETECTION LIMIT	METHOD
WATER QUALITY				
Total Solids	80	%	1	3540B
Diesel Fuel, Fuel Oil #2				
GAS CHROMATOGRAPH MASS SPEC.				
BASE NEUTRAL COMPOUNDS				
Benzo(a)anthracene	N.D.	ug/kg	70	8270B
Benzo(a)pyrene	N.D.	ug/kg	70	8270B
Fluorene	N.D.	ug/kg	100	8270B
Naphthalene	N.D.	ug/kg	100	8270B
Phenanthrene	N.D.	ug/kg	100	8270B
Benzo(a)anthracene	< 88	ug/kg	Dry Weight	
Benzo(a)pyrene	< 88	ug/kg	Dry Weight	
Fluorene	< 130	ug/kg	Dry Weight	
Naphthalene	< 130	ug/kg	Dry Weight	
Phenanthrene	< 130	ug/kg	Dry Weight	

N.D. - Not Detected

**** Continued ****

Wright Laboratory SERVICES INC.
ENVIRONMENTAL TESTING LABORATORIES

Sample # 89579-4

November 5, 1996

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

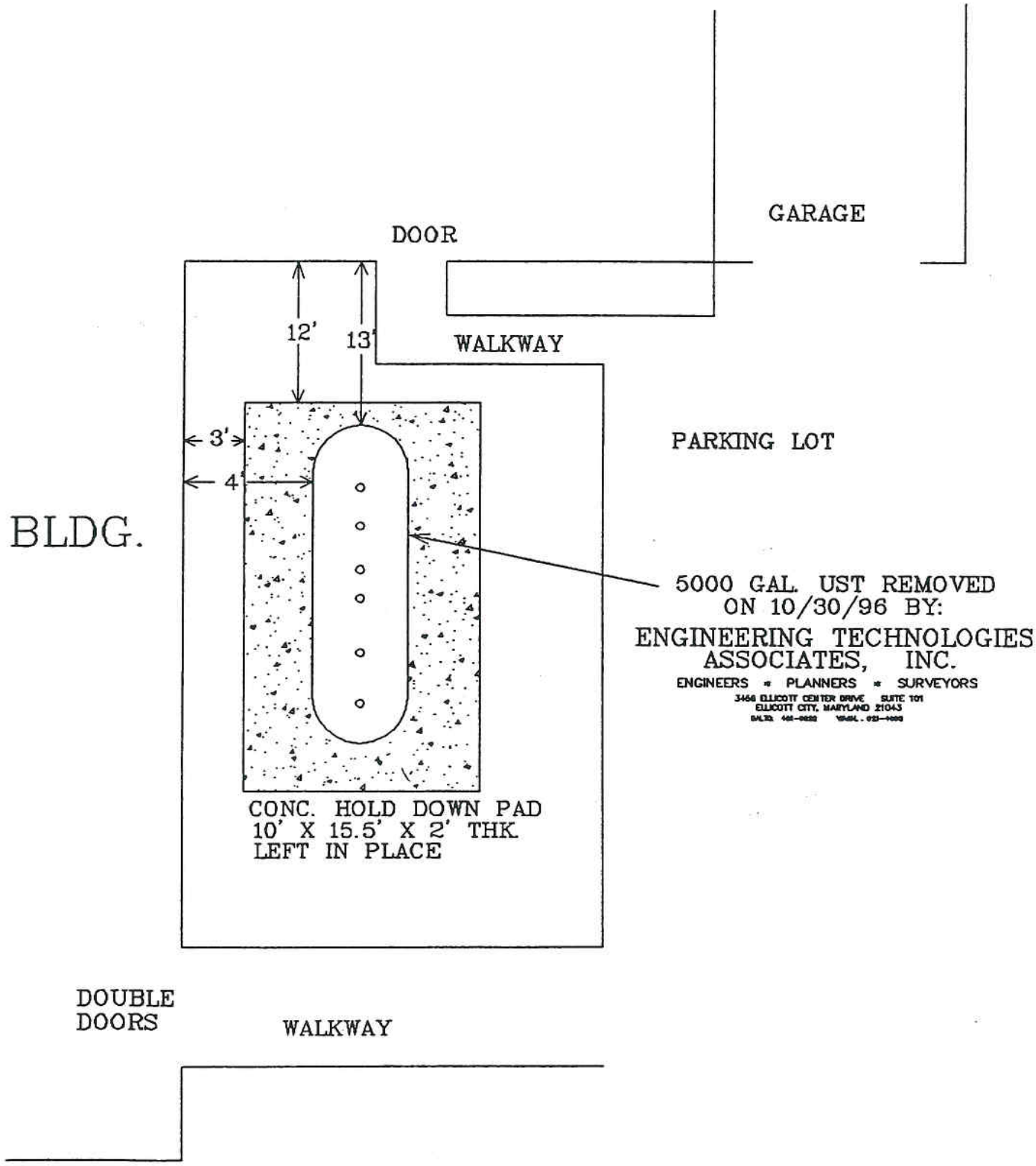
Q/A PARAMETER	RESULT	
GAS CHROMATOGRAPH MASS SPEC.		
BASE NEUTRAL COMPOUNDS		
2-Fluorobiphenyl	75	% Recovery Surrogate
Nitrobenzene-d5	68	% Recovery Surrogate
Terphenyl-d14	101	% Recovery Surrogate

TEST/PARAMETER	PRESERVATIVE	TECH	ANALYSIS DATE	TIME
Total Solids	Cool to 4 Deg. C	TPL	10/31/96	05:00
BASE NEUTRAL COMPOUNDS	Cool to 4 Deg. C	CWW	11/02/96	22:26
3550A Ultrasonic Extraction		JEK	11/01/96	

Respectfully Submitted,
WRIGHT LABORATORY SERVICES

James L. Ressler
Laboratory Manager

APPENDIX D



DESIGNED ____ DATE DRAWN R.G. 11/5/96 DATE CHECKED ____ DATE APPROVED ____ DATE	ENGINEERING TECHNOLOGIES ASSOCIATES, INC. ENGINEERS * PLANNERS * SURVEYORS 3468 ELLICOTT CENTER DRIVE SUITE 101 ELLICOTT CITY, MARYLAND 21043	WILSON KRAMER USARC AS BUILT DRAWING	
		SCALE: NA	CONTRACT NO.: DACA31-96-D-0106 DATE: 11/5/96 SHEET:

APPENDIX E

ENGINEERING TECHNOLOGIES ASSOC., INC.
UST CLOSURE REPORT FORM

Prepared by:	Robert Gribbon	Date:	11/5/96
Owner Name	Facility Egr. - Ft. Indiantown	Facility Name	Wilson Kramer USARC
Address	1119 Utility Rd. Annville, PA	Address	2940 Airport Rd. Bethlehem, PA 18017
Contact Person	Mr. Jim Troese	Contact Person	Mr. Berk
Telephone No.	(717) 782-3750	Telephone No.	(610) 974-8209
ID No.		ID No.	

Description of UST

Tank No.	1						
Contents	#2F/O						
Capacity (gal.)	5000						
Material (steel, etc.)	Steel						
Contents volume (gal.	1,670						
Installation Year	1975						

Closure Method

Removal	✓						
Abandon in Place							

Samples

ank content sample	0						
it soil samples	3						
# stockpile soil sampl	1						
#wash water samples	—						
# groundwater sample	—						

Contamination Information

Depth to groundwater (feet) —
Groundwater contamination (Y?N) No
Soil contamination quantity (cy) 0
Describe excavated soil (sandy, clay, etc.) Clay, clean
Other pertinent information:

Remediation Actions

Soil Transportation (by whom) —
Soil disposal (operator & location) —
Soil Treatment (where/method) —
Groundwater treatment method —
Effluent discharge location —
Monitoring wells (Qty., depth & diameter) —
Wash water Transportation (by whom) —
Wash water disposal (operator & location) —
'ash water treatment method —
ık contents transportation (by whom) Hazleton Oil
Tank contents disposal (operator& Location) Lancaster Oil - Lancaster, PA
Tank content Recycling (operator & Location) Lancaster Oil - Lancaster, PA

14 - Deed

COARC SITE, ALLENTOWN-BETHLEHEM, PA.
TRACT NO. 100

ALL that certain tract or parcel of ground situate along the east side of the Allentown-Schoenersville Road (Legislative Route 39031, Traffic Route 987) in the Thirteenth (13th) Ward, City of Bethlehem, County of Lehigh, Commonwealth of Pennsylvania, bounded and described as follows, to wit:

BEGINNING at a point on the easterly street line of the Allentown-Schoenersville Road as proposed by the City of Bethlehem, said point being in a line of lands now or formerly of the General State Authority (Bethlehem Barracks Pennsylvania State Police); thence extending N 9° 13' 30" E along the easterly street line of the Allentown-Schoenersville Road a distance of 308.32 feet to a point; thence by a curve to the right having a radius of 75.0 feet, the chord thereof having a bearing of N 49° 05' 20" E a distance of 96.14 feet, and an arc distance of 104.36 feet to a point on the southerly street line of a proposed 60.0 foot wide street; thence extending eastwardly and southwardly in and through the lands of the Lehigh Valley Industrial Park, Inc., the grantors hereof of which this conveyance is a part, the following two courses and distances, to wit: N 88° 57' 10" E along the southerly street line of a proposed 60.0 foot wide street a distance of 441.89 feet to a point; thence extending S 1° 02' 50" E a distance of 365.0 feet to a point in line of lands now or formerly of the General State Authority; thence extending S 88° 57' 10" W along lands now or formerly of the General State Authority a distance of 570.67 feet to a point on the easterly street line of the Allentown-Schoenersville Road, being the point or place of beginning, containing 4.49 acres strict measure. Bounded on the west by the Allentown-Schoenersville Road; on the north and east by other lands of the Lehigh Valley Industrial Park, Inc., and on the south by lands now or formerly of the General State Authority.

BEING part of the same premises which Albert A. Seip and Eva C. Seip, his wife, granted and conveyed unto Lehigh Valley Industrial Park, Inc., by deed dated May 21, 1959, and recorded in Deed Book 943, page 213, Lehigh County records.

SUBJECT to existing easements for public roads and highways, public utilities, railroads and pipelines.

15 – Range, Lead Clearance Certification

IT Corporation
11499 Chester Road
Cincinnati, OH 45246-4012
Tel. 513.782.4700
Fax. 513.782.4807
A Member of The IT Group

October 28, 2002

Salvatore Zangari
Facility Management Specialist
Wilson-KramerUS Army Reserve Center
2940 Airport Road
Bethlehem, PA 18017

RE: Range Cleaning Clearance Certification – Facility ID PA008, 99th RSC
USARC Nationwide Indoor Rifle Range Cleanup Project
Contract No. DACA 27-99-D-0021, Delivery Order No. 14

Dear Mr. Zangari:

With this letter, IT Corporation certifies that the recent range cleaning activities have successfully attained the project clearance objectives and the range is approved for your reoccupancy. Range clearance procedures consisted of the following:

- A surface-by-surface visual examination to verify that:
  - The lead hazard control work was completed as required
  - No known or suspected lead-dust surfaces are still present in the range at levels that exceed the project clearance level of 200 µg/sf.
- Clearance sampling consisting of collecting wipe samples from floor, wall, and ceiling surfaces and analyzing the samples for lead.

A formal project report for the range cleanup will be submitted upon completion of all waste disposal activities and receipt of disposal certificates.

Please note that although the range has been cleaned to below the project clearance levels, small amounts of lead dust may be present in the range. Any remodeling activities that may cause a release of dust on wall and floor surfaces should be undertaken in consideration of the Occupational Safety and Health Administration (OSHA) Construction Industry Standard for Lead (29 CFR 1926.62). This OSHA standard should be reviewed before any remodeling activities are conducted. The OSHA standard requires certain controls to reduce or maintain worker exposures less than the Permissible Exposure Limit (PEL) of 50 µg of lead per cubic meter (m^3). The employer must protect the worker from lead.

We appreciated your cooperation and support during the range cleanup. Should you have any questions, please contact the undersigned at (513) 782-4700.

Sincerely,

IT CORPORATION

W. H. Scoville

William H. Scoville, P.E.
Project Manager

cc: David Dierken, U.S. Army Corps of Engineers, Louisville District
Brent Moss, 99th RSC
Glenn Speerstra, 99th RSC

16 - Radon Report & Letters

RADON MITIGATION SYSTEM

WILSON-CRAMER USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

CONTRACT NO. DAKF36-95-W-2583

SEPTEMBER 1995

IMPORTANT RADON INFORMATION ENCLOSED

DO NOT DISCARD

ECOSPHERE CORPORATION
ENVIRONMENTAL CONSULTANTS AND ENGINEERS

ECOSPHERE CORPORATION
ENVIRONMENTAL CONSULTANTS AND ENGINEERS

(610) 367-2266

Boyertown, Pa

SOIL DEPRESSURIZATION SYSTEM

OPERATION MANUAL & SYSTEM MAINTENANCE

A soil depressurization system has been installed in order to reduce radon concentrations to as low as is feasible.

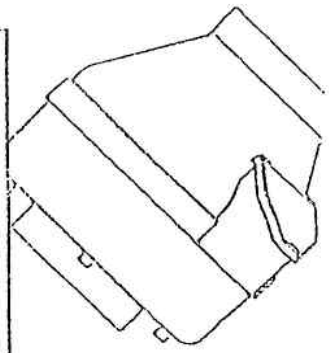
Soil gases (radon) accumulate in the soil that surrounds and underlies the structure. The trapped gas then is drawn into the occupied space through openings in the slab such as structural cracks, control and open floor/wall joints, utility penetrations and exposed soil areas. The intent of the depressurization system is to collect the soil gas before it can be drawn into the occupied space. This is accomplished by using a fan to induce a low pressure under a slab or other membrane to draw radon laden soil gas into a sealed pipe system. When the soil is exposed to a low pressure field, soil gas reacts and travels into the sealed pipe system. The collected gases are channeled to and vented above the roof where they are safely dispersed into the atmosphere.

Openings in the basement floor and/or walls (holes, cracks, etc.) can have a detrimental effect on the effectiveness of the depressurization system by supplying all the air requirements of the fan system. These conditions could result in elevated radon concentration in the occupied spaces. Sealing these openings is necessary in order to prevent this condition and establish a strong pressure field in the affected area.

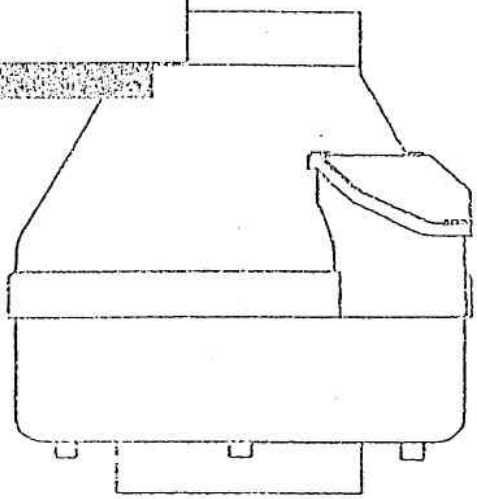
The fan or driver of the depressurization system should run continuously in order to maximize its effectiveness. Sealing work performed in conjunction with the fan system should also remain intact. Failure of either the fan or sealing components will likely result in elevated radon concentrations. Any structural changes may also reduce system effectiveness. Contact our Company to resolve any of these situations.

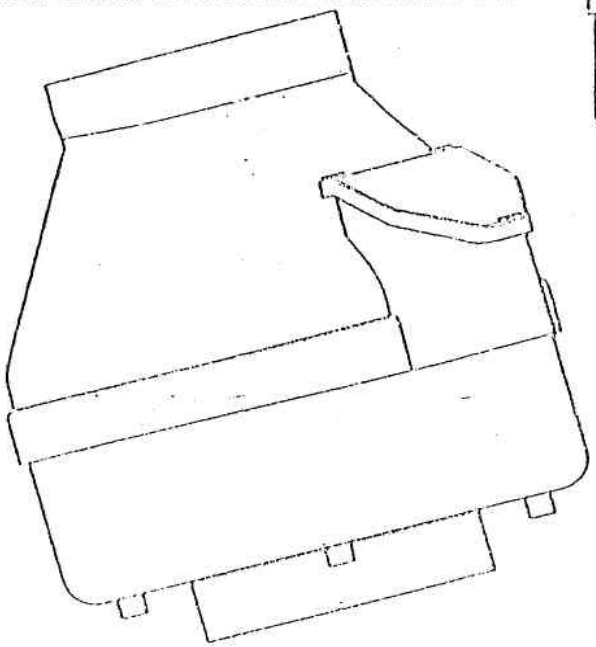
Routine maintenance of your radon system is simple. Check your U-tube monitoring gauge regularly! If the fluid level is at the indicated position it is likely that the fan system is performing properly. An annual inspection by your radon mitigation company to insure proper operation of your fan system and sealing components may be all that is required. This may involve monitoring sub-slab and pipe air flows as well as measuring long term (annual) radon concentrations. Contact the Ecosphere Corporation, for more information.

DynaVac XP Series Installation Instructions



By RadonAway™





XP101
XP151
XP201

RadonAway, Ward Hill, MA
P/N IN008 Rev A

RadonAway™

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The XP Series Fan is intended for use by trained, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of the XP Series Fan. This instruction should be considered as a supplement to EPA standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The XP Series Fan is designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the XP Series Fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

1.3 ACOUSTICS

The XP Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the XP Series Fan. The lack of cooling air may result in the XP Series Fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the XP Series Fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

The XP Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the XP Series Fan best suited for the sub-slab material can improve the slab coverage. The XP201 is better suited for tighter sub-slab materials (sand, dirt, etc.) as it has a higher static pressure performance. The XP151 is best utilized for looser aggregates (stone, drain tile, sump and block wall ventilation, etc.). The XP101 is suitable for small slabs and as a passive system booster or where power consumption is a concern. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.8 ELECTRICAL WIRING

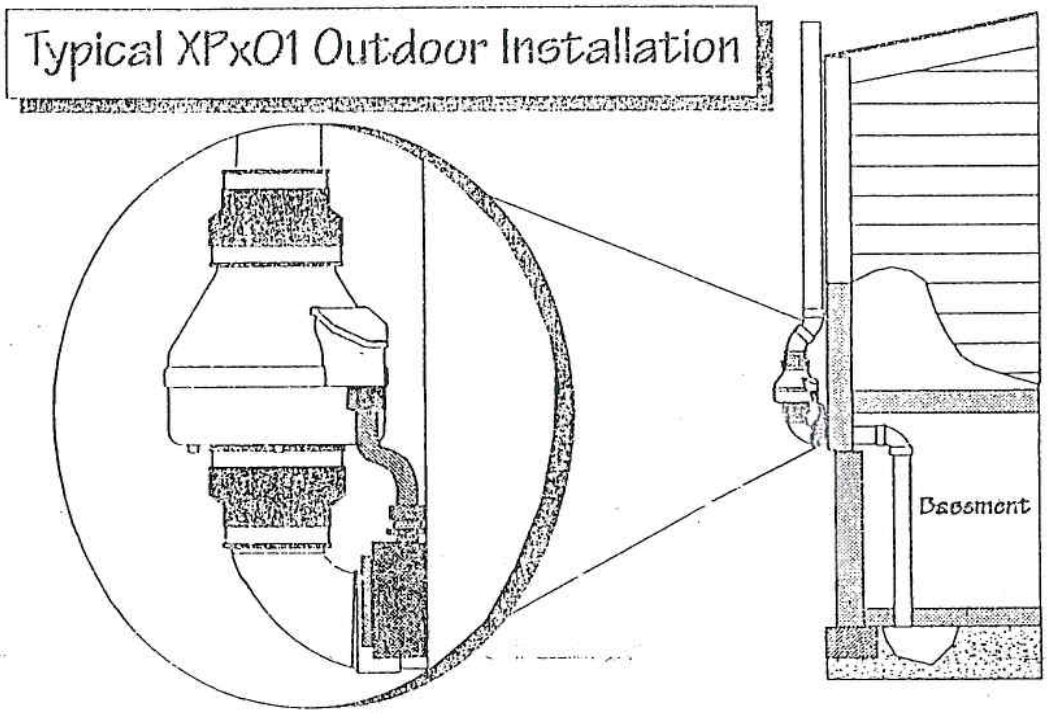
The XP Series Fan operates on standard 115V 60 Hz. AC. All wiring must be performed in accordance with the National Electrical Code and state and local building codes. All electrical work should be performed by a qualified electrician. Outdoor installations require the use of a U.L. listed waterlight conduit.

1.9 SPEED CONTROLS

The XP Series Fan is rated for use with electronic speed controls ,however, they are generally not recommended.

2.0 INSTALLATION

The XP Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The XP Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.6 OPERATION CHECKS

_____ Verify all connections are tight and leak-free.

_____ Insure the XP Series Fan and all ducting is secure and vibration-free.

_____ Verify system vacuum pressure with manometer. Insure vacuum pressure is less than maximum recommended operating pressure

(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)
See Product Specifications Addendum. If this is exceeded, increase the number of suction points.

_____ Verify Radon levels by testing to EPA protocol.

3.0 IMPORTANT INSTRUCTIONS TO INSTALLER

3.1 Inspect XP Series Fan for shipping damage within 15 days of receipt. Notify RadonAway of any damages immediately. RadonAway is not responsible for damages incurred during shipping. However, for your benefit, RadonAway does insure shipments.

3.2 There are no user serviceable parts inside the XP Series Fan. Do not attempt to open. Return unit to the factory for service.

3.3 Install the XP Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

4.0 WARRANTY INFORMATION CONTACT ECOSPHERE CORPORATION

Subject to applicable consumer protection legislation, RadonAway warrants that the XP Series Fan will be free from defective materials and workmanship for the period of three (3) years from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. To make a claim under these limited warranties, you must return the defective item to RadonAway with a copy of the purchase receipt. All other warranties, expressed or written, are not valid. RadonAway is not responsible for installation or removal cost associated with this warranty. In no case is RadonAway liable beyond repair or replacement of the defective product FOB RadonAway

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTABILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. Customer must provide a copy of the Bill of Sale to verify purchase date. If factory return is required, the customer assumes all shipping costs to and from factory.

Record the following for your records:

Serial No._____

Receipt Date September 1995

RadonAway

RadonAway Warranty

Subject to applicable consumer protection legislation, RadonAway warrants that this XP Series Fan will be free from defective materials and workmanship for the period of three (3) years from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. All other warranties, expressed or written, are not valid. RadonAway is not responsible for installation or removal costs associated with this warranty. In no case is RadonAway liable beyond repair or replacement of the defective product FOB RadonAway.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTABILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact your installer or the source from whom you purchased the product. DO NOT RETURN THE PRODUCT TO RADONAWAY.

Installed By:

Name Ecosphere Corporation, Ronald F. Simon
President

Address 46 S. Chestnut Street

City Boyertown

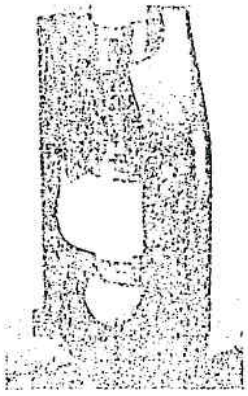
State PA Zip 19512

Phone 610-367-2266

Outdoor Fan Housing

Use this fan housing to protect and professionalize your outdoor fan installation. Made of durable paintable ABS plastic and measuring 31"x 13" x 13" the fan housing provides a clean finish to your installation.

P/N 28043-1

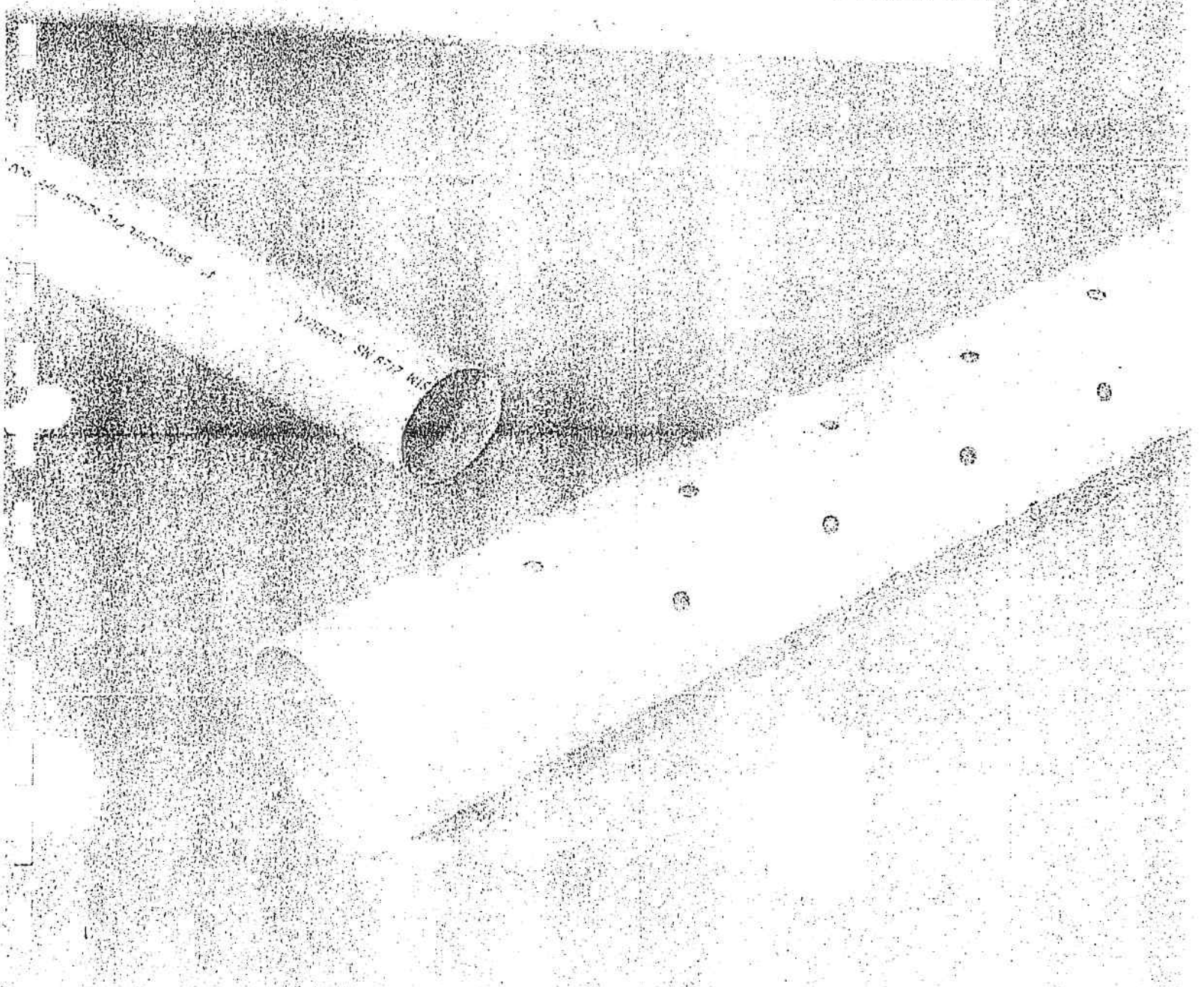


Bristolpipe

SPEC. PARA. NO. C.3-1

PVC SEWER AND DRAIN PIPE

Perforated and Solid Schedule 20



for use in field and
septic tank systems
ASTM D-2729

PRODUCT SPECIFICATIONS —

PVC SEWER AND DRAIN PIPE

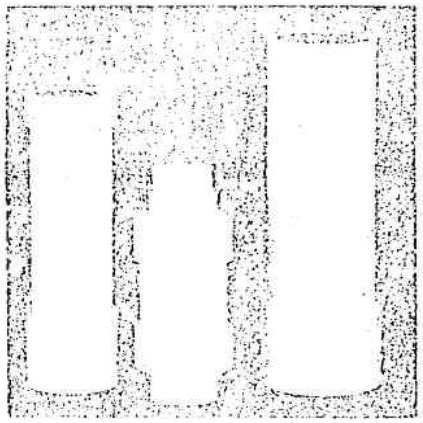
Nominal Size	Item Number	Feet Per Length	Feet Per Pallet	Outside Diameter	Wall Thickness	Pounds Per Foot
3"	SD65-10	10	880	3.250	.070	.500
4"	SD75-10	10	600	4.215	.075	.680
6"	SD95-10	10	260	6.275	.100	1.350

Note: Specify solid or perforated when ordering. Specify Indiana Code.

Specifications and Approvals

ASTM D-2729 Specifications for PVC Sewer and Drain Pipe. Meets Michigan standards.

PVC Exhaust Vent Muffler



For use on sub-slab vent stack to reduce air noise at
e exhaust vent.

Item	P/N
2" Inline Sched 40	24002
3" Sched 40	24003
4" Sched 40	24007

0

GENOVA
RAINGO 100

DOWNSPOUT

RW200	(2 ½" x 10')†	10 210 51
RB200	(2 ½" x 10')†	10 210 50

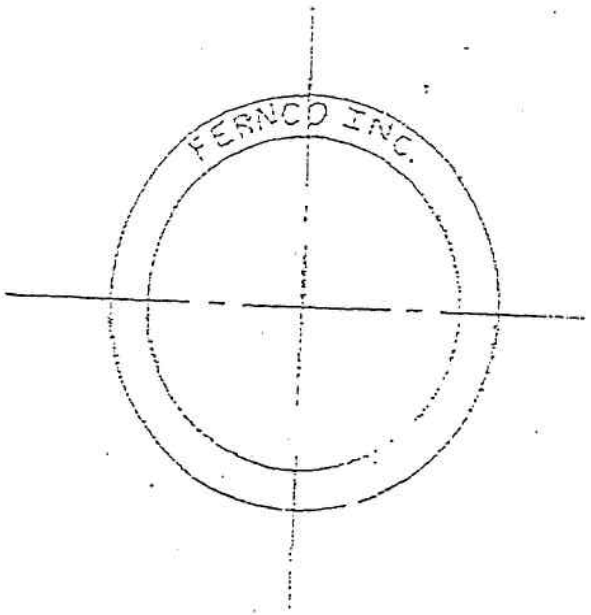
2-1/2" square and supplied in 10' lengths.

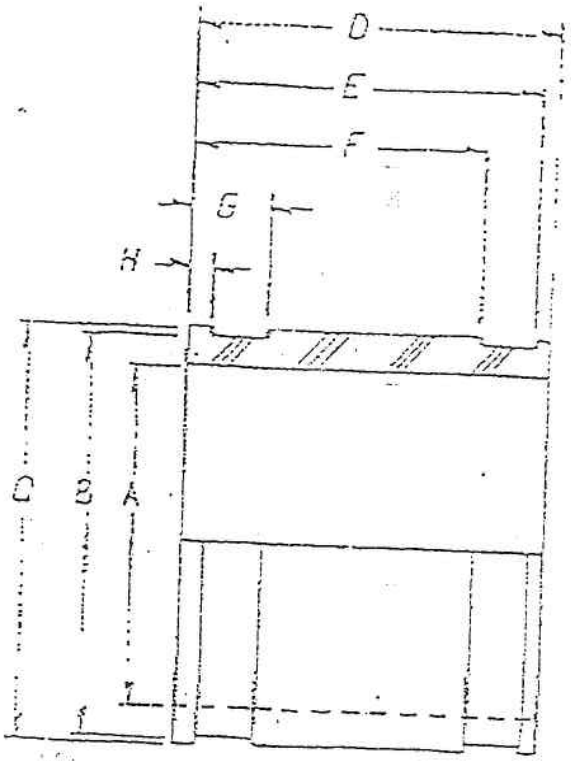
RAINGO™ 100, REGENCY 150 RAINWATER SYSTEMS AND DURASPOUT DOWNSPOUT

Genova warrants all of its Raingo™ 100 & Regency 150 gutter and downspout and Duraspout downspout to be manufactured in conformance to its rigid quality assurance standards and to function properly within the limitations posed by standard residential rain gutter applications when installed in accordance to good installation practice and specific recommendations outlined in our installation instructions.

Liability in all cases is limited to refund of the factory purchase price or factory replacement of the product proven to be unserviceable. In no case will claims for installation labor or consequential property damage be honored. "THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH EXTEND BEYOND THE ABOVE DESCRIPTION."

SPEC. PARA. NO. C





DIMENSIONS	
A dia.	6.38
B dia.	7.00
C dia.	7.130
D	6.00
E	5.81
F	5.19
G	.812
H	.187

FERNCO — 300 S. Dayton St. • Davison, Michigan 48423

SCALE: N.T.S.	APPROVED BY	DRAWN BY R.J.G.
DATE:		REVISED

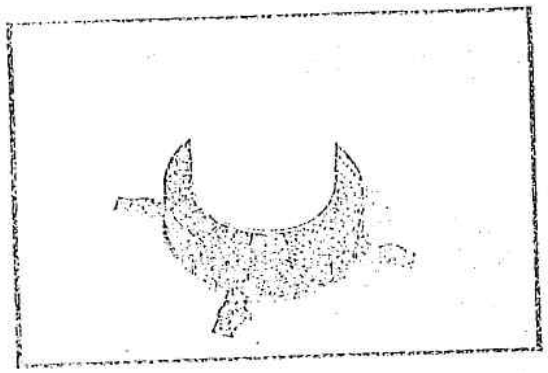
Part No 1056-66

DRAWING NUMBER

FIRE BARRIER PRODUCTS *FIRE STOPPING PRODUCTS FOR FLOOR AND WALL PENETRATIONS*

NELSON Pipe Choke System

Nelson Pipe Choke Systems are prefabricated devices used to seal penetrations and restore the fire rating to floors or walls in which openings have been made for the passage of non metallic pipes. When exposed to fire the intumescent material will expand to seal voids caused by deteriorating non-metallic pipe, maintaining the seal and preventing the passage of fire or smoke to adjacent areas.



Nelson PCS meets the requirements of all three building codes (National, Uniform, & Standard Building Code), as well as the National Electrical Code, the Life Safety Code, and most state and city codes.

Nelson PCS firestop device consists of a heavy gage metallic collar filled with a highly intumescent material.

- Non-Toxic
- Intumescent
- Quick, easy installation
- Tested to ASTM E-814 & UL 1479
- Economical
- Retrofitable

PCS-3	3"
PCS-4	4"

3M Fire Barrier Plastic Pipe Device

- One step installation
- Built-in smoke seal
- UL Classified
- 2 hour F and T ratings
- Easy to Inspect
- Sizes available: 1 1/2" & 2"

PPD-1	1 1/2"
PPD-2	2"

CLEVIS HANGER — Fig. 100 STEEL

SPEC. PARA. NO. C.3-2

The Clevis Hanger provides a vertical adjustment of approximately 1 ½ inches after pipe is in place. The lower nut adjusts pipe line to the proper pitch and the top nut when locked into position prevents loosening due to vibration.

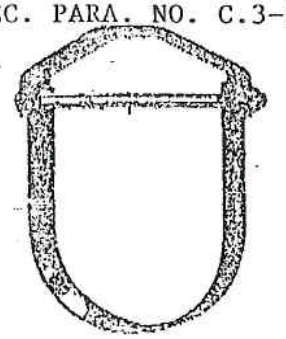
The nuts are not included in the price of hanger.

Hangers for 10 inch pipe and larger are furnished with spreaders on the cross bolts.

Approvals: Underwriters Laboratories listed and Factory Mutual approved for pipe sizes ¼" through 8". Complies with Federal Specification WW-H-171 and Manufacturers Standardization Society SP69 (type 1)

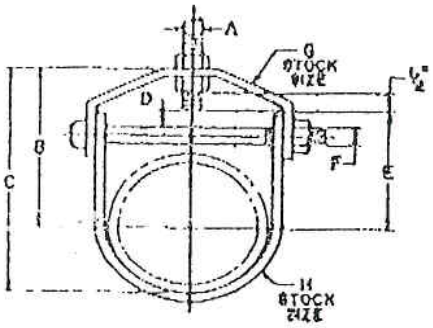
Regularly furnished black. Galvanized or painted to order.

Order by size and figure number.



DIMENSIONS IN INCHES

Pipe Size	Max. Recom. Load, lb.	A	B	C	D	E	F	G	H	Weight per 100
½	600	3/8	2 1/4	2 3/4	1/8	1 3/8	1/4	1/8 x 1	1/4 x 1	33
¾	600	3/8	2 1/8	3	5/8	1 1/8	1/4	1/8 x 1	1/4 x 1	38
1	600	3/8	2 3/4	3 3/4	5/8	1 3/4	1/4	1/8 x 1	1/4 x 1	42
1 1/4	600	3/8	3	3 3/4	3/8	2	1/4	1/8 x 1	1/8 x 1	47
1 1/2	600	3/8	3 1/8	4 3/8	1	2 1/8	1/4	3/16 x 1	1/8 x 1	59
2	600	3/8	3 3/8	4 7/8	1 1/8	2 3/4	1/4	3/16 x 1	1/4 x 1	64
2 1/2	1100	1/2	4 1/8	6	3/8	3 1/4	1/4	1/4 x 1 1/4	3/16 x 1 1/4	110
3	1100	1/2	4 1/8	6 1/8	5/8	3	3/16	3/16 x 1 1/4	3/16 x 1 1/4	120
3 1/2	1100	1/2	4 1/8	6 3/8	5/8	3 1/8	3/16	3/16 x 1 1/4	3/16 x 1 1/4	135
4	1400	5/8	5 1/8	7 3/8	7/8	4 1/8	1/8	1/4 x 1 1/4	3/16 x 1 1/4	205
5	1400	5/8	6 1/4	9	7/8	4 5/8	1/8	1/4 x 1 1/4	3/16 x 1 1/4	285
6	1900	3/4	7 1/4	10 1/2	1 1/8	5 3/4	1/8	1/4 x 1 1/8	3/16 x 1 1/4	370
8	2000	7/8	8 1/8	12 1/8	1 1/8	6 3/4	1/8	1/4 x 1 1/4	3/16 x 1 1/4	510
10	3600	7/8	10	13 3/8	1 1/2	8 1/4	3/8	3/8 x 1 3/4	1/4 x 1 3/4	880
12	3800	7/8	11 1/8	17 1/8	1 1/8	9 1/4	3/8	3/8 x 2	1/4 x 2	1150
14	4200	1	12 1/8	19 1/8	1 1/8	10 3/8	3/8	1/2 x 2	1/4 x 2	1400
16	4800	1	15	23	2 1/8	13 1/8	1	1/2 x 2 1/8	1/4 x 2 1/8	2100
18	4800	1 1/4	15 1/4	24 1/4	3 1/4	13 3/4	1 1/8	1/2 x 2 1/8	1/4 x 2 1/8	2435
20	4800	1 1/4	17 3/8	27 3/8	3 1/8	15 1/4	1 1/8	3/8 x 3	3/8 x 3	4255
24	4800	1 1/4	19 3/8	31 3/8	3 3/8	17 1/8	1 1/8	3/8 x 3	3/8 x 3	4850



...mers/
...leaners

SPEC. PARA. NO. C.3-[illegible]

	PRIMER	PRIMER	PRIMER	PRIMER	CLEANER
COLOR	PURPLE	PURPLE/ CLEAR	CLEAR	AQUA BLUE	CLEAR
APPLICATIONS	ALL PVC	ALL PVC & CPVC (EXC. CTS- CPVC)	COPPER TUBE SIZE (CTS)	ALL PVC	PVC, CPVC & ABS
UNDERWRITERS LAB.	F-656	F-656	N/A	F-656	N/A
INDUSTRY STANDARDS	[illegible]	[illegible]	[illegible]	[illegible]	N/A
MINIMUM SHELF LIFE	3 YEARS	3 YEARS	UNLTD.	3 YEARS	UNLTD.

Special Purpose Products

WELD-ON® 600: Drainage System Adhesive

This clean, light bodied, fast setting solvent base contact adhesive is intended specifically for joining Polyethylene, Polypropylene, PVC, ABS and Styrene non-pressure drainage pipe.

WELD-ON® 10 & 1950: 2-Component Adhesives

These 2-component adhesives are unique high strength reactive formulations ideal for joining, fabricating and repairing PVC and CPVC pipe and fittings. It may also be used for joining PVC and CPVC to such materials as metal, concrete, clay and others.

WELD-ON® 182 & 184: Plastic Roof/Flashing Cement

These versatile cements provide for all-weather repairing of types of roofs and for sealing leaks around flashings, skylight vents, gutters and other roof protrusions.

CLEAN-CUT®: Thread Cutting Oils

Offered in two types: light cutting oil for light duty hand or l RPM machine threading, and dark cutting oil for medium t heavy duty machine cutting and threading. The oils may b used in machining ferrous and non-ferrous metals, as well drilling, reaming, rolling, etc.

Joint Compounds

WELD-ON® 787: Gasket/Joint Lubricant

This is a thixotropic, vegetable soap base, water soluble lubricant, produced especially for use in assembling gasketed plastic pipe and fittings. Non-flammable and non-toxic, it can be used in sewer, conduit and waterlines (including potable water systems).

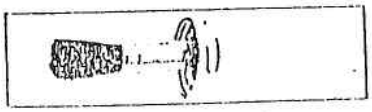
SEAL-ON® 500: Teflon® Thread Sealant

Seal-On 500 is a unique blend of Teflon particles and non-toxic oils, designed to fill and seal tiny imperfections in plastic and metal threads to provide a leak-proof pressure-tight seal.

KEY-TITE® 505: Pipe Joint Compound

This waterproof sealant is intended for threaded, gasketed flanged metal joints, used in flow lines for hot and cold wa aqueous solutions, low pressure steam, slurries, gases, compressed air, food products, acids and caustics.

Applicators

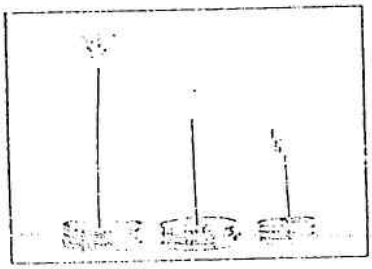


1" Brush Cap (BCP-1)

Roll-a Weld Roller (#3020)

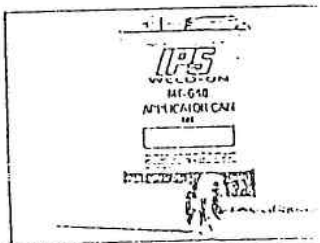
Empty Pint Can (MT-654)
Empty Quart Can (MT-651)
(Shown with BCP-1)

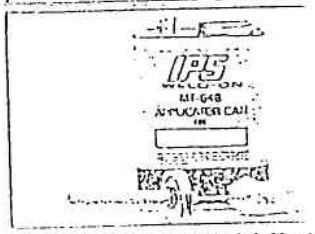
Empty Quart Can (MT-653)
(Shown with #3020)



Daubers
DQ-150 1½" dia., QL cans; for ¾" thru 3" pipe
DQ-150 1½" dia., PL cans; for ¾" thru 3" pipe
DQ-75 ¾" dia., PL cans; for use thru 1¼" pipe

Can-Mate™ Dauber
CM-75 ¾" dia., for up to 1¼" pipe
CM-150 1½" dia; for up to 3" pipe





Jumbo Roll-a-Weld Rol
Swab
For use with large neck (
dia.) gallon applicator ca
pipe sizes 6" and above
(#7020) or swab (#402
also be ordered with en
gallon can (MT-648)

BOYERTOWN SUPPLY, INC.
ROUTE 562
BOYERTOWN, PA [illegible]

The information in this brochure provides a brief overview of our product line. We will be happy to supply you complete technical information on any product at your requ

"Teflon" is a registered trademark of EI DuPont
"KEY-TITE" is a registered trademark of Joy Manufactu

Industrial Polychemical Service • 17109 So. Main Street • Gardena, CA 90248 • Tel: (213) 321-6515 • WATS: (800) 421-2677 • TELEX: 150792 IPS

SPEC. PARA. NO. C.3-1

Poly
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adhe
dissi
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IPS produces a wide range of high strength WELD-ON® solvent cements for rigid and flexible PVC pipe and fittings. Light, medium, heavy and extra heavy bodied cements are specifically formulated for PVC pipe in virtually every schedule, in sizes from 2" to 22", and in a variety of job tailored cure times. These products are ideal for use with potable water pressure systems, irrigation, turf irrigation, gas, conduit, industrial piping, sewer and drain, waste and vent systems.

Light bodied WELD-ON® cements are free-flowing, fast curing products intended for small diameter PVC pipe of all schedules (except 80) and with fittings having interference type sockets.

A variety of medium bodied high strength cements are approved for use on PVC pipe and fittings up to 6", interference fits.

Heavy bodied WELD-ON® products exhibit excellent pipe-to-fittings gap filling properties. They are intended for large diameter pipe and fittings in all schedules, for water pressure systems, irrigation systems, gas, conduit, sewer and drain, waste and vent systems.

Extra heavy bodied high strength cements provide thicker layers and have higher gap filling properties. They are excellent for large diameter pipe and fittings, in all schedules.

INITIAL SET TIMES FOR WELD-ON PVC SOLVENT CEMENTS
710, 705, 711, 717, 719

TEMPERATURE RANGE	PIPE SIZES ½" to 1¼"	PIPE SIZES 1½" to 3"	PIPE SIZES 3½" to 8"	PIPE SIZES 10" to 15"
60 - 100°F	15 MIN	30 MIN	1 HOUR	2 HOURS
40 - 60°F	1 HOUR	2 HOURS	4 HOURS	8 HOURS
0 - 40°F	3 HOURS	6 HOURS	12 HOURS	24 HOURS

JOINT CURE SCHEDULE FOR WELD-ON SOLVENT CEMENTS
710, 705, 711, 717, 719

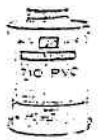
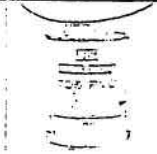
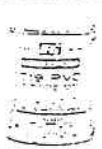
RELATIVE 60% or LESS* Temperature Range During Assembly and Cure Periods	CURE TIME pipe sizes ½" to 1¼" Up to 150 psi	CURE TIME pipe sizes ½" to 1¼" Above 150 to 370 psi	CURE TIME pipe sizes 1½" to 3" Up to 150 psi	CURE TIME pipe sizes 1½" to 3" Above 150 to 315 psi	CURE TIME pipe sizes 3½" to 8" Up to 150 psi	CURE TIME pipe sizes 3½" to 8" Above 150 to 315 psi	CURE TIME pipe sizes 10" to Up to 100 psi
60 - 100°F	1 HR	6 HR	3 HR	12 HR	6 HR	24 HR	24 HR
40 - 60°F	2 HR	12 HR	4 HR	24 HR	12 HR	48 HR	48 HR
0 - 40°F	3 HR	48 HR	12 HR	96 HR	48 HR	8 Days	8 Days

* In damp or humid weather allow 50% more cure time

AVERAGE NUMBER OF JOINTS OF WELD-ON CEMENTS*
710, 705, 711, 717, 719

PIPE DIAMETER	½"	¾"	1"	1½"	2"	3"	4"	6"	8"	10"	12"	14"	16"
NUMBER OF JOINTS	300	200	125	90	80	40	30	10	5	2-3	1-2	1	1

*These figures are estimates based on our laboratory tests. Due to the many variables in the field these figures should be used as a general guide only.

	710	705	707	721	711	717	719	725
								
COLOR	CLEAR	CLEAR/GRAY	CLEAR	BLUE	GRAY	GRAY	GRAY/WHITE	CLEAR
MAXIMUM RECOMMENDED PIPE SIZE	2"	6"	6"	6"	12"	12"	22"	6"
RELATIVE SET TIME	VERY FAST	FAST	FAST	VERY FAST	MEDIUM	MEDIUM	SLOW	FAST
ASTM DESIGNATION	D-2564	D-2564	D-2564	D-2564	D-2564	D-2564	D-2564	N/A
INDUSTRY LISTINGS	NSF	NSF ALSO CSA	N/A	NSF	NSF	NSF	NSF	
CLASSES, SCHEDULES & TYPES	ALL RIGID (EXC. SHC. 80)	ALL RIGID (EXC. SCH. 80)	ALL DUCT & CONDUIT	ALL RIGID (EXC. SCH. 80)	ALL RIGID (INCL. SCH. 80)	ALL RIGID (INCL. SCH. 80)	ALL RIGID (INCL. SCH. 80)	ALL FLEX/F & FLEX/RIG (EXC. SCH.
MINIMUM SHELF LIFE	3 YEARS	3 YF	3 YEARS	3 YEARS	2 YEARS	3 YEARS	S	3 YEARS

INSTALLATION INSTRUCTIONS

INTRODUCTION

One of the more important features of thermoplastics is the ease with which they lend themselves to a variety of fabricating techniques. This versatility, plus the wide selection of piping components now available, make possible fast and economical installation, maintenance and modification of plastic piping systems. It is the objective of this section to provide instructions on the techniques of joining, maintaining and handling thermoplastics in order to permit maximum integrity of your piping system.

Solvent Welding

The generally preferred method of joining rigid thermoplastics such as PVC, CPVC & ABS is solvent welding. This process gives a stronger joint than threading and is also considered faster and simpler. Additionally, solvent welding permits the use of thinner walls when compared to threaded connections for equivalent pressure ratings.

Threading

Threaded joints are usually preferred when a piping system must be dismantled for occasional cleaning or modifications. Since threading results in a reduction in the effective wall thickness of the pipe, the pressure rating of threaded pipe is reduced to one-half that of unthreaded pipe, i.e., pipe joined by solvent cementing. This reduction in wall thickness resulting from threading can seriously affect the pressure carrying capability and mechanical strength of Schedule 40 or lighter pipe and therefore, only Schedule 80 or heavier pipe should be threaded when the pipe is to be used for pressure applications. Also, threading is not recommended for plastic pipe above 4 inches in diameter.

STORAGE AND HANDLING OF THERMOPLASTIC PIPING COMPONENTS

Thermoplastic piping components are designed and manufactured for use in systems involving the transport of aggressive liquids as well as potable water. In order to ensure their integrity, they must be handled with reasonable care prior to installation.

STORAGE

Pipe

When pipe is received in standard lifts it should remain in the lift until ready for use. Lifts should not be stacked more than three high and should always be stacked wood on wood. Loose pipe should be stored on racks with a minimum support spacing of three feet. Pipe should be shaded but not covered directly when stored outside in high ambient temperatures. This will provide for free circulation of air and reduce the heat build-up due to direct sunlight exposure.

Fittings

Fittings should be stored in their original cartons to keep them free of dirt and reduce the possibility of damage. If possible, fittings should be stored indoors.

Solvent Cements And Primers

CAUTION: SOLVENT CEMENTS AND PRIMERS ARE COMPOSED OF VARIOUS SOLVENTS AND AS SUCH REQUIRE SPECIAL CONDITIONS FOR STORAGE. BECAUSE OF THEIR FLAMMABILITY THEY MUST NOT BE STORED IN AN AREA WHERE THEY MIGHT BE EXPOSED TO IGNITION, HEAT, SPARKS OR OPEN FLAMES.

Solvent cements have a definite shelf life and each can and carton is clearly marked with a date of manufacture. Stock should be rotated to insure that the oldest material is used first.

HANDLING

Pipe and Fittings

Care should be exercised to avoid rough handling of thermoplastic pipe and fittings. They should not be dragged over sharp projections, dropped or have objects dropped upon them. Pipe ends should be inspected for cracks resulting from such abuse. Transportation by truck or pipe trailer will require that the pipe be continuously supported and all sharp edges on the trailer bed that could come in contact with the pipe must be padded.

Solvent Cements and Primers

DANGER: Extremely flammable. Vapor harmful. May be harmful if swallowed. May cause skin or eye irritation.

Keep containers for solvent cements tightly closed except when in use. Avoid prolonged breathing of solvent vapors, and when pipe and fittings are being joined in partially enclosed areas use a ventilating device to attenuate vapor levels. Keep solvent cements, primers and cleaners away from all sources of ignition, heat, sparks and open flames. Avoid repeated contact with the skin by wearing proper gloves impervious to the solvents. Application of the solvents or cements with rags and bare hands is not recommended; natural fiber brushes and other suitable applicators can produce satisfactory results.

IMPORTANT FACTS TO KNOW ABOUT ABS, PVC & CPVC SOLVENT CEMENT

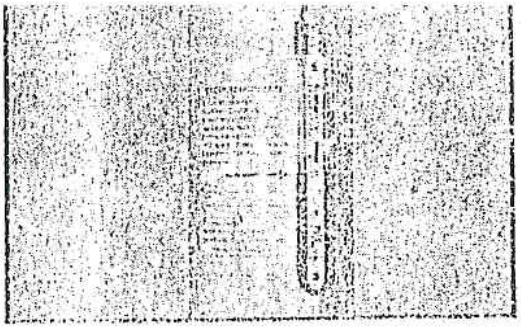
1. ABS solvent cement should be used only for joining ABS pipe and fittings. PVC solvent cement should be used only for joining PVC pipe and fittings. CPVC solvent cement should be used only for joining CPVC pipe and fittings.

2. A good joint is stronger than the pipe, as the solvent chemically welds the fitting to the pipe.

3. The solvent cement containers should always be covered when not in use to prevent excessive evaporation. Do not use thinner. Cement that shows signs of thickening and is lumpy should be discarded.

4. PVC solvent cement and primer can be used for both PVC pressure and DWV piping systems.

Do not use or test the products in this catalog with gas or air



MU-93

WEAVER CORP MINI U-TUBE

- Adjustable
- Low cost
- Easy installation
- Easy to understand label
- Reads up to 4" w.c.
- "Contact for Service" area

WEAVER CORP. U-TUBE INSTRUCTIONS

Install the U-Tube on the PVC exhaust pipe in a vertical position in the following manner:

1. Hold the U-Tube in an upright position and remove two plastic plugs out of each end of tube using pliers. Be sure oil is at "0" before affixing to pipe. Adjust if necessary.

2. Peel the paper backing off the rearside and press on to desired location of pipe.

3. Install the 2 provided screws through holes in the U-Tube and through the PVC pipe.

4. Drill a 3/16" hole in the PVC pipe 2" above U-Tube.

5. Insert the cap and tube assembly in U-Tube and through the hole in PVC (either side is ok). If tube does not fit tight into PVC, use caulking to insure an airtight fit.

6. Remove backing from the sticker and apply on PVC just to the left side of U-Tube with the red arrow pointing to the -0- mark on the scale.

WARRANTY

This U-Tube is warrantied, if installed according to directions, to be free from defects in materials and workmanship for a period of three years from the date of installation. The U-Tube will be repaired or replaced if returned with proof of purchase to: Weaver Corp
P.O.Box 1065
Carmel, IN 46032

Seller's and manufacturer's only obligation shall be to replace product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use or the inability to use the product.

PECORA CORPORATION

SPEC DATA

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7 JOINT SEALERS
One-Part Silicone Building Sealant

PECORA CORPORATION
May 1990
(Supercedes May 1988)

1. PRODUCT NAME

Pecora 864 Architectural Silicone Sealant

2. MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
Phone: (215) 723-6051
(800) 523-6688
FAX: (215) 721-0286

3. PRODUCT DESCRIPTION

Pecora 864 is one-part, low-modulus, neutral-curing, high-performance silicone sealant that cures with atmospheric moisture to form a durable, flexible building seal. Because of its low-modulus, high extension/compression and recovery properties and its strong adhesion to most building materials, Pecora 864 performs exceptionally well under dynamic conditions accommodating long-term movement of ±50% in properly designed joints.

Basic Uses: Pecora 864 is designed primarily for sealing expansion and control joints in precast concrete panels and metal curtainwalls, perimeter sealing of doors and windows and other building components. The sealant adheres well to concrete, stone, masonry, steel, aluminum and many plastics, generally without need for a primer.

Limitations: Pecora 864 should not be used in the following applications:

- Sealing horizontal decks, patios, driveway or terrace joints where abrasion or physical abuse is encountered.
- Sealing submerged joints or below-the waterline in marine applications.
- In totally confined or air-free spaces.
- In designs that will be painted. (Sealant application of the sealant. (Sealant should be applied after painting is completed).
- To surfaces with special protective or decorative coatings without prior consultation with Technical Services department.
- With building materials that bleed oils, plasticizers or solvents, i.e. impregnated wood, oil-based caulks, some vulcanized rubber gaskets or tapes, etc.

Fire Rated Systems:
Two-hour fire and temperature rated wall (Design "U") and floor (Design "J") joint systems can be designed with Pecora 864 in conjunction with Ultra Block® backing material. Ref: Standard "Fire Tests of Building Construction & Materials", ANSI/UL 263, ASTM E119, NFPA No. 251. Request UL test results from Technical Services department.

UNDERWRITERS LABORATORIES INC.® CLASSIFIED
JOINT TREATMENT MATERIALS
FIRE RESISTANCE CLASSIFICATION
DESIGN NOS. J900II & U900 "U"
SEE UL FIRE RESISTANCE DIRECTORY 99U3

Packaging: 10.3 fl. oz. (.305 liter) disposable fiber cartridges and 2-gallon* (7.57 liter) pails.
*Special order, non returnable.

Colors: Available in standard Architectural colors, Black, Limestone, Precast, Bronze, Tru-White, Aluminum Stone and Tan; 32 special Color-Flex Designer colors, and an almost unlimited range of custom colors (certain restrictions may apply). The latter two items are available in quantities as low as 30 gallons. Custom colors are computer matched within five working days with the finished product shipped within ten working days following color approval.

4. TECHNICAL DATA

Applicable Standards: Pecora 864 Silicone meets or exceeds the requirements of the following industry specifications: TT-S-1543A, TT-S-230C, Class A, CGSB-19GP-9, ASTM C-920, Class 25, Type S, Grade NS, Use NT, G,A,M,O, City of Los Angeles RR 25071.

TABLE 1: TYPICAL UNCURED PROPERTIES

Property	Value	Test Method
Tool/Work Time, 77° F	30-45 Minutes	Pecora Corp.
Tack Free Time	3 Hours	ASTM C-679-87
Curing Time, 77° F	7-14 Days	Varies w/Temp.
Full Adhesion	7-14 Days	and Humidity
Flow, Sag, Slump	Nil	ASTM C-639-90

TABLE 2: TYPICAL CURED PROPERTIES
(After 7 days cure at 77° F, 50% RH)

Property	Value	Test Method
Hardness, Shore A	25	ASTM C-661-86
Tensile Strength	185 psi	ASTM D-412
Peel Strength	20 pli	ASTM C-794-86
Staining, Color Change	None	ASTM C-510-90
Ozone/UV Resistance	Excellent	Weatherometer
Elongation	700%	ASTM D-412
Dynamic Movement Capability	±50%	TT-S-1543A
Tear Strength	30 ppi	ASTM D-624
Temperature Range	-60° F to +300° F	

Please consult Technical Services department before writing specifications on this product.

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SUGGESTED PECORA 864 - ULTRA BLOCK SYSTEM SPECIFICATION

Expansion joints shall have a 2-hour Fire and Temperature rating. Unless otherwise specified for a specific only systems tested per ASTM E-119 Standard, complying with Underwriters Laboratories UL-263, Des 900-H and U-900 0 and classified as 2-hour Fire and Temperature Rated are approved. Pecora 864 - Ultra systems using such classified sealants shall be used in both Configuration #1 and Configuration #2 which applicable. Reference UL File # 13729.

This is a performance specification. Bidders will be required to furnish technical data and Unde Laboratories reports for "or equal" approval.

Sealant should be applied in a continuous operation using sufficient pressure to fill the joint and make complete contact to the joint sides. Tool the sealant slightly concave using solvent or dry-tooling techniques. Do not tool with soap or detergent and water solutions.

Cleaning: Excess sealant should be removed from all surfaces while still uncured. Cured sealant is very difficult if not impossible to remove without altering or damaging the surfaces to which the sealant has been misapplied.

Application Life: 30 to 45 minutes at 77° F (25° C), 50% relative humidity. Higher temperatures and/or humidity will shorten this time.

Shelf Life: Pecora 864 Silicone has a shelf life of 12 months from date of manufacture when stored in unopened cartridges at temperatures lower than 80° F (27° C), or 9 months in tightly-sealed bulk packages and performs equally well during any part of this shelf life.

Precautions: Use sealant in well-ventilated areas. Contact with uncured sealant may irritate eyes and skin. Flush eyes with water for 15 minutes and seek medical attention if irritation persists. May be harmful if swallowed. Ultra Block is a non-carciogenic processed continuous filament textile glass fiber that may cause skin, eye and respiratory irritation. When applying, wear long sleeves, gloves, cap, safety glasses and NIOSH/MSHA approved dust respirator. After use, bathe with soap and warm water. Wash cloths separately and rinse after use.

Refer to Material Safety Data Sheets for additional information.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF THE REACH OF CHILDREN.

6. AVAILABILITY AND COST

Pecora product are available from our plants and warehouses in Harleysville, PA and Dallas, TX, or from stocking distributors in all major cities. For the name and telephone number of your nearest Pecora representative call one of our locations listed below, or call Sweet's "Buyline" 0159 at 1-800-633-1180. Our representatives can give you prices or put you in touch with the nearest stocking distributor.

7. WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. This warranty is in lieu of any and all other warranties, expressed or implied, and in no case w liable for incidental or c damages.

8. MAINTENANCE

If the sealant is damage is intact, cut out the dam recaulk. No primer is ne bond has been affecte sealant, clean and prep accordance with the ins "installation".

9. TECHNICAL SE

Local Pecora represen able to assist you in sel priate product and to application instruction job-site inspections. mation and assistanc Technical Services 215-723-6051 or 800

10. FILING SYST

Electronic Spec
Spec-Data® II
Sweet's Catalo

General Build
07100 Waterpr
07920 Sealant
08850 Glazing

Civil Enginee
07100 Waterp

PECORA CORPORATION

HARLEYSVILLE, PA 19438
Phones: 800-523-6688 • 215-247-8342 • 215-723-6051 • FAX: 215-7

DALLAS, TX 75243
Phones: 800-233-9754 • 214-348-5313 • FAX: 214-348-5421

INNOVATIONS IN SEALANTS SINCE 18

PECORA CORPORATION

SPECIFICATION DATA

1. PRODUCT NAME

UREXPAN NR-201
One-Part, Pourable, Polyurethane Sealant

2. MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
215-723-6051
800-523-6688

3. PRODUCT DESCRIPTION

Applicable Standard: Federal Specification TTS 00230C, Type I, Class A and ASTM C-920-86, Type S, Grade P, Class 25, Use T, M, A & O.

Basic Uses: NR-201 is a one-part self-leveling, moisture curing polyurethane sealant designed for exterior and interior horizontal joints in plazas, malls, patios, swimming pool decks and copings, side-walks, driveways and garages.

Limitations: Areas of use should be subject primarily to pedestrian traffic and light to moderate vehicular traffic. In properly designed joints, the width should not exceed 1" nor the depth ½". Slope should be no more than one percent (1%). Where wider joints are required and/or heavy vehicular traffic is involved, use Pecora Urexpan NR-200, two part, self-leveling polyurethane sealant.

NR-201 is USDA approved for use in meat and poultry plants.

Note: NR-200 and NR-201 are fully compatible and adhere well to each other without primer; thus, NR-201 is excellent for repairing damaged areas in the Pecora Elastomeric Expansion Joint System.

Packaging: Quart cartridges (12 per carton)
2-Gallon Pails

Colors: #39 Limestone
#403 Redwood Tan
#515 Aluminum Stone

4. TECHNICAL DATA

TTS 00230C	REQUIREMENTS	NR-201
355.2.1 Theological properties	Must self level at 40° F.	Passes
355.3 Extrusion rate	20 seconds	Passes
355.4.1 Hardness	25-50 shore "A"	35
355.5 Weight loss after heat aging	10% maximum	7.0%
355.6 Tack free time	72 hours maximum @ 77° F., 50% R.H.	24-42 hours
355.7 Stain & color change	Shall not stain white cement mortar. No color change.	Passes
358 Durability (bond cohesion)	Maximum loss 1½ sq. inches	Passes
359 Adhesion in peel	5 lbs. minimum	23 lbs.

5. INSTALLATION

Joints should be designed for maximum of 25% movement at the narrowest dimension for sealant to perform properly. It is essential to remove all traces of moisture, powder, dirt, dust, grease, oil, and other foreign matter by sand-blasting, wire brushing, air blasting, or sawcutting. If the joint contains asphalt-impregnated fiberboard, this must be cut back to allow a proper backer rod or barrier beneath the sealant. There must be no contact between the sealant and any amount of asphalt or tar or there will be no adhesion to the substrate.

Joint Backing: A closed cell polyethylene backer rod such as Pecora #892 Green Rod should be used as a backer for the NR-201. Use a backer rod that will compress about 25% when installed. In joints too shallow to require backer rod, use a polyethylene bondbreaker tape to prevent the sealant from bonding to the bottom of the joint.

Priming: NR-201 adheres excellently without primer to fully-cured concrete and mill finish aluminum; however, P-75 Primer is recommended on masonry in exterior applications for greater long-term adhesion and in interior applications where the sealant may be subject to standing water or complete immersion. Where surfaces such as brick, quarry tile, pavers, slate, or other decorative stones or other metals are to be sealed, contact Pecora Technical Services for installation recommendations.

Joints subject to total water immersion MUST be thoroughly dry prior to priming with P-75 and sealing with NR-201. The sealant must be thoroughly cured before immersion. It should be expected that the longevity of the sealant bond under these immersion conditions will be less than that above grade.

Cure Rate: Sealant is designed to be tack-free within 72 hours at 77° F., 50% relative humidity (R.H.). Since NR-201 is a moisture-curing sealant, higher R.H. will accelerate curing while a lower R.H. will tend to retard curing. At normal temperature-humidity conditions, sealant will cure at approximately 1/8" per day.

Precautions: Store in unopened containers at temperatures less than 80° F. Approximate shelf life is six months from date of manufacture.

Contains diisocyanates. KEEP OUT OF THE REACH OF CHILDREN.

6. AVAILABILITY AND COST

Pecora sealants are available from our plants in Harleysville, PA, Garland, TX, and Atlanta, GA, or from our stocking distributors in major cities. For the name and number of your nearest Pecora representative, call one of our three locations listed below, or call Sweet's "Buyline." Our representatives can give you prices or put you in touch with the nearest stocking distributor.

JOINT SEALERS
One-Part Polyurethane

Pecora Corpor
May
(Supersedes February 1982)

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SPEC. PARA. NO. C.3-3

1. PRODUCT NAME

DYNATROL® I One-Part Polyurethane Sealant

2. MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
Phone: (215) 723-6051
(800) 523-6688

3. PRODUCT DESCRIPTION

Basic Uses: Dynatrol I is a low-modulus, non-sag, moisture-curing general purpose sealant providing a durable, rubber like seal which maintains an effective bond between materials of similar or dissimilar porosities, surface textures or expansion coefficients. It is designed for use in expansion and control joints, precast panels, tilt walls, copings, steps and risers, glazing, bedding panels, window and door perimeters and metal curtain walls.

Limitations: Not recommended for:

a. Horizontal joints subject to foot or vehicular traffic unless protected by a wearing surface.
b. Joints contaminated with oil, grease, wax, dust, corrosion, tar, asphalt, loose aggregate, frost, dampness, form-release agents or other coatings.
c. Exposure to harsh chemicals.
d. Glazing, as a cap bead, heel or toe bead with high performance glass or plastic.
e. Joints less than ¼" in width or depth.
f. Joints where contact may be made with polysulfide sealants.
g. Certain architectural paints and finishes without laboratory or field testing.

Packaging: 11 fl. oz. cartridges and two-gallon pails.

Colors: Bronze, Limestone, Black, Aluminum-Stone, Tan, Beige and Off White.

4. TECHNICAL DATA

Applicable Standards: Meets federal Specification TT-S-00230C, Type II, Class A and ASTM C-920-86 Type S, Grade NS, Class 25, Use NT, M, A and O. Dynatrol I is also U.S.D.A. approved for use in meat and poultry plants.

Movement Capability: 25% extension and 25% compression.

Service Temperature Range: -40°F to +180°F.

Life Expectancy: Normal conditions, 20 years; severe conditions, 10 years.

Some test requirements with typical test results on Dynatrol I are shown in the Test Data Table.

5. INSTALLATION

Joint Design: The width of the joint should be a minimum of 4 times the anticipated movement. The width or depth of the joint should not be less than ¼" (6.35 mm). In joints up to ⅜" (9.5 mm) wide, the depth of the sealant should be equal to the width. In joints wider than ⅜" (9.5 mm), but not exceeding 1¼" (31.7 mm), the depth should be maintained at ⅜" (9.5 mm). For joints wider than 1¼" (31.7 mm), please consult our Technical Services Department.

Surface Preparation: Joint surfaces and backer rod must be dry, clean, and free from all foreign matter, laitance and efflorescence. Priming is not normally required with common building materials. In instances where priming is required, Pecora P-75 Primer should be used. Primer

TECHNICAL DATA DYNATROL I

Cured Sealant Properties	Test and Requirements	Typical Value
100% modulus	ASTM D412-75	30 psi
Tensile strength	ASTM D412-75	150 psi
Ultimate elongation	ASTM D412-75	700%
Hardness, Shore A	TT-S-00230C Durometer 15 to 50	30±5
Weep & sag	TT-S-00230C Maximum ¼"	Passes
Weight loss after heat aging	TT-S-00230C Maximum 10%	Passes
Tack free time	TT-S-00230C Maximum 72 hours	less than 48 hours
Stain & color change	TT-S-00230C	Passes
Durability (Bond & cohesion after 7 days water immersion)	TT-S-00230C, Class A ±25% Movement Maximum loss 1.5 sq. in.	Passes*
Adhesion-In-Peel (after 7 days water immersion)	TT-S-00230 Minimum 5#/inch Maximum 25% adhesion loss	14 to 20#/inch Passes*

*with P-75 Primer on Mortar

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SPEC DATA

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SPEC. PARA. NO. C.3-3

Applied Extrusion Technologies, Inc. — M 1987
Supersedes Hercules Incorporated
November 1979

7 p

SEALANTS
backer rod

1. PRODUCT NAME

HBR™ Backer Rod

2. MANUFACTURER

Applied Extrusion
Technologies, Inc.
Middletown Industrial Park
P.O. Box 582
Middletown, Delaware 19709
Phone: (302) 378-8888
Fax 378-4482

3. PRODUCT DESCRIPTION

Basic Use: HBR backer rod is a backing for elastomeric and other cold-applied sealants. It also helps control the amount of sealant applied for a proper seal, helps produce the ideal joint shape, and also acts as a bond-breaking strip. Typical uses are in glazing and expansion-joint applications for windows, curtain walls, expansion wall joints, partitions, doors, settling cracks, pavements, precast units, and copings. See Figure 1.

Limitations: HBR should not be used with hot-melt adhesives and sealants where their temperature is over 160°F (70°C).

TABLE I
Sizes and Packaging Data

HBR Backer Rod Diameter, in.	Feet per Carton	Weight (gross), lbs per Carton
1/4	6400	15
3/8	3600	15
1/2	2500	15
5/8	1550	15
3/4	1100	15
1	550	15
1-1/4	400	15
1-1/2	770	35
2	525	35

Composition and Materials: HBR is round, flexible, continuous lengths of extruded, closed-cell polyethylene foam. Gray in color, HBR rod is available in a variety of diameters (see Table I).

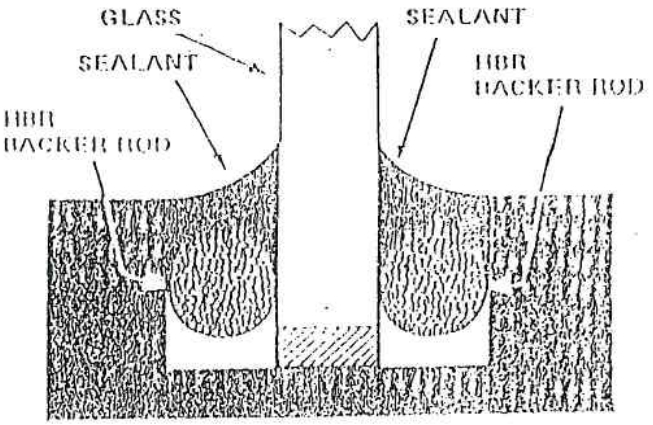
Applicable Standards:
CEGS-07951-9 Back-Stop Material
TT-S-00227E (COM-NBS) 6.1.8

Packaging: All sizes are wound on reels, and packaged in boxes, except 1½- and 2-in. diameters which are packed in 7ft. straight length in cartons. Boxes can be shipped via UPS. See Table I for quantities and weights.

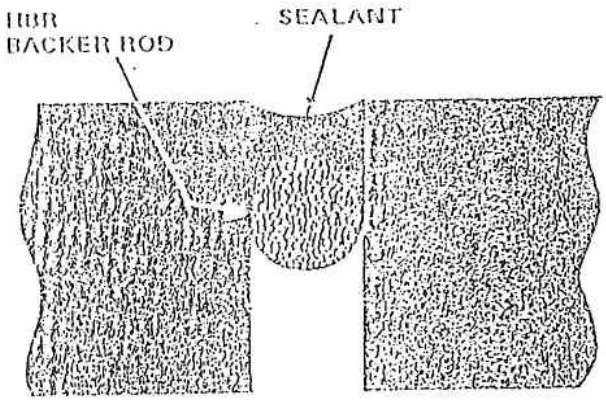
4. TECHNICAL DATA

HBR backer rod is chemically inert, and resistant to oils, gasoline, and solvents. It does not stain or adhere to sealant materials, and, therefore, acts as a bond-breaker strip. HBR has a resilient closed-cell structure and is non-exuding. See Table II, page 2, for typical physical properties.

Figure 1. Typical Uses of HBR Backer Rod



HBR backer rod for glazing



HBR backer rod in expansion joints and similar applications

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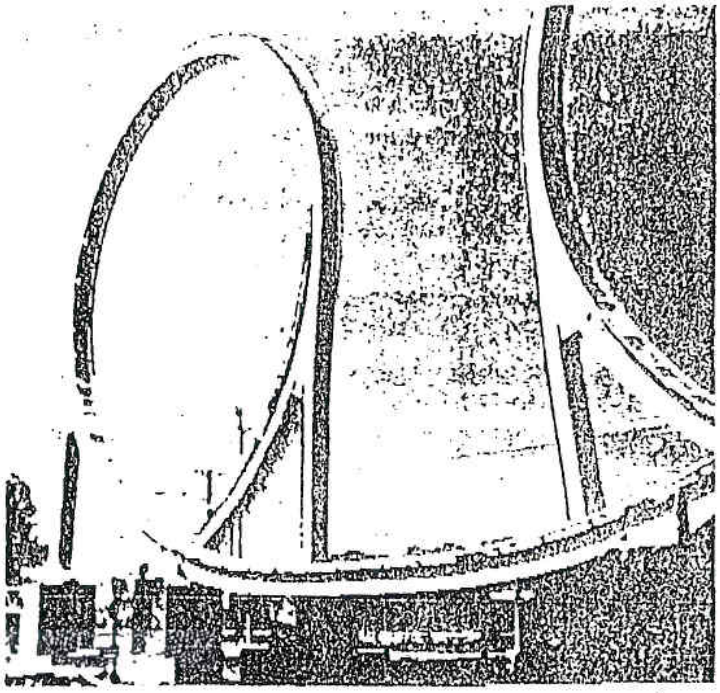

SEALTIGHT

588 GROUT

Formulated to simplify your field applications

SEALTIGHT 588 NON-SHRINK, NON-FERROUS GROUT is a non-corrosive, non-gas forming material that can be used to advantage on a wide range of grouting applications. Economical and easy to use, it is quickly mixed, as needed, on the site and can be placed by pouring, rodding, pumping or vibrating.

588 GROUT provides a wide range of "placement consistencies", excellent workability, adequate placement time plus a high yield that helps trim your in-place grouting costs. Once set, SEALTIGHT 588 dries and cures to the color of Portland Cement – making it ideal for both interior and exterior use.

In many applications, the first or initial pours are made more fluid

to act as a lubricant for subsequent pours of lower fluidity. In such instances, the multiple flow capabilities of SEALTIGHT 588 GROUT help simplify methods of installation without sacrificing any high strength requirements.

The consistent high strength of SEALTIGHT 588 GROUT is assured by the combination of well graded silica aggregate and blended cements. In addition, an inorganic expansive agent, that is both non-gaseous and non-ferrous provides the controlled expansion necessary to compensate for the normal drying shrinkage. The resulting high density contributes to the high compressive strengths and stability of 588 GROUT to withstand a wide range of weather and temperature variations.

W.R. MEADOWS, INC.
September 1, 1983
(Supercedes April 1, 1981)
03602
CONCRETE
Non-Metallic Grout

W. R. MEADOWS, INC.
P.O. BOX 843 • ELGIN, IL 60121
Other Plants / HAMPSHIRE, IL
ATLANTA, GA / YORK, PA / FORT WORTH, TX
HOUSTON, TX / GOODYEAR, AZ / WESTON, ONT.

Excellent workability and top yields cut time and placement costs

finish, NO CAPPING REQUIRED. Prevent rapid loss of water by covering with wet burlap during first 48 hours or apply SEALTIGHT AR-30 Concrete Curing Compound or CS-309 Curing and Sealing Compound.

Maximum Economy: It's common practice to extend the grout with clean, well-graded aggregate. In applications where grout thickness is to be 2 to 5 inches, up to 25% of aggregate, based on weight of grout, may be added. For thicknesses over 5 inches, up to 50% of aggregate may be added. Such additions may be made to both medium flow and plastic mixes without any significant changes in the grout's compressive strength. The aggregate must be washed, dried and graded 3/8" pea gravel.

TESTS PROVE 588 GROUT CONFORMS TO SPECIFICATION

SEALTIGHT 588 NON—SHRINK GROUT has been specifically formulated to fully comply with the Corps of Engineers Specification for non-shrink grout, CRD-C 621. In addition to properties and performance requirements, the specification classifies the expansion mechanism, thereby allowing the specifier-user to select the type of expansive agent. SEALTIGHT 588 NON-SHRINK GROUT qualifies under Type d (Expansion Cements) and utilizes the formation of Ettringite for its expansion and non-shrink properties.

EXPANSION IS PRECISELY CONTROLLED

SEALTIGHT 588 NON-SHRINK GROUT is a Portland Cement base product that obtains its expansive properties by the formation of Ettringite within the Portland Cement components when water is added. The process is uniformly controlled and the result is a very rigid, high density, non-shrink grout. The grout contains no metal to oxidize, nor does it contain any ingredients to generate gasses for expansion.

TEST DATA AND PHYSICAL PROPERTIES

TECHNICAL DATA: All evaluations determined in accordance with CRD-C 621*

*(Issued December 1980 to replace CRD-C 588)

MIX:	Minimum Flow (plastic)	Moderate Flow (flowable)	High Fluidity (pumpable)
Water per 50 lb. bag	5 to 6.5 pts.	6.5 to 7.25 pts.	7.25 to 8.25 pts.
Flow	108	136	26 seconds
Method	5 drops/ Flow Table	5 drops/ Flow Table	Flow Cone
SETTING TIME:			
Initial Set	1 hour	2 hrs.-30 min.	4 hrs.-15 min.
Final Set	2 hrs.-15 min.	3 hrs.-30 min.	6 hrs.
EXPANSION:			
Age:			
24 hours	0.13%	0.10%	0.02%
3 days	0.16%	0.13%	0.04%
7 days	0.17%	0.13%	0.05%
28 days	0.17%	0.14%	0.06%
SHRINKAGE%	NONE	NONE	NONE
COMPRESSIVE STRENGTH (psi)**			
Age:			
1 day	4,233	3,183	1,575
3 days	6,308	5,167	3,617
7 days	7,987	6,250	4,742
28 days	10,792	8,008	5,900

**Average of 3 samples

PULLOUT AND TORQUE TESTS

	TEST METHOD	RESULT
Reinforcing Bar Pullout	No. 6 deformed rebars grouted in 2.25" diameter and 6" deep core in 4,000 psi concrete. Load applied at a rate of 0.25"/min.	Average load: 18,000 lbs. for concrete failure after 7 day cure.
Machine Bolt Pullout	3/4" diameter hex head machine bolts (without washers) grouted in 2.25" diameter and 6" deep core in 4,000 psi concrete. Load applied at a rate of 0.25"/min.	Average load: 20,630 lbs. for concrete failure after 7 day cure.
Machine Bolt Torque	3/4" diameter machine bolts (without washers) grouted in 2.25" diameter and 6" core in 4,000 psi concrete. Load applied at a rate of 0.25"/min.	Average torque values in excess of 425 ft/lbs . . . bolt failure after 7 day cure.

Test conducted with 588 GROUT using 8 pts. of water per 50 lb. bag. 7 day compressive strength was 7,080 psi.

SPEC. PARA. NO. C.8-a

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

02/16/95

RECEIVED

OFFICE OF
AIR AND RADIATION

RONALD SIMON
Individual ID: 10769
RONALD F. SIMON COMPANY, INC.
46 S. CHESTNUT STREET

BOYERTOWN, PA 19512-

Dear RONALD SIMON:

This letter is to confirm your reinstatement of listed status in EPA's Radon Contractor Proficiency (RCP) Program. This letter may be used to verify your current listing status in the program until the issuance of the next updated Radon Contractor Proficiency Report.

If you have any questions concerning the RCP Program, please contact the Radon Information Service (RIS) at (334) 272-2797 or fax to (334) 260-9051. Thank you.

Sincerely,

Eugene J. Fisher

RCP Individual Proficiency Program Manager
Radon Division (6604-J)

USEPA Radon Contractor Proficiency Program

EXPIRES
FEB 1996

Ronald Simon
10769

The identified individual has completed the requirements for listing under the U.S. Environmental Protection Agency's Radon Contractor Proficiency (RCP) Program. This person is not an employee of, nor do they represent, the Federal Government.

Recycled/Recyclable
Printed with Soy/Canola Ink on paper that contains at least 50% recycled fiber

SPEC. PARA. NO. C.8-b

Commonwealth of Pennsylvania

Department of Environmental Resources

I. D. # 0764

RADON CERTIFICATION

Issued MAY 27, 1993 Expires MAY 27, 1995

This certification authorizes the certified person to perform only those activities included in the category listed below.

Issued To	*Category*
RONALD F. SIMON	RADON MITIGATION, INDIVIDUAL RADON TESTING, INDIVIDUAL

DISPLAY PROMINENTLY CONTROL NO. 00475

NOTICE

This notice is provided to you by an organization or individual certified under the Pennsylvania Radon Certification Act which requires that anyone who provides any radon related service or product to the general public must be certified by the Pennsylvania Department of Environmental Resources. You are entitled to evidence of certification from any person who provides such services or products. You are entitled to a price list or price estimate of products. You are entitled to a price list or price estimate of services offered. All radon measurement data will be sent to the Department as required under the act and will remain confidential. If you have any questions, comments or complaints concerning persons who provide radon-related services, please contact the Bureau of Radiation Protection, Department of Environmental Resources, P.O. Box 8469, Harrisburg, Pennsylvania 17120 (717)783-3594.

As part of both the RMCP and the RMPP, Ronald F. Simon has agreed to comply with the standards established by the U.S. EPA pertaining to radon mitigation and radon measurement.

Radon Contractor Proficiency Program (RCPP) ID No. 10769
Radon Measurement Proficiency Program (RMPP) ID No. 107690T

The installed soil depressurization system is driven using between a 40 to 150 watt motor which will operate 24 hours a day, 365 days per year. Normal power consumption will be in the range of 350 to 1,300 kilowatt hours per year (KWH/Y). The cost per KWH varies with each utility. However, using a typical utility rate of 0.07 per KWH the direct operational cost for the system will be approximately $25 to $90 per year.

Secondary costs associated with the operation of the system may be significantly higher. This could be attributed to conditioned house air being drawn into the system through various openings. The Ecosphere Corporation has completed a thorough closing of these openings in an effort to reduce residual long term operating costs and to increase the system effectiveness. If you have any questions concerning this or other areas of work performed, please contact the Ecosphere Corporation at (610)367-2266.

DEPARTMENT OF THE ARMY
HEADQUARTERS, FORT INDIANTOWN GAP
ANNVILLE, PENNSYLVANIA 17003-5011

REPLY TO
ATTENTION OF

AFKA-ZQ-DE-E (200-1a)

2 Feb 89

MEMORANDUM FOR Wilson-Kramer USARC, Bethlehem, PA 18017-2166

SUBJECT: Radon Screening Results

1. Results of the radon tests performed at your facility have been received at this office. Copies of these results are attached. At least one of the results indicated that radon in your facility is above the EPA action level of 4 picocuries per liter (pCi/l). According to guidance from the U.S. Environmental Protection Agency (EPA) and The Radon Project, your facility will be retested as soon as possible, using longer term monitors, to confirm these screening results.

2. This office has ordered a sufficient number of alpha track monitors (ATMS) from the U.S. Army centrally managed contract through the U.S. Army Engineering and Housing Support Center (EHSC) to retest your facility in FY 89. Hopefully, these monitors will arrive soon enough to be exposed, at least partially, during the present winter heating season.

3. The alpha track monitors (ATMS) are designed to be placed in your facility for 90 days. This longer exposure period will provide more accurate measurements of the average long-term radon level. Mitigation of high radon levels will be developed using DA guidance for those facilities where high levels are confirmed.

4. The arrival date of the ATMS is not known at this time, however, we have detectors remaining from this screening contract. Therefore, several detectors are enclosed for you to place in all rooms which had an initial results of more than 4.0 pCi/l. This will help verify our initial sampling, prior to receipt of the ATMS.

5. POC at Fort Indiantown Gap is Mr. Kenneth L. Malick (717) 865-5444 ext 2634.

Richard E. Schneck

RICHARD E. SCHNECK
Major, Engineer
Director of Engineering
and Housing

USARC NAME: Wilson-Kramer USARC
ADDRESS: 2940 Airport Road
Bethlehem, PA 18017-2166

FACILITY MANAGER: Stanley B. Smith
Telephone No.: 215 691 5305

ENVIRONMENTAL COORDINATOR: _____
Telephone No.: _____

Name of Person Placing, Recording, Mailing Radon Kits: _____
Telephone No.: _____

KIT NO.	SERIAL NUMBER	RECOMMENDED LOCATION	ACTUAL LOCATION	[Be specific: Build.N [Floor, Room Name]
1	2095264 BQE	Boiler Room, Behind Water Heater (original test result here was 16.5 pCi/L)		

Please return this completed form to FTIG as soon as the actual locations are known.
il to: Department of the Army
Headquarters
ATTN: AFKA-ZQ-DE-E (Kenneth L. Malick)
Fort Indiantown Gap
Annville, PA 17003-5011

THE RADON PROJECT

P.O. Box 90069 • Pittsburgh, PA 15224

REPORT ON RADON MEASUREMENT IN YOUR HOME

The measured radon level in picocuries per liter (pCi/L), from the radon collector you sent us is shown by the number in the circle ◯ above your name on the address label used to mail this letter. (it is taped to the back of the sheet)

Radon levels in basements are typically 2-3 times higher than in the upper floors. The annual average is typically 30% higher than a Summer measurement (with windows closed), and 15% lower than a Winter measurement. Spring and fall measurements are typically close to the annual average.

The Environmental Protection Agency (EPA) suggests that remedial action be considered if the annual average radon level in the livable areas of the house is above 4 pCi/L (their regulations on radioactive emissions from nuclear plants are 100 times MORE restrictive).

In our random studies, annual average radon levels in the upper floors have had a media value of about 1.3 pCi/L. About 15% of all measurements have been above 4 pCi/L, and 2% have been above 12 pCi/L. In measurements purchased from our measurement service, the median has been 1.7 pCi/L, 19% have been above 4 pCi/L, and 2% have been above 20 pCi/L. Exposure to radon decay products are often expressed in "working level", WL. A rough conversion is 1 pCi/L = 0.005 WL, or 1 WL = 200 pCi/L.

A typical estimate is that a person spending 75% of a lifetime in a house with a level of 1 pCi/L will have one chance in 300 of dying from lung cancer as a result of this exposure. The risk is directly proportional to the radon level; for example if your reading is 10 pCi/L, your chances are 10 times higher, or 1 chance in 30.

In terms of "loss of life expectancy", a reading of 1 pCi/L is estimated to reduce one's life expectancy by about 25 days; so 15 pCi/L reduces life expectancy by 15x25 days, or about 1 year. By comparison, smoking a pack of cigarettes per day reduces life expectancy by 6 years, being poor reduces life expectancy by 4 years, being 25 lb. overweight reduces it by 2 years, and automobile accidents reduce it by 200 days. Life expectancy is reduced 50 days by the risk of falling, 30 days each by the risk of drowning and of fire or burns, about 20 days by air pollution, and 0.04 days from using nuclear power (based on estimates by most scientists — the most vigorous nuclear power opponents say it's more like 1.5 days).

One way to reduce radon levels is to improve ventilation. Doubling the rate of air exchange roughly cuts the radon level in half. An especially effective method is to open two windows on opposite sides of the basement, and install a large fan in one of them, but this is not practical in cold weather. The EPA, Office of Radiation Programs (401 M St. S.W., Washington, DC 20460), distributes a free booklet giving the latest information on techniques for reducing radon levels in homes. If your radon level is exceptionally high, your state health department will frequently make measurements free of charge.

Before you take expensive remedial action on the basis of any test results, at least one additional measurement should be made.

For further information, it is best to consult your state or local Health Department. Some states have toll-free "800" numbers for this purpose as follows: IL-672-3389; NJ-648-0394; NY-342-3722; OH-523-4439; PA-23RADON; VA-468-0138; MD-800-872-3666; DC-202-727-7728. These numbers can only be dialed within those states.

If you live in New Jersey and have a radon level higher than 4.0 pCi/L, you should notify the New Jersey Department of Environmental Resources by calling 1-800-648-0394.

LIMITATION OF LIABILITY: The results of any radon tests we perform are used exclusively for research purposes except in cases where the respondent requests otherwise. While we make every effort to maintain quality control and include several checks and verifications in our procedures, we make NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, for the consequences of erroneous test results. Neither The Racon Project nor any of its employees or agents shall be liable under any claim, charge, or demand, whether in contract, tort, or otherwise, for any and all loss, cost, charge, claim, demand, fee, expense, or damage of any nature or kind arising out of, in connection with, or sustained as a result of, any radon test request.

THE RADON PROJECT

BERNARD L. COHEN
PRESIDENT

OVER 100,000 HOMES TESTED
P.O. BOX 90069
PITTSBURGH, PA 15224
(412) 687-3393

Dear SIR or MADAM:

The Environmental Protection Agency (EPA) has set the non-action level for exposure to Radon gas in the home to be any level under 4.0 pCi/L. The results of your test indicate that the level of radon gas which you are exposed to is in the safe range. Therefore the EPA would recommend that no remedial action be taken. The following chart lets you compare your level of exposure with the levels in surrounding environments.

If you would like more information regarding radon, you can contact the EPA Office of Radiation Programs at:

EPA — Office of Radiation Programs
401 M St. SW
Washington, D.C. 20640

Radon Risk Evaluation Chart

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk
				4 pack-a-day smoker
100	0.5	270—630	100 times average indoor level	
				20,000 chest x-rays per year
40	0.2	120—380		
				2 pack-a-day smoker
20	0.1	60—210	100 times average outdoor level	
				1 pack-a-day smoker
10	0.05	30—120	10 times average indoor level	
4	0.02	13—50		
2	0.01	7—30	10 times average outdoor level	
1	0.005	3—13	Average indoor level	
0.2	0.001	1—3	Average outdoor level	

HQ, FORT INDIANTOWN GAP
ATTN: AFKA-ZQ-DE-E (K. Malick)
Bldg. 11-29
Annville, PA 17003-5011

SSF
227124
0.2 pCi/l

• Organized to provide highest quality Radon measurements at a reasonable cost, and to provide statistical data to University of Pittsburgh Radon Research Program
• Diffusion Barrier for impr...

THE RADON PROJECT

BERNARD L. COHEN
PRESIDENT

OVER 100,000 HOMES TES

P.O. BOX 90069
PITTSBURGH, PA 1522
(412) 687-3393

Dear SIR or MADAM:

The Environmental Protection Agency (EPA) has set the non-action level for exposure to Radon gas in the home to be any level under 4.0 pCi/L. The results of your test indicate that the level of radon gas which you are exposed to is in the safe range. Therefore the EPA would recommend that no remedial action be taken. The following chart lets you compare your level of exposure with the levels in surrounding environments.

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EPA — Office of Radiation Programs
401 M St. SW
Washington, D.C. 20640

Radon Risk Evaluation Chart

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk
				4 pack-a-day smoker
100	0.5	270—630	100 times average indoor level	
				20,000 chest x-rays per year
40	0.2	120—380		
				2 pack-a-day smoker
20	0.1	60—210	100 times average outdoor level	
				1 pack-a-day smoker
10	0.05	30—120	10 times average indoor level	
4	0.02	13—50		
2	0.01	7—30	10 times average outdoor level	
1	0.005	3—13	Average indoor level	
0.2	0.001	1—3	Average outdoor level	

SFL 9.0 pCi/l

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THE RADON PROJECT

BERNARD L. COHEN
PRESIDENT

OVER 100,000 HOMES TESTED
P.O. BOX 90069
PITTSBURGH, PA 15224
(412) 687-3393

Dear SIR or MADAM:

The Environmental Protection Agency (EPA) has set the non-action level for exposure to Radon gas in the home to be any level under 4.0 pCi/L. The results of your test indicate that the level of radon gas which you are exposed to is in the safe range. Therefore the EPA would recommend that no remedial action be taken. The following chart lets you compare your level of exposure with the levels in surrounding environments.

If you would like more information regarding radon, you can contact the EPA Office of Radiation Programs at:

EPA — Office of Radiation Programs
401 M St. SW
Washington, D.C. 20640

Radon Risk Evaluation Chart

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk
100	0.5	270—630	100 times average indoor level	4 pack-a-day smoker
40	0.2	120—380		20,000 chest x-rays per year
20	0.1	60—210	100 times average outdoor level	2 pack-a-day smoker
10	0.05	30—120	10 times average indoor level	1 pack-a-day smoker
4	0.02	13—50		
2	0.01	7—30	10 times average outdoor level	
1	0.005	3—13	Average indoor level	
0.2	0.001	1—3	Average outdoor level	

HQ, FORT INDIANTOWN GAP
ATTN: AFKA-ZQ-DE-E (K. Malick)
Bldg. 11-29
Annville, PA 17003-5011

#2278906578 3.4 pCi/l

• Organized to provide highest quality Radon measurements at a reasonable cost, and to provide statistical data to University of Pittsburgh Radon Research Program

THE RADON PROJECT

BERNARD L. COHEN
PRESIDENT

OVER 100,000 HOMES TESTED
P.O. BOX 90069
PITTSBURGH, PA 15224
(412) 687-3393

Dear SIR or MADAM:

The Environmental Protection Agency (EPA) has set the non-action level for exposure to Radon gas in the home to be any level under 4.0 pCi/L. The results of your test indicate that the level of radon gas which you are exposed to is in the safe range. Therefore the EPA would recommend that no remedial action be taken. The following chart lets you compare your level of exposure with the levels in surrounding environments.

If you would like more information regarding radon, you can contact the EPA Office of Radiation Programs at:

EPA — Office of Radiation Programs
401 M St. SW
Washington, D.C. 20640

Radon Risk Evaluation Chart

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk
				4 pack-a-day smoker
100	0.5	270—630	100 times average indoor level	
				20,000 chest x-rays per year
40	0.2	120—380		
				2 pack-a-day smoker
20	0.1	60—210	100 times average outdoor level	
				1 pack-a-day smoker
10	0.05	30—120	10 times average indoor level	
4	0.02	13—50		
2	0.01	7—30	10 times average out level	
1	0.005	3—13	Average ind level	
0.2	0.001	1—3	Average out level	

HQ, FORT INDIANTOWN GAP
ATTN: AFKA-ZQ-DE-E (K. Malick)
Bldg. 11-29
Annville, PA 17003-5011

KVK 0.7 pCi/l
#2279307

• Organized to provide highest quality Radon measurements at a reasonable cost, and to provide statistical data to University of Pittsburgh Radon Research Program
• Diffusion Barrier for improved time-averaging • Longer counting for higher accuracy

THE RADON PROJECT

BERNARD L. COHEN
PRESIDENT

OVER 100,000 HOMES TESTED

P.O. BOX 90069
PITTSBURGH, PA 15224
(412) 687-3393

Dear SIR or MADAM:

The Environmental Protection Agency (EPA) has set the action level for exposure to radon gas in the home over 4.0 pCi/L. The result of your test shows your exposure to be over this level. Therefore the EPA recommends that further action be taken. The EPA has set the following guidelines for further measurements before remedial action:

Level of Radon (pCi/L)	EPA Recommended Action
>200	Follow up measurements URGENT
20-200	Follow up measurements ASAP
4-20	Follow up measurements SUGGESTED

If the follow up testing confirms high levels of radon gas, you may wish to take remedial action. The following chart lets you compare your radon levels with those in surrounding environments. If you have any further questions please contact the EPA at the EPA Office of Radiation Programs.

Radon Risk Evaluation Chart

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk
100	0.5	270—630	100 times average indoor level	4 pack-a-day smoker
40	0.2	120—380		20,000 chest x-rays per year
20	0.1	60—210	100 times average outdoor level	
10	0.05	30—120	10 times average indoor level	
4	0.02	13—50		
2	0.01	7—30	10 times average outdoor level	
1	0.005	3—13	Average indoor level	
0.2	0.001	1—3	Average outdoor level	20 c... per year

HQ, FORT INDIANTOWN GAP
ATTN: AFKA-ZQ-DE-E (K. Mallick)
Bldg. 11-29
Annville, PA 17003-5011

#23789777 16.5 pCi/l

• Organized to provide highest quality Radon measurements at a reasonable

DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY GARRISON
FORT INDIANTOWN GAP
ANNVILLE, PENNSYLVANIA 17003-5011

REPLY TO
ATTENTION OF

AFKA-ZQ-DE-E (200-1)

21 Mar 89

MEMORANDUM FOR Facility Managers

SUBJECT: Radon Retest Results

1. Results of the follow-up seven day radon screening tests performed at your facility have been received. Copies of these results are attached.

2. The alpha track monitors (ATMS) which were previously ordered for 90 day radon tests have arrived at this office. However, due to the late arrival date, we have been advised by FORSCOM to hold the detectors until the next heating season. Placement at this time would extend the exposure period through late June or early July when windows or doors may be open, causing inaccurate test results. Reserve centers with confirmed high radon levels from the seven day tests will be retested in late CY 1989 using 90 day ATMS detectors, in accordance with U.S. Army policy.

3. POC at Fort Indiantown Gap is Mr. K.L. Malick (717)865-5444, extension 2634.

RICHARD E. SCHNECK
Major, Engineer
Director of Engineering
and Housing

THE RADON PROJECT

OVER 100,000 HOMES TESTED

BERNARD L. COHEN
PRESIDENT

P.O. BOX 90069
PITTSBURGH, PA 15224
(412) 687-3393

Dear SIR or MADAM:

The Environmental Protection Agency (EPA) has set the non-action level for exposure to Radon gas in the home to be any level under 4.0 pCi/L. The results of your test indicate that the level of radon gas which you are exposed to is in the safe range. Therefore the EPA would recommend that no remedial action be taken. The following chart lets you compare your level of exposure with the levels in surrounding environments.

If you would like more information regarding radon, you can contact the EPA Office of Radiation Programs at:

EPA — Office of Radiation Programs
401 M St. SW
Washington, D.C. 20640

Radon Risk Evaluation Chart

pCi/l	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440—770	1000 times average outdoor level	More than 60 times non-smoker risk
				4 pack-a-day smoker
100	0.5	270—630	100 times average indoor level	20,000 chest x-rays per year
40	0.2	120—380		
				2 pack-a-day smoker
20	0.1	60—210	100 times average outdoor level	
10	0.05	30—120	10 times average indoor level	
4	0.02	13—50		
2	0.01	7—30	10 times average outdoor level	
1	0.005	3—13	Average indoor level	
0.2	0.001	1—3	Average outdoor level	

HQ, FORT INDIANTOWN GAP
ATTN: AFKA-ZQ-DE-E (K. Mailick
Bldg. 11-29
Annville, PA 17003-5011

BOE
#2095264
0.7 pCi/l

• Organized to provide highest quality Radon measurements at a reasonable cost, and to provide statistical data to University of Pittsburgh Radon Research Program
• Diffusion Barrier for improved time-averaging • Longer counting for higher accuracy

17 – 416th Tracer II Report

18 – FFA 2nd Round Appendix A

CONTRACT APPENDIX A
PROJECT DESCRIPTION AND SCOPE OF WORK FOR
Contract number DACA27-02-D-0001,
Task Order No. 0012
The Mason & Hanger Group, Inc.

REVISION 1
25 September, 2002

PROJECT NAME: Full Facility Revitalization (FFR) Technical Assessment – 2nd Round

LOCATIONS:
Jachman USARC, Owens Mills, MD (99th RSC)
Madisonville USARC, Madionson, KY (81st RSC)
Gainesville USARC, Gainesville, GA (81st RSC)
Macon USARC, Macon, GA (81st RSC)
Sheridan, USARC, Baltimore, MYT (96th RSC)

PROJECT NUMBER: N/A

PROJECT ENGR: Stephen Farkus, PE **PHONE: (502) 315-6283**
Email: Steve.Farkus@usace.army.mil **FAX: (502) 315-6373**

1. GUIDANCE: Accept instructions only from the Louisville District and only do work that has been negotiated and authorized. (LDDG 1.3) The Louisville District Design Guide (LDDG) is the most significantly important guidance document in doing business with the Louisville District and contains information and detailed requirements not contained in this Appendix A.

1.1. Completing this task order on time and in accordance with these requirements is critical to meeting our customer's expectation and failure to do so may adversely effect your final performance evaluation. If at any time during this project circumstances present themselves which will not allow you to meet the requirements stated herein you should notify the PE/A immediately in writing explaining the circumstances.

2. PURPOSE AND INTENT:

2.1. Full facility evaluations will provide an independent and documented overview of site and building conditions. An evaluation team will provide assessments leading to recommendations affecting the existing construction. Costs data should be simple and programmatic in nature, based upon reasonable market data. Documents and formats provided are included to serve as only a general guide. The team will visit the facilities listed after coordination by the Government

2.2. The team will collect and evaluate data associated with each of the U.S. Army Reserve Center facilities listed. At the conclusion of the survey and analysis, they will compile a report of findings for each facility, which will be distributed to USACE personnel and the customer per the attached distribution schedule.

2.3. The Evaluation team will have four members; each will be a senior level registered professional within the organization. The team will consist of members that are professional & experienced with extensive knowledge in their particular discipline. Required disciplines will include:

- **Architecture (with fire & safety expertise)**
- **Mechanical (with HVAC and plumbing expertise)**
- **Electrical**

- Civil

2.3.1. Additional Engineer Effort: Be prepared for the addition of a structural engineer participating in the assessment process. Assume an average travel cost of the five sites listed, as well as two days time on site.

2.3.2. Staff shall be registered engineers, architects or equivalent for discipline evaluated. The evaluation team will be augmented by additional disciplines such as structural and civil engineering as situations arise. These members will generally not participate as part of the on-site evaluation team.

3. BACKGROUND:

3.1. Each facility assessment shall begin by the USAR chain of command furnishing the Customer Survey to the facility on-site POC and the RSC Engineer at least two (2) weeks prior to the evaluation team on-site visit.

3.2. During the interim two-week period, the POC will be allowed to complete the survey and collect the identified documents. The evaluation team should not attend the on-site evaluation until the Customer Survey has been completed. The customer-supplied survey responses will be individually discussed at the beginning of the on-site evaluation. The completed survey will be included in the final submitted report.

4. REPORT PROCESS:

4.1. Once on site, investigations will require 1½ to 2 days effort by the interdisciplinary evaluation team. Much of the technical data required to complete Full Facility Assessments will be gained from personal inspections, from interviews with the POC and appropriate staff and through their professional knowledge and familiarity of facility systems. Additional data will be obtained from an overview of facility as-built drawings (especially for structural & site utilities), and by reviewing previously completed studies, including hazards such as lead paint and asbestos. The assessment report will be in three parts:

- **Site**
- **Building Features**
- **Code Requirements**

4.1. Each part shall be completed in its entirety.

4.2. Facility Assessment support data includes comments and recommendations that shall be augmented with digital photographs on additional pages. A minimum of four (4) overall exterior photos shall be prepared showing what the facility looks like (1 per corner). They shall be numbered to clearly identify the survey feature represented. This information will provide an invaluable tool, assisting others in validating and clarifying conditions noted by site investigators. Include at least one digital photo for each survey line item having deficiency.

5. DELIVERABLES: The report shall be delivered in the following sequence:

5.1. Within a maximum of two weeks after the visit to each assigned USAR facility, the contractor shall by e-mail provide one (1) electronic copy of the Assembled Full Facility Assessment (FFA) to the Louisville District, and additional copies via e-mail to others as designated by the Louisville District. This unreviewed document shall be called the "Draft Report", or "Interim Report".

5.1.1 The Louisville District will provide A/E a list of names and respective e-mail addresses, comprising those to receive the Draft Report.

5.1.2 When comments are received, the assessment team shall discuss with the Louisville District and resolve any differences.

5.1.3 All agreed upon comments will be included in a Corrected Final FFA.

5.2. The corrected Final FFA will be delivered within three calendar weeks of the resolution of the final comments.

5.2.1 A Full Facility Assessment Summary shall be placed as a cover sheet over the completed final report. The Summary shall be a brief narrative "executive summary" comprising the results and conclusions from data collected through the on-site assessment and evaluation.

5.2.2 The Full Facility Assessment Form shall be a tabular listing (spreadsheet) comprising the items examined, and their respective conditions, severity, costs to remediate, and general comments and recommendations for each item assessed.

5.2.3 The final report will be in color for both CD-ROM electronic disc and bound hard copies. All electronic documentation will be accomplished using Microsoft Office compatible software. The contractor will demonstrate that the electronic version is editable and printable using EXCEL97 and WORD97

5.4. The contractor shall provide hard copies and electronic CD-ROM discs of the entire report per the distribution schedule:

- **Louisville District - 3 hard copy report / 3 CD-ROM (Attn: Stephen Farkus)**
- **USAREng - 1 hard copy report / 1 CD-ROM (Attn: Mark Byrd)**
- **The associated RSC Engineer - 1 hard copy report / 1 CD-ROM**
- **The associated Facility Manager - 1 hard copy**
- **USAR Contract Action Officer – 1 hard copy / 1 CD-ROM**

5.5. The completed FFA report documentation shall be assembled as in the following order:

- **Full Facility Assessment Summary**
- **Full Facility Assessment Form**
- **Support Photographs**
- **Customer Survey**
- **Other**

6. FFA SCOPE DEFINITION

6.1. Part 1 - Site: Evaluation shall include a physical inspection of all site features including roads, parking, curb and gutters, walks, exterior accessibility (including exterior steps), wayfinding (exterior signage), and fencing. Deficiencies or deterioration of site features and the remaining life expectancy shall be documented. The construction costs of replacement or repairs that are necessary to correct site features shall be estimated to a programmatic level. All underground site utilities such as water, storm water, sanitary, and natural gas systems shall be evaluated. The source(s) of the utilities, the age and materials of the pipe mains, inlets, and fire hydrants, outflow of storm and sanitary lines and shall be considered factors in determining the remaining life expectancy (years). Site electrical and steam distribution (including heating oil system) shall be included under their specific headings. Processes involving hazardous waste shall be evaluated and documented.

6.2. Part 2 - Building Features: The assessment team Architect shall inspect the Building Environment, including a physical inspection of all exterior and interior environment features. Exterior inspection shall include, including roofs, exterior wall assemblies, windows, and a visual inspection of the building to detect any settlement or cracks in the masonry etc. The type of foundation, structural floor system

(including vertical members) shall be documented. Any deficiencies in the structural system that can cause life-threatening situations shall be identified. Any settlement cracks in the stairs, walls, basement walls or retaining walls as well as damaged floor systems and vertical members shall be inspected and referred to a structural engineer for evaluation. Quality of the interior environment shall be assessed such as doors, window treatments, interior finishes, signage (wayfinding), etc. Based on the physical inspection, the programmatic level construction cost estimates of replacement or repairs that are necessary to correct site features shall be determined. Remaining useful life spans for each system component shall be estimated.

6.2.1. The assessment team Mechanical and Electrical Engineers shall inspect the Building Systems. Equipment life expectancy of features and equipment shall be determined, based on professional experience and educated analysis. This information shall be used to evaluate the building's ability to support the function that it is currently serving. Based on results of the physical inspections, programmatic level cost estimates of replacement or repairs that are necessary to correct systems deficiencies shall be determined.

6.2.1.1. Physical inspection of all HVAC systems including air-handlers, package equipment, room terminal units, refrigeration equipment, piping, valves, ductwork, room air distribution, controls, indoor air quality issues and other equipment and system components essential for the operation of the HVAC systems. Inspection, testing, and calibration data, maintenance and repair histories shall be reviewed and facility personnel interviewed. Age, condition, capacity deficiencies, equipment/system efficiency, equipment controls shall be documented. Any deficiency in capacities, ASHRAE (current issue) system deficiencies, and differences from current NFPA and other national code requirements, as well as significant deficiencies from criteria for similar functional areas and equipment requirements shall be identified. Any piping flow problems, deteriorated piping problems, pumping problems, etc. shall also be identified.

6.2.1.2. Physical inspection of the chiller plant and related systems including refrigeration equipment, cooling towers and condenser water pumping systems, primary and secondary chilled water pumping systems, condenser water system, valves, other equipment and system components essential for the operation of the chiller system. Inspection, testing, and calibration data, maintenance and repair histories shall be reviewed and facility personnel shall be interviewed. Age, condition, capacity deficiencies, equipment/system efficiency and equipment controls shall be documented. Any deficiency in capacities, ASHRAE (current issue) system/standards deficiencies, and differences from current NFPA and other national code requirements, as well as significant deficiencies shall be identified. Any piping flow problems deteriorated piping problems, pumping problems etc. shall also be identified.

6.2.2. Physical inspection will also include domestic cold and hot water, hot water recirculation systems, domestic hot water heaters, medical air O_2 and vacuum systems and sprinkler systems. Inspection, testing, and calibration data, maintenance and repair histories shall be reviewed and facility personnel shall be interviewed. Age, condition, capacity deficiencies, equipment/system efficiency, control of equipment shall be documented.

6.2.3. Inspect all electrical and lighting systems as indicated in the assessment form. This includes incoming electrical service and switchgear, main facility fire alarm system, site lighting and security systems, secondary distribution system (transformer, secondary service equipment, risers, panelboards and branch circuit wiring), essential electrical system (all related equipment including fuel oil tanks), interior lighting and power, interior fire alarm system, lightning protection system and electrical closets. Recent maintenance and testing reports and repair histories on electrical equipment shall be reviewed and any deficiencies documented.

6.2.4. Physical inspection of all vertical transport systems to include cranes and hoists. Inspection and maintenance histories shall be reviewed and facility personnel shall be interviewed. This information shall be used to evaluate the equipment's ability to support current and short-term peak traffic loads. Handicap accessibility shall be reviewed.

6.3. Condition coding: The "Condition" of building and site features shall be completed in the FFA.
6.3.1 Condition of a feature shall be categorized into one of five designations noted below, by evaluating a feature's operability and also evaluating its capability.

6.3.1.1 "Operability" has to do with whether or not the feature functions as originally intended.

6.3.1.2 "Capability" has to do with whether the feature provides the necessary features and conditions to meet present use requirements.

6.3.1.3 Examples: An arms vault with no dehumidification has insufficient capability. A storm drainage system that is clean and functional is operable, however if undersized is incapable. Broken toilets are inoperable; non-ADA toilets (where ADA is required) are a capability question.

6.3.1.4 Capability in many or most instances shall be as determined and characterized by the user. Examples include user-reported too-small kitchen, drill hall, parking area; this room always too hot, we need more showers, storage, etc. A-E is not expected to examine facility against TOE, authorized versus available gross square footage, or other similar published programming requirements guides in order to make capability evaluations. A-E will report any capability characterizations made by user in the course of the assessment.

6.3.1.5 As a general guide for consistently assessing among the five condition designations, A-E may use the conditions depicted in the ISR Standards Booklets 5, 10 and 16, and characterized there as "Green", "Yellow", or "Red" condition.

6.3.2 Condition shall be assessed using one of the five following designations:

Condition rating	Example
E = Excellent: Fully operable and fully capable.	*ISR Green or better*
S = Satisfactory: Both Operable and Capable.	*Between ISR Green and ISR Yellow.*
A = Adequate: Overall condition is marginal, but facility is generally usable.	*ISR yellow or slightly better.*
P = Poor: Partly inoperable; partly incapable	*Between ISR Yellow and ISR Red.*
U = Unreliable: Both operability and capability are unsatisfactory and in failure status.	*ISR Red*

6.4. For all items having replacement or correction costs, there shall be an indication of the problem severity on the left side of the Assessment Form "Comments" column. The designations shall be based on the following:

1 = Health and Safety related deficiencies such as code violations and new requirements not being met.
2 = Defects and functional systems/component failures causing unhealthy or unsafe conditions.
3 = Noncompliant condition, of Severity category 1 or 2 above, but remediable through implementation of normal or routine Maintenance practices; replacement or major repairs not required.
4 = Recommended upgrade to increase safety or improve function. Present condition may have been adequate when installed, but does not meet current requirements. Improvement is recommended, but not mandatory.

6.5. Part 3 - Codes Requirements: The assessment team shall conduct a thorough code review and inspection of the existing facility. Inspections identified in the assessment form include Life Safety, ADA/UFAS Handicap Accessibility, National Electric Code, National Sprinkler Code, Kitchen hoods and equipment codes, hazardous materials codes, etc. Any code deviations or violations (with respect to the current issue of these codes) shall be identified.

6.6. Based on the physical inspection, the construction cost of facility upgrades or repairs that are necessary to correct the site or building features shall be programmatically estimated.

7. Design Support Effort:

7.1. Quality Control Plan (QCP): The CONTRACTOR will submit a one-page draft QCP with the original fee proposal. Within one week after Notice to Proceed, provide a completed QCP that contains the following features:

7.1.1. Identification of each Assessment Team.

7.1.2. Identification of the team member responsible for checking each Assessment Report.

7.1.3. Project Schedule showing key milestones and review periods.

7.1.4. The CONTRACTOR is responsible for the product development, internal Quality Control, and technical review for all products provided under this contract.

7.1.5. For the final submittal the CONTRACTOR will provide a signed certification that has the signatures of the Assessment Team and states that all comments resulting from review have been incorporated into the final report.

7.1.6. The Project Engineer must approve the QCP before proceeding with any work.

8. Responding to Review Comments: The Government will review submittals and make comments. Notify the Project Engineer immediately of any comments that are not understood or are disputed.

9. Priced Options: None.

10. Unpriced Options: None.

11. The CONTRACTOR is responsible for preparing "Meeting Minutes" for all meetings. The final version of the minutes will be provided to attendees within one (1) week of the meeting. One such meeting, the initial Scoping meeting, is expected.

12. Pay Requests: Use ENG Form 93. (LDDG 1.17) Mail to Attention: ED-MA (S. Farkus).

13. Design Schedule: TBD All work to be completed by 30 September 2003.

Site	AO On Site	MHG Site Visit (PM start 1st Day)	Draft Report	Com'ts Rec'd	Conf Call	Final report

The AO will have 1/2 day lead time before the MHG Team arrives

ATTACHMENTS

Submitted by

Nolan K. Harrison, PE
Project Manager,

The Mason & Hanger Group, Inc.
Suite 1300, 300 W. Vine St.
Lexington, KY 40507-1814
Ph: 859-252-9980 Fax: 859-389-8870

19 – Supplementary Notes on Building Codes

Supplementary Notes on Building Codes

1. Codes Status

Ongoing Code Changes -- At the time of this report, military construction is in the midst of changing its applicable governing Codes. Changes include:

- Change from *Uniform Building Code* (as modified) to *International Building Code* (as modified) as the general code basis.
- Replacement of the other major code reference, *MIL-HDBK 1008C Fire Protection for Facilities Engineering, Design and Construction 10 June 1997* with *UFC 3-600-01, Fire Protection for Facilities Engineering, Design and Construction September 2002. However, new* UFC 3-600-01 was not issued at the time of this report.
- The older MIL-HDBK version still makes reference to *Uniform Building Code, and NFPA 101 Life Safety Code.* These Codes somewhat overlap/conflict with other newly adopted code documents. Resultant ambiguity cannot be resolved until UFC 3-600-01 is issued. For now, we have elected to use the Codes as listed below.
- Last, the current guidance requires in certain instances use of "Unified Facility Criteria Documents, Unified Facility Guide Specifications and military criteria documents". Those documents are not specifically enumerated, and in general have not always been updated to reflect recent military code basis changes, thus are somewhat ambiguous in their reach.
- Clarification was sought before undertaking the current series of facilities assessments, but it appears clarification must wait until some time passes, and the new code changes settle into current use and adaptation throughout all military documents and requirements.

Readers and subsequent users of this Report, prior to undertaking future Revitalization design and construction, may wish to reexamine the then-current Codes, and reevaluate as necessary.

Codes and Guides used -- A partial list of Code criteria used in assessing the existing facilities follows:

- ***UFC 1-200-01 Design: General Building Requirements*** 31 July 2002 is the basis document. It determines which Sections of the International Building Code 2000 are to be applied to military construction, and where IBC sections are to be deleted or modified, those substituting or modifying documents or Codes to apply instead of IBC.
- ***International Building Code***, 2000 edition. (Those portions of the IBC not excluded/replaced per above UFC document).
- Some of the IBC portions replaced or included use the following substitute documents:
  - **MIL-HDBK 1008C, *Fire Protection for Facilities Engineering, Design and Construction,*** edition of 10 June 1997. Use the 1008C as described below:
    - For [general] fire protection and life safety requirements.
    - Use Chapter 3 for Use and Occupancy classification.
    - Use for Interior Finishes, in supplement to IBC Chapter 8.
    - Use for Fire Protection Systems.
    - Use for Means of Egress requirements.
  - ***Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities. (ADAAG)***, September 1999.
  - ***Uniform Federal Accessibility Standards*** (UFAS), September 1999.

- "**Applicable DOD and individual military service standards**"
  - Special Detailed Requirements based on Use and Occupancy, as described in UFC 1-200-01 para 1-6.5.
  - Interior Environment, selected portions as noted in UFC 1-200-01 para 1-6.13.xx
- **NFPA 70 National Electric Code,** in lieu of IBC Chapter 27.
- **NFPA 56 National Fuel Gas Code,** in lieu of IBC Chapter 28.
- "**Unified Facility Criteria Documents, Unified Facility Guide Specifications and military criteria documents**", per UFC 1-200-01 para 1-6.14.
  - for Energy Efficiency, in lieu of IBC chapter 13
  - for Mechanical Systems in lieu of IBC chapter 28
  - for Plumbing Systems in lieu of IBC chapter 29
- In supplement to IBC Chapter 14, use **TI 800-01** ***Design Criteria*** USACE 20 July 1998 for added guidance requirements, concerning exterior walls with respect to air infiltration, glazing area, and moisture migration.
- In supplement to IBC Chapter 15 general requirements, ***use NRCA Roofing and Waterproofing Manual,*** and ***UFGS Div 7 Thermal and Moisture Protection*** for technical criteria.
- In supplement to IBC Chapter 16, Structural Design, use ***TI 809-4 Seismic Design for Buildings*** 31 December 1998 for certain seismic requirements.
- In supplement to IBC Chapters 17 thru 26, use certain military publications and UFGS guide specs as listed in UFC 1-200-01 for Structural tests, foundation design, and concrete, aluminum, masonry, steel, and wood structural design elements, and for glass and glazing, plastic, and plastic components.

- ***UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings***
- ***DG 1110-3-107 Design Guide for U.S. Army Reserve Facilities***, 17June2002. (This is not a Code, but does indicate the general design thrust and direction for future USARC design, and offers some guidance for evaluating sizes of restroom facilities and other named spaces that may be incorporated into the future Revitalization Design Program requirements for the buildings.)

2. Sprinklers

As noted above, MIL HBK 1008C is being revised. When reissued as UFC 3-600-01, it is expected to have the required sprinklers threshold revised upward from $2.5, to $5.0 million. This Assessment assumes the anticipated $5M threshold.

3. Repair Garage Heating Equipment

This specifically pertains to the H&V unit typically used for providing a portion or all of the heating in OMS and AMSA shops, and typically located in the ceiling of the workbays.

IBC 406.6.5 as written requires heating equipment in repair garages to be placed in another room separated by a 2-hr fire barrier with outside access or access by a two door vestibule entrance from the inside.

The IBC allows the exception of unit heaters in repair garages located at least 8 feet above the floor to be within the space and not separated.

The above language is evidently under review and revision by IBC at grassroots level. Reasons given for the review are:

- The language overlaps language in the International Mechanical code.
- The language may be overly restrictive.

In our opinion, this requirement needs further development, for reasons including:

- "Heating equipment" needs to be defined, and we failed to find such a definition. For example are under-floor hot water radiant systems "heating equipment"? Or an air handler with a hot water coil, no flame? Or any of the various types of sealed combustion heaters having no exposed flame in the space, and with all air to/from the outside?
- The exception for unit heaters makes questionable safety sense in our opinion. There is perhaps nothing inherently safer about a unit heater compared to many other types of heating equipment. A typical natural-draft open-flame unit heater is perhaps less safe than any of the alternative equipment types described in the paragraph just above.
- The definition of "unit heater" is not really that distinct from other mechanical comfort equipment types. "Unit heaters" can, as standard, be provided with centrifugal blowers and duct collars, thus become functionally indistinguishable from H&V units.

Last, is not clear how or whether this distinction applies in any event to military projects designed under **UFC 1-200-01**. That document, as noted in the "Overview" portion of this Assessment, excepts major portions of the IBC, and all of the International Mechanical code (IMC). The IMC is the basis for the above heating equipment requirement.

For all these reasons, this Assessment in the "Building- Maintenance Overall Recommendations/Comments segment, considers mechanical equipment for the Maintenance building irrespective of IBC 406.6.5 language as currently written. In the FFR phase it is recommended the designer revisit this issue and reevaluate code and requirements status.

NOTE 1: In the event that it is determined in the future that only "unit heaters" are allowed as heating equipment mounted in repair bays – as IBC 406.6.5 appears to suggest -- existing heating equipment in the ceiling of the workbays could perhaps be removed and replaced by a "centrifugal-fan ducted unit heater", located a minimum of 8 feet above the floor. As noted above, this is really the same equipment as described in this Assessment, and is a standard cataloged product.

NOTE 2: Language similar to the above is also in the current edition of NFPA 54, the National Fuel Gas Code, Section 8.1.11.2, as quoted below. However, NFPA 54 uses the words "overhead heaters", not "unit heaters", in its Exception No. 1. The military has adopted NFPA 54 as the gas code. Assuming NFPA 54 language trumps IBC 406.6 with respect to gas burning equipment applications, the repair garage problem would be resolved.

From NFPA 54 –2002 (The National Fuel Gas Code):
8.1.11.2 Repair Garages. Gas utilization equipment installed in repair garages shall be installed in a detached building or room, separated from repair areas by walls or partitions, floors, or floor ceiling assemblies that are constructed so as to prohibit the transmission of vapors and having a fire resistance rating of not less than 1 hour, and that have no openings in the wall separating the repair area within 8 ft (2.4 m) of the floor. Wall penetrations shall be firestopped. Air for combustion purposes shall be obtained from outside the building. The heating room shall not be used for the storage of combustible materials.

Exception No. 1: Overhead heaters where installed not less than 8 ft (2.4 m) above the floor shall be permitted.

Exception No. 2: Heating equipment for vehicle repair areas where there is no dispensing or transferring of Class I or Class II flammable or combustible liquids or liquefied petroleum gas shall be installed in accordance with NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages.

END

20 – Conference Call Minutes

The Mason&Hanger Group Inc.
a Day & Zimmermann company

MINUTES OF CONFERENCE CALL
Wilson-Kramer USARC
Bethlehem, PA

Wednesday, March 05, 2003

CONFEREES

Name	Phone	E-mail
Steve Farkus	(502) 315-6283	Steve.Farkus@usace.army.mil
	(502) 387-4302 (cell)	
Dale Adams	(859) 252-9980	dale.adams@mhgrp.com
David Parker	(859) 252-9980	david.parker@mhgrp.com
Mike Riley	(859) 252-9980	Mike.Riley@mhgrp.com
Nolan Harrison	(859) 252-9980	nolan.harrison@mhgrp.com
	(859) 608-7147 (cell)	

MINUTES & CONCLUSIONS:

RECOMMENDATIONS

Steve Farkus Review Comments:

1. Overview, Page OV-2: Revise the wording in the "Location" paragraph concerning access from Avenue A.
2. Overview, Page OV-3:
   - Revise the wording in the "Site" fencing paragraph to indicate that the fence location is questionable with respect to allocation between POV and MEP parking.
   - Indicate that the City of Bethlehem provides water and sewage disposal to the USARC.
   - Revise wording in the Training Building roof paragraph to indicate source of our reported information that roof is regularly inspected and maintained.
3. Overview, Page OV-4: Toward bottom of page, MHG should elaborate on what is meant by the description of the existing HVAC system as a "patchwork".
4. Overview, Page OV-5: Under the Hazmat section, MHG should point the reader toward the Appendix for the range lead clearance certificate.
5. Page Site-3: Further discussion on why MHG typically recommends TV inspection of storm and sanitary sewers respectively. Why does MHG feel this is necessary in most reports? David Parker stated MHG's logic was that our site visit during the assessment couldn't determine the actual condition of the pipes, as all we could see was what was visible from above ground. Therefore we have no way of knowing in a comprehensive way either

condition, size or location of the sewers. The assessments typically includes a recommendation to TV the sewers for this reason. We will further annotate to note that sewers were at the time of the assessment generally reported to be working with no known problems. Corps can then make a cost-benefit judgment at the time of revitalization, considering as-built information available at that time, whether it would be cost-effective to conduct the survey up front or to risk "found conditions" during construction.

6. Page Site-5: Why does MHG recommend that the Kitchen Grease Trap be inspected to verify its soundness? David Parker replied that MHG typically finds that the USARC grease traps have been ignored for a long period of time. Often no one at a USARC is aware there is a grease trap or that it requires periodic service. MHG cannot inspect the trap until it is pumped out so that walls of grease trap are visible, thus we have to recommend a follow-up evaluation. Steve asked what if the USARC arranged to have the grease trap pumped down prior to the site visit, would this allow the inspection? MHG indicated yes. ***(Follow-up.*** *Not sure this will work, logistically. Any use of water in the kitchen after cleanout will fill the trap back. Any cooking will reinsert a layer of grease at the top. Either wastewater or floating grease will probably block vision. For this to work, grease trap would have to be inspected very shortly after pump-down. MHG can accommodate, but the grease trap servicing company would have to show up within a specific 1 or 2 day window coincident with the scheduled assessment site visit.)*

7. Page TB-19: Shop/Kitchen Equipment: (Discussion of Can Wash)-- Nolan and Dale said the new Reserve Centers typically have a Can Wash; we discussed the USARC at Gainesville for reference. By comparison, Bethlehem has no can wash, and there is no good place to put one, because kitchen has no back door. Steve indicated that he appreciated MHG's thoroughness; it describes more and more of subtleties such as this with each report as it progresses through the assessments.

8. Page TC-2: Corridors. Steve indicated the write-up there describing corridor wall fire rating requirements as affected by sprinkler requirements was a particularly good model of clarity and succinctness. Steve's kind comments are appreciated.

9. Page TC-5: Wood Deck Issues:

- Steve asked why MHG recommended this issue be re-examined for code compliance at the time of design, rather than disposing of it now with the Assessment.
- MHG replied we have researched the code and regulatory documents as they now exist, and we conclude those documents are currently somewhat ambiguous. Also, a good part of the answer to this question appears to hinge on requirements of Mil Handbook 1008C, once that document has been reconciled with the International Building Code and reissued as UFC 3-600-01. This has not yet been done; for more detail on the status, see our Appendix item "Supplementary Notes on Building Codes", as included in the Owings Mills and Gainesville reports, and to be included in the final Bethlehem Report as well.
- We feel that once the dust is settled on Code document changes, a determination concerning the wood deck will need to be made by the "Authority Having Jurisdiction" (AHJ); and the proper time to seek such a determination is probably during the design process, when the actual design conditions and other building modifications/additions are known and reflected on schematic design plans made available to the AHJ.

- Steve suggested maybe it might serve everyone well if this general question is brought up to the appropriate people at Louisville District for whatever reading they can provide at this time, this to be used as guidance for future Assessments.
- MHG concurs. ***Follow-up*** *--The best general information MHG can provide Steve Farkus for forwarding to the appropriate Code people at Louisville District for an interpretation is embodied in:*
  - *The paragraphs above.*
  - *The Assessment's Overview section, which includes MHG's listing of what we think are the overall Codes applicable.*
  - *The Final copy of the Bethlehem FFA Assessment (particularly the Recommendations – Code sections for both Training building, and Maintenance Building (OMS). OMS has an all-wood roof. These two narratives include pictures of the conditions in question.)*
  - *The Assessment report Appendix item "Supplementary Notes on Building Codes".*
  - *The Final report will have all the above documents in it.*
- (As a side note, we suspect this is a fairly unusual condition. We have not run into a USARC Training building in prior assessments having steel construction and a wood deck. The Cloyse USARC at Salem Virginia (now undergoing mechanical-only renovation) had hardwood floors on second floor over wood joists as I recall, thus if undergoing FFR would be even more of a question mark. Wood construction was one of the options presented on the old standard drawings, but it appears most of the buildings were constructed all non-combustible.)

***** END *****

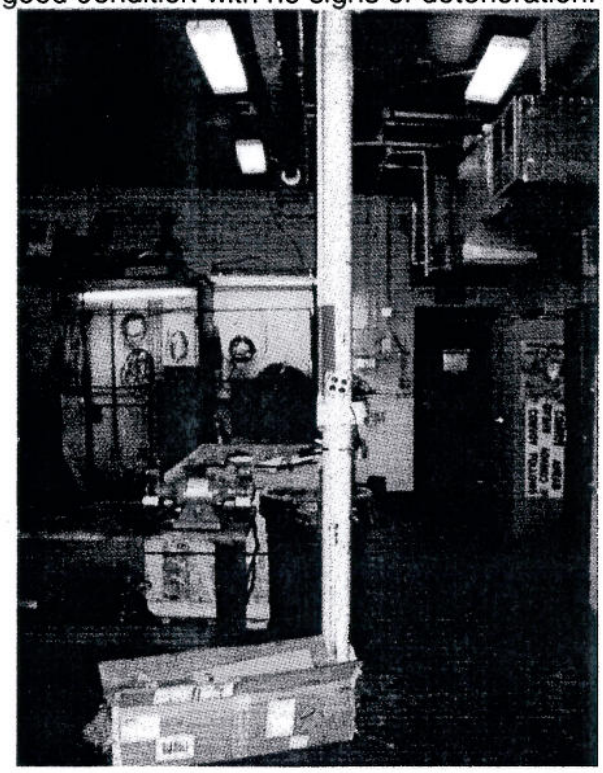
Comments corrections and additions to these minutes are requested. Corrections received will be incorporated into the Final Report and included in the Appendix copy of the minutes if received by c.o.b. March 5, 2003.

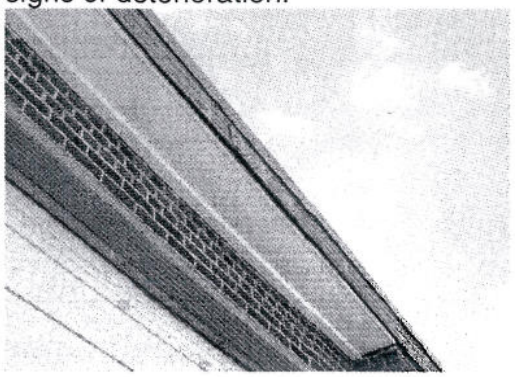
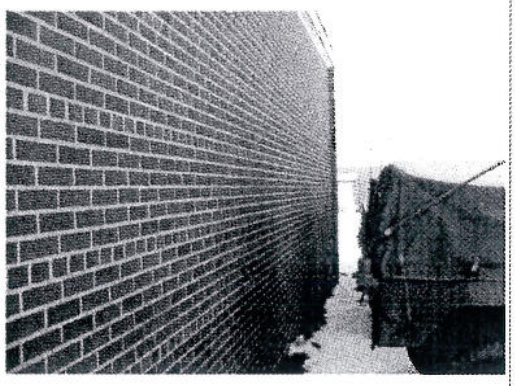
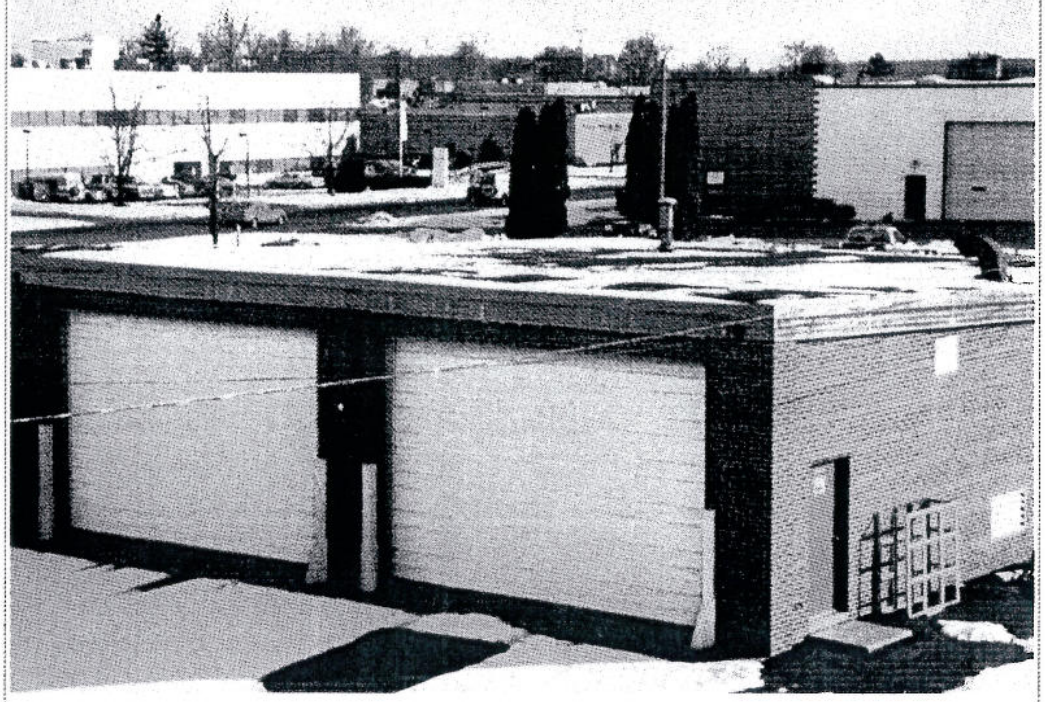
Submitted by

Nolan Harrison, PE

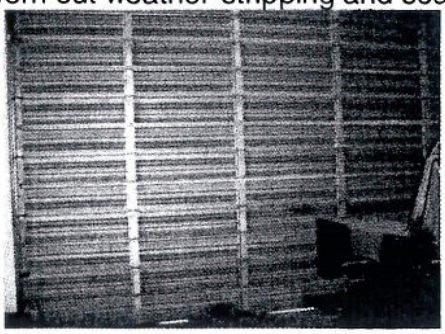
Distribution: All participants, plus Jon Miller, Mark Byrd, Mike Ryan

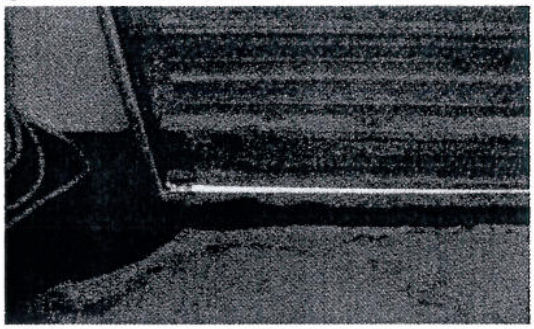
See next page for email received 6 March 2003

BUILDING	MAINTENANCE BUILDING
Project Name:	**Full Facility Assessment**
Building Name:	**Wilson-Kramer USARC**
Project Location:	**2940 Airport Road**
	Bethlehem, PA 18017
Year Constructed:	**1961**
REQUIREMENTS	**RECOMMENDATIONS/COMMENTS**
Building Environment	
Exterior	
Foundations	Existing foundations were not visible around the Maintenance building due to grade coverage. From evaluation of the exterior wall construction there were no visible signs of deterioration to the existing foundations.
Vertical Structural Members	Existing vertical structural members are 4" diameter steel pipe columns supporting a roof beam running down the center of the work bays. These columns are in good condition with no signs of deterioration.  <u>The A/E recommends that these steel columns be re-painted.</u>
Floor Structural Systems	Existing floors are concrete throughout the building exposed in the workbay areas and covered with carpet in the admin area. The existing floors are in good condition with no signs of deterioration.

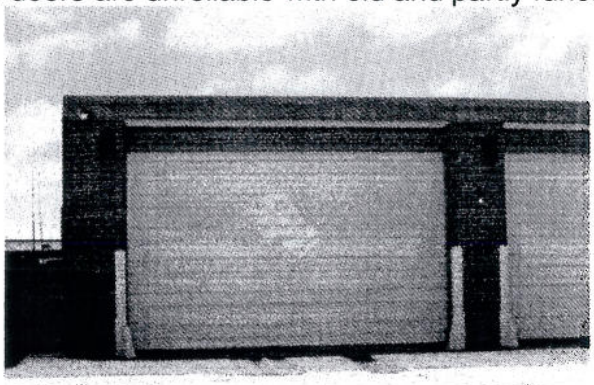
~~Seismic/Wind Load~~	Not included in this assessment.
Exterior Walls	Existing exterior walls are load bearing brick masonry around the entire building. The A/E noted existing walls to be in good condition with no visible signs of deterioration.   The A/E recommends that existing steel lintels be prepped and repainted and walls be sealed with a water permeable sealer product.
Roof	The existing roof system is a 4-ply built-up roof with gravel ballast sloped toward the rear of the building to gutters and downspouts. There were no reports of roof leaks inside the building however the roof is indicating its age.  The A/E recommends that the entire roof be replaced during building revitalization in order to provide a weathertight building. Consideration might also be given to constructing a pitched roof over the flat roof areas as an accent and for a low maintenance, more reliable solution to the flat roof
Doors	Existing overhead doors are non-insulated, sectional type manually operated. Currently, they do not provide an airtight seal at the floor due to

worn out weather-stripping and seals.

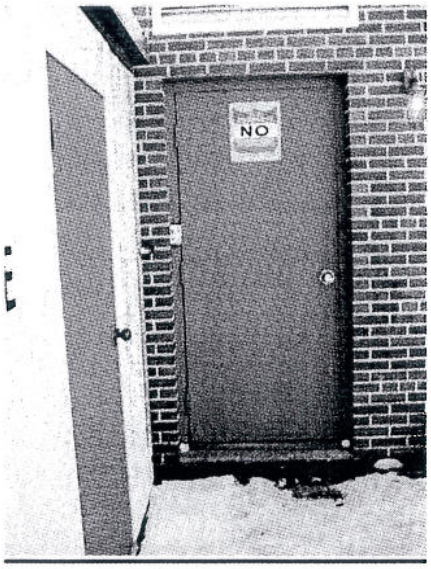




Existing exterior doors are hollow metal, un-insulated with hollow metal frames and inadequate hardware. These doors appear to be original to the building. These doors are unreliable with old and partly functional hardware.



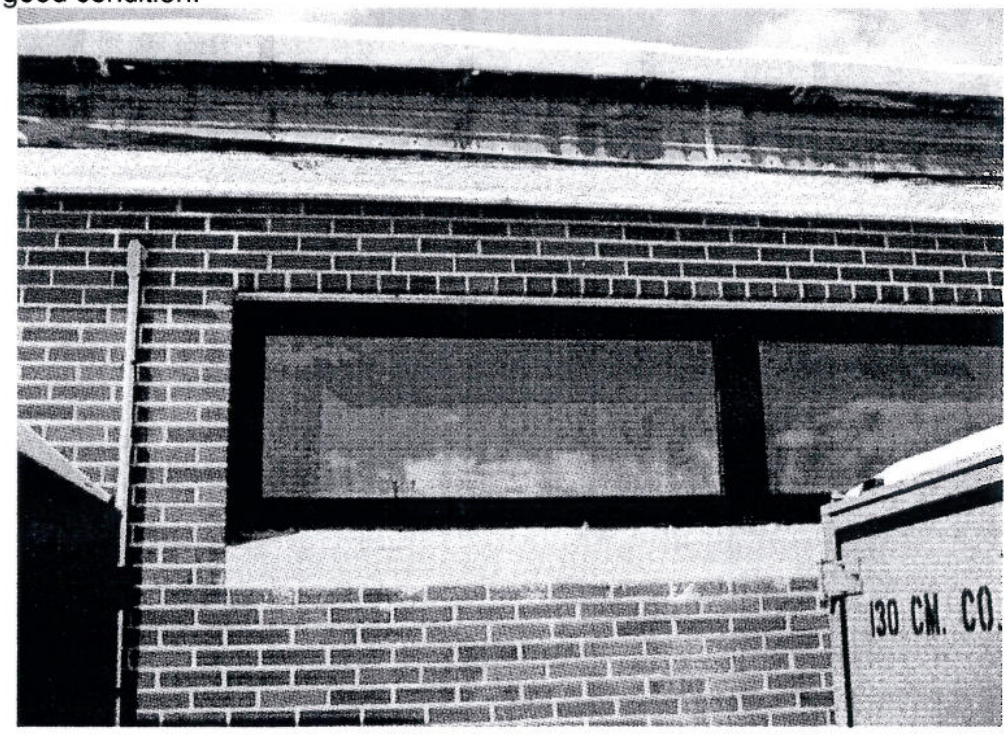
<u>The A/E recommends that all the exterior hollow metal doors/hardware including the overhead doors be replaced since they are in poor condition and uninsulated with partly functional hardware.</u>



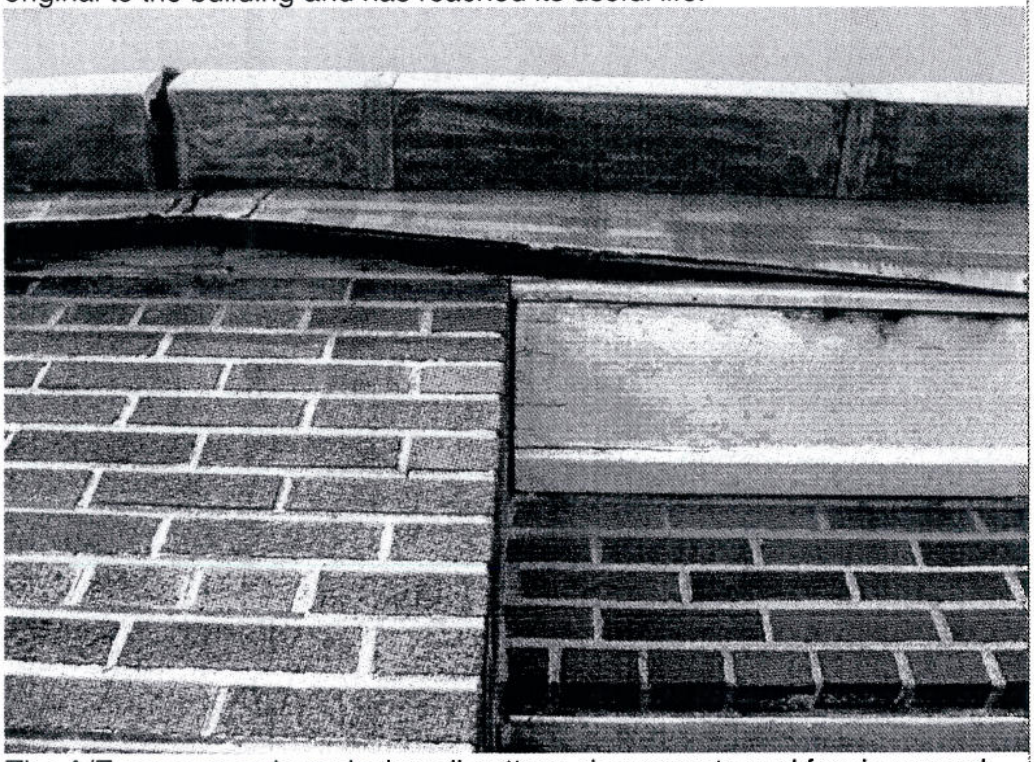
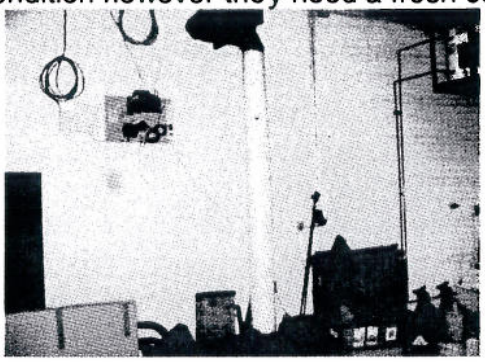
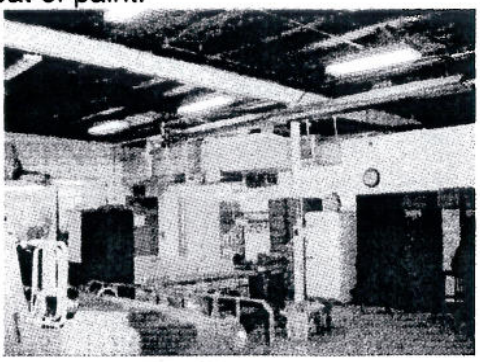
Because the clerestory windows are now all inside the added offices, there is no daylight in the maintenance bays. The A/E therefore recommends that the two exterior hollow metal doors leading into the maintenance bays be half-glass type, and that the roll up doors be provided with vision panels

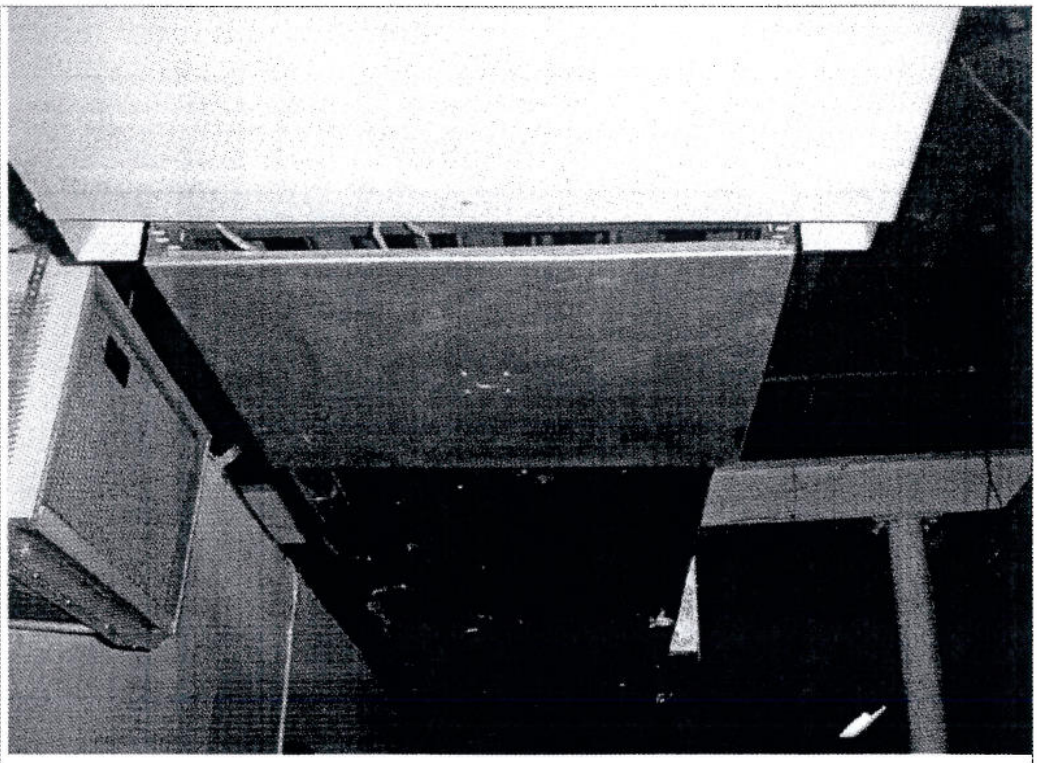
Windows

Existing clerestory windows are bronze anodized aluminum, operable (out-swing, awning-type) with insulated glass and screens. These windows are in good condition.



The A/E recommends that all existing windows be re-sealed around the perimeters and laminating film be applied on all windows for anti-terrorism/force protection measures

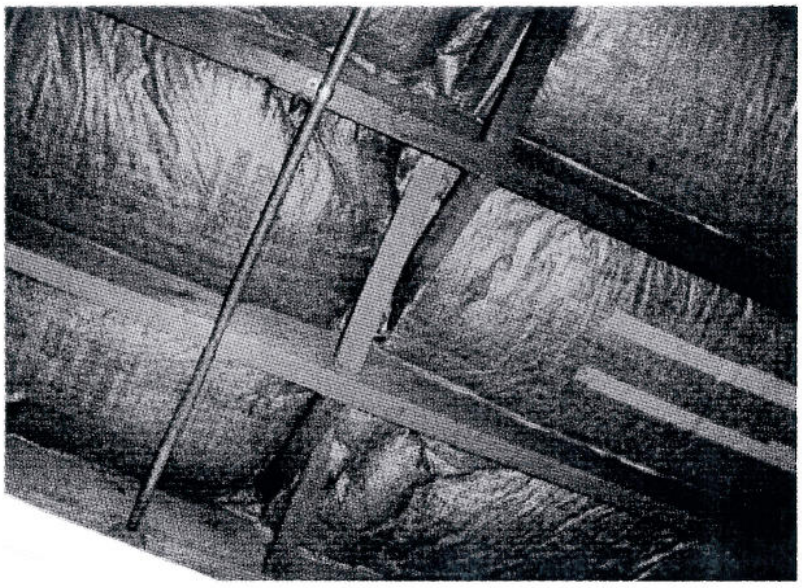
Trim/Fenestration	Existing gutters, downspouts and fascia on the original building are copper. There are numerous locations where the flashings are deteriorating and beginning to rot the wood substrate behind it. This flashing appears to be original to the building and has reached its useful life.  The A/E recommends replacing all gutters, downspouts and fascia around the building with new copper gutter, downspouts, fascia and flashings. Also it is recommended that cast iron downspout boots be provided to keep downspouts from being damaged.
Interiors	
Floor Finishes	Existing floor finishes are exposed concrete in the workbay area and carpet in the makeshift admin/storage area adjacent to the workbays. These floors are in good condition with no signs of deterioration.
Stairways, treads, & railings	No stairway in this facility.
Wall Finishes	Existing wall finishes consist of painted concrete block and painted gypsum board for the partition wall separating the admin area from the workbays. This partition wall is open between the top of the wall and the deck allowing sound transmission between the spaces. The existing walls are in good condition however they need a fresh coat of paint.  



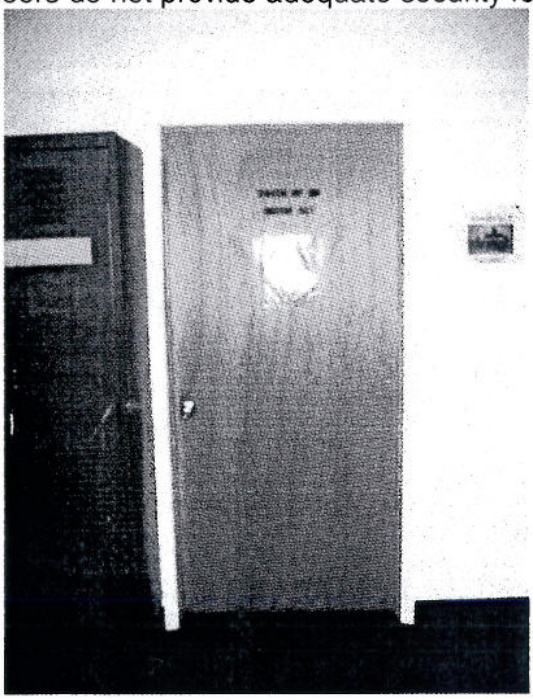
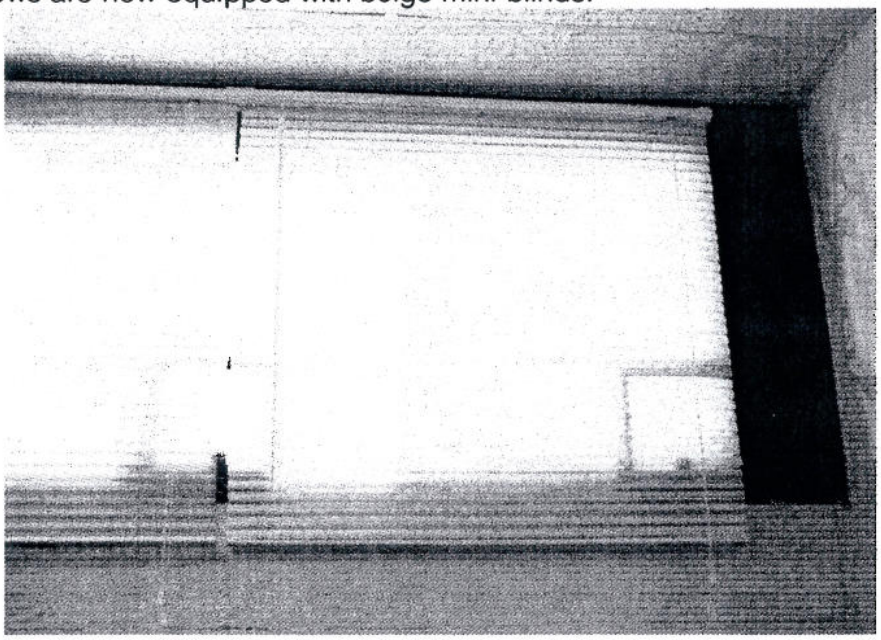
The A/E recommends extending the partition wall between the workbays and the admin area to the deck to reduce sound transmission and repainting all wall surfaces inside the building to provide an overall appearance of consistency inside the facility

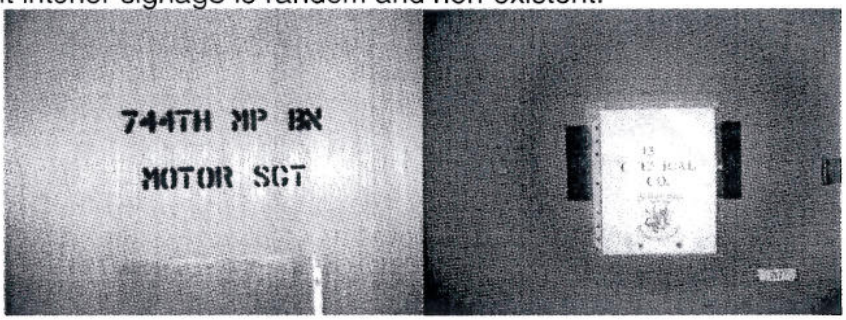
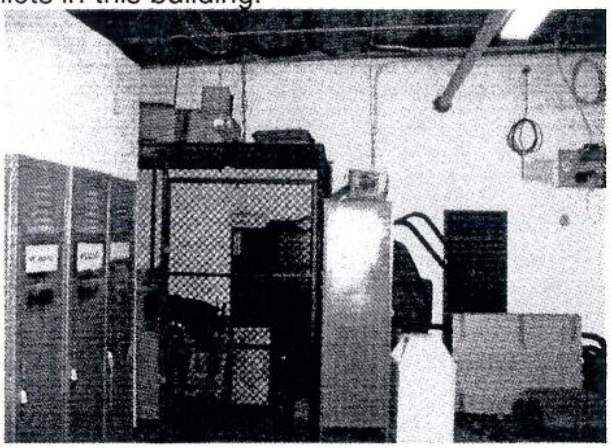
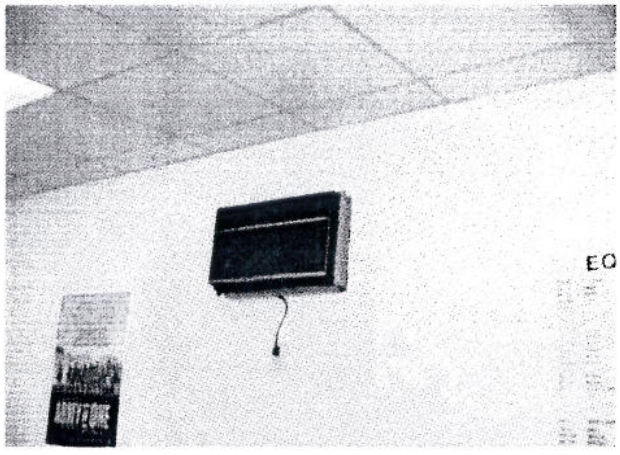
Ceilings/Finish

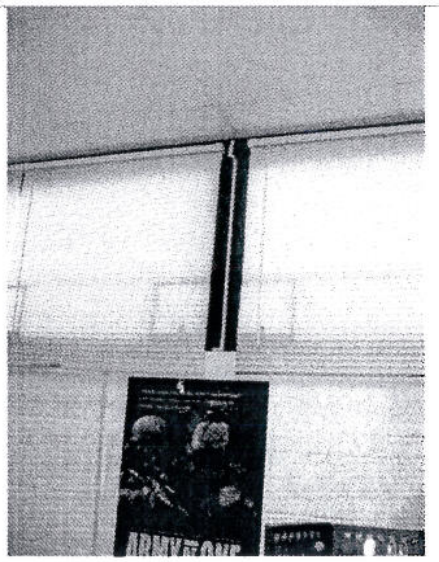
Existing ceilings are exposed wood frame structure with exposed kraft-faced batt insulation between the joist framing members. This makes this space very dark inside. Inside the admin area there are suspended acoustical ceilings.



The A/E recommends providing a gyp board ceiling inside the workbays to increase the light levels inside the space.

Doors/Hardware	Existing interior doors are hollow metal with hollow metal frames and there is one hollow core wood residential-type door in the drywall partition accessing an office. These doors do not provide adequate security for the user.  The A/E recommends for code reasons that interior hollow core doors and hardware be replaced with more durable metal doors and commercial grade hardware.
Window Treatment	The clerestory windows at rear of OMS and formerly lighting the workbays are now all inside the office spaces that have been retrofitted. These windows are now equipped with beige mini-blinds.  The A/E recommends providing new 1" aluminum mini-blinds for the clerestory windows at the rear of the OMS.

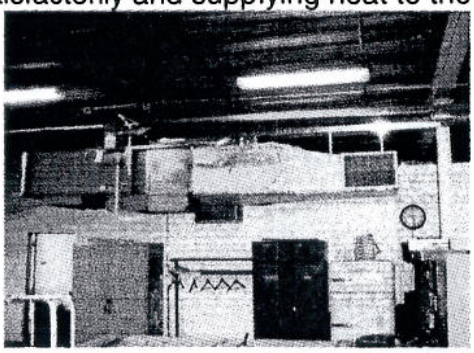
Signage (General)	Current interior signage is random and non-existent.  The A/E recommends installing new ADA compliant interior signage throughout the building.
Restrooms	There are no toilets in this building.  The A/E recommends constructing an ADA compliant unisex toilet in this building. A possible location is in the corner now occupied by cage storage.
Building Systems	
Mechanical	
Refrigeration Equip	Building is not air-conditioned except for a window unit mounted high in an interior wall in the office infill area at the back of the maintenance bays.  We recommend that the window-type units be removed and replaced with motel-type PTAC units in a standard 16" x 42" wall sleeve in the rear wall of the offices below the Clerestory windows.

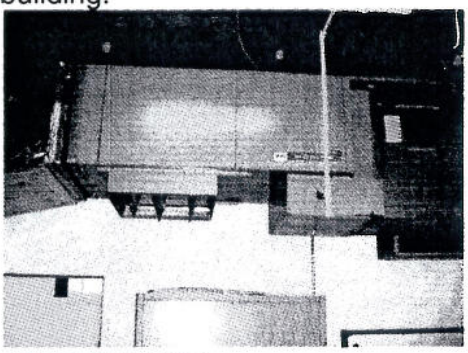


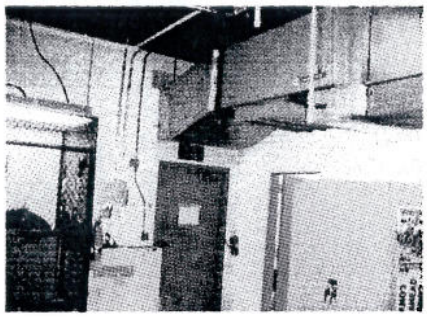
Note the office at the right rear of the maintenance bays and nearest the caged equipment/tool storage was locked during the site visit. Its condition and installed equipment is not known.

Heating System

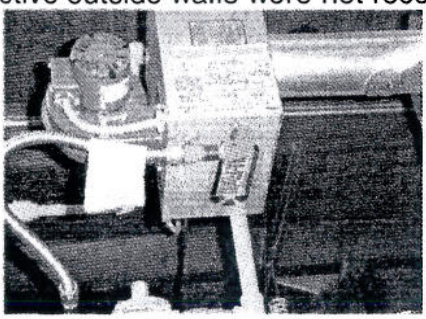
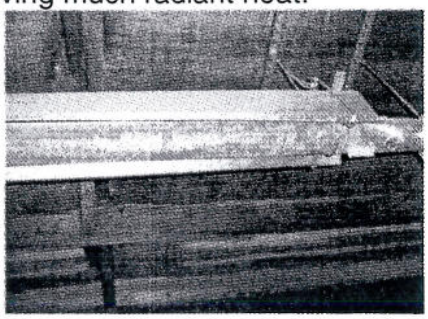
The 2 maintenance bays are heated with a single ceiling hung gas-fired horizontal heating and ventilating unit, manufactured by Modine. This unit has an outside air connection to a wall louver, and a return air opening into a mixing box section preceding the furnace section. At the time of our visit the H&V unit was set for all return air and no outside air. Unit was operating satisfactorily and supplying heat to the building.

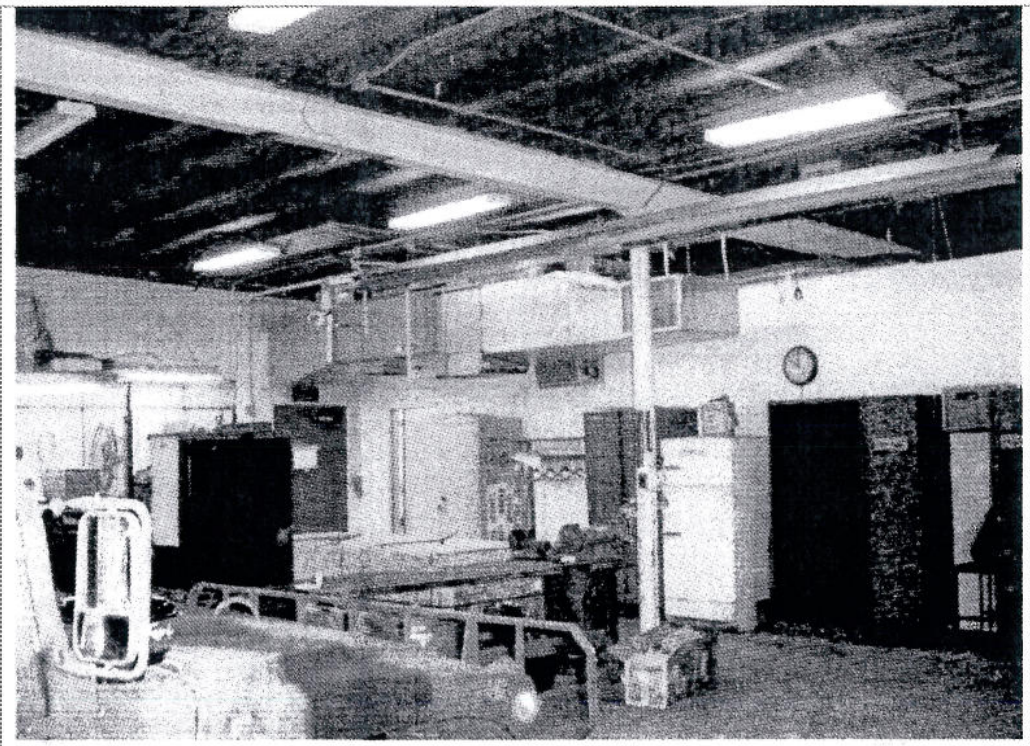






General heating unit location and arrangement seem to match the 1993 Entech Engineering, Inc mechanical renovation construction drawings. The equipment appears to be as installed in 1993, and is designated "MAU-2" on those drawings. Per the drawing schedule the capacity is 150 MBH input,

	115 MBH output, and 1800 cfm. This would correspond to a 59-degree F air temperature rise. The consequence is that when unit is set for 100% outside air on a design winter day (5 Degrees F), the unit will offer little or net heating to the space. The OMS is also fitted with one run of gas-fired radiant tube heating across the rear of the bays with capacity of 75 MBH input. The equipment is positive pressure type not vacuum type. Combustion air is drawn from the space, not direct in from outside. The equipment was operating during our visit, and provided spot warmth under it. The heater active tube length was less then the bay widths, with the consequence that the bays near their respective outside walls were not receiving much radiant heat.   It is our understanding and observation the current equipment unit has adequate heating capacity to maintain comfort on cold days, when H&V unit is set for all return air. During the site visit the all the heating equipment was cycling on and off as needed, and space temperature and temperature uniformity were generally satisfactory. See additional comments below.
Ventil. Makeup Air System and **General Systems Description**	***NOTE:*** *Refer to The Maintenance Building-Codes Segment of this Assessment, and also the Appendix, for specific CODE issues relating to Repair Garage heating equipment.* **Fresh Air:** Code/Army requirements call for minimum 1.5 cfm /square foot ventilation in maintenance areas. About 2500 square feet of the facility as presently configured is maintenance area, thus about 4000 cfm supply air is required summer and winter when building is in use. (Note: the 2500 square feet includes the partitioned off storage and other areas that have been retrofitted inside the maintenance bays, across the back.) To properly serve all 2500 square feet would require installation of ventilation unit or units totaling about 3750 cfm and about 400 MBH heating capacity. Therefore, <u>we recommend augmenting the existing H&V unit with an additional gas-fired heating and ventilating unit, similarly sized, and capable in aggregate with the existing unit of heating the space while providing 3750 cfm of tempered outside air</u>. Anticipated unit would be similar to Hastings type units commonly used by Army for similar new facilities.

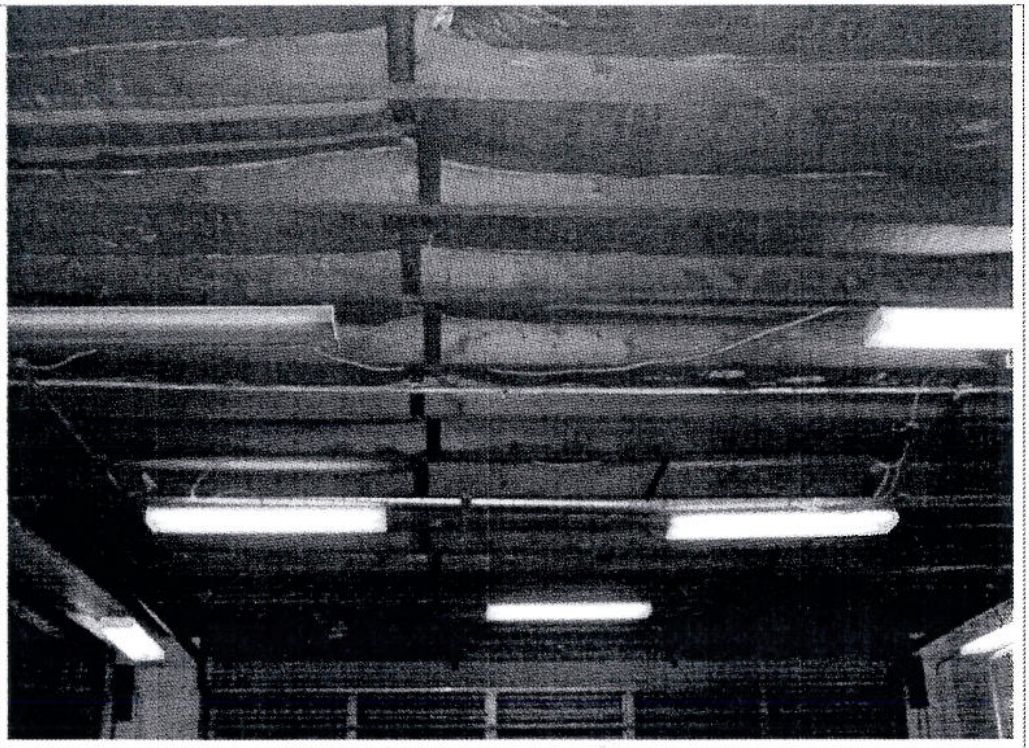


Unit should preferably have a "separated combustion" type gas-fired burner section. This type unit brings in combustion air directly from outside, thus should not affected by building pressurization, and will also resolve any issues of "open flames" in the garage area --flame is in an isolated chamber sealed from the space. Hastings, Reznor, Modine, and others are possible sources for such heaters.

General description of proposed unit, subject to confirmation in actual design is as follows:

- Mount ceiling hung, same place as existing unit.
- New ductwork sized to match unit, and fitted with louver-drum diffusers to control discharge direction, and sized to push air down to floor level.
- Create new wall louver, or roof O/A opening fitted with air intake hood, sized for unit airflow requirement and pressure drop/velocity to avoid water entrainment.
- Ahead of H&V unit, provide mixing section with return and O/A dampers each capable of 100% unit airflow. Extend return duct down the adjacent wall to an intake grille 5 feet or so above slab.
- Size unit for approximately 1900 cfm total, of which minimum O/A occupied mode is approximately 1900 cfm. At night in winter, operate with 100% return air. In summer daytime, operate with 100% O/A for comfort ventilation, with burner off.

Air provided into the space by the makeup air unit must be relieved. We recommend addition of two roof mounted exhaust fans, in the maintenance bays.



When the exhaust fans are in powered operation they will be more than sufficient to relieve air introduced the H&V unit. If sized at 24-30" diameter and supplied with a counter-weighted backdraft damper, the fan openings should be adequate for relief even when the fans are off, as in typical winter operation.

See General Exhaust section below for additional information.

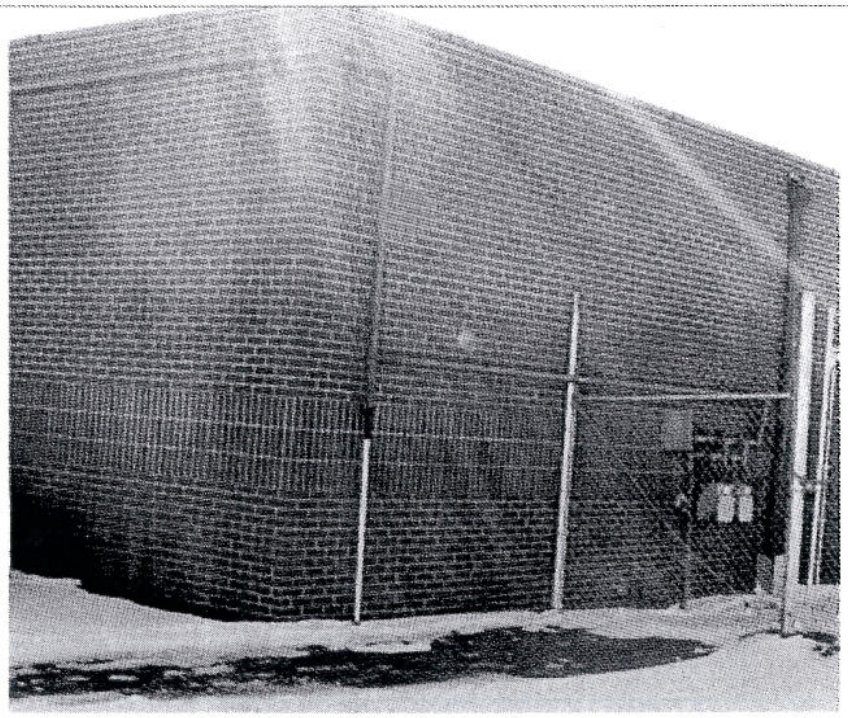
Heating:

Maintenance facilities for the army are frequently fitted with overhead gas tube radiant heaters in the service bays. This facility is so equipped, as described above.

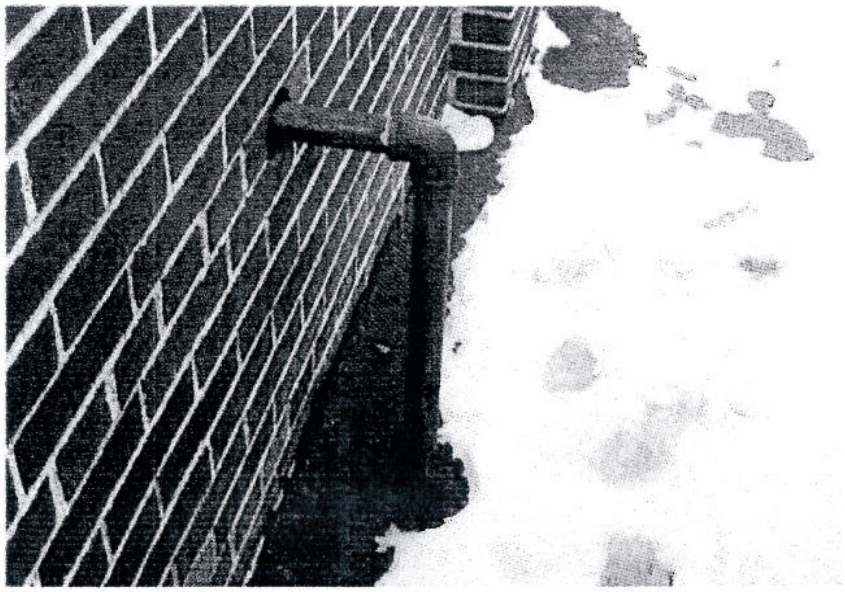
The H&V units, as described above and properly sized, can supply tempered fresh air and return air that will provide comfort, and sufficient air motion to reduce cold stratification near the floor. These, in conjunction with the existing infrared tube heater should be able to provide adequate heating and ventilation. Therefore, subject to capacity determination at time of design, we recommend retaining the existing radiant tube heater as is.

Gas line capacity:

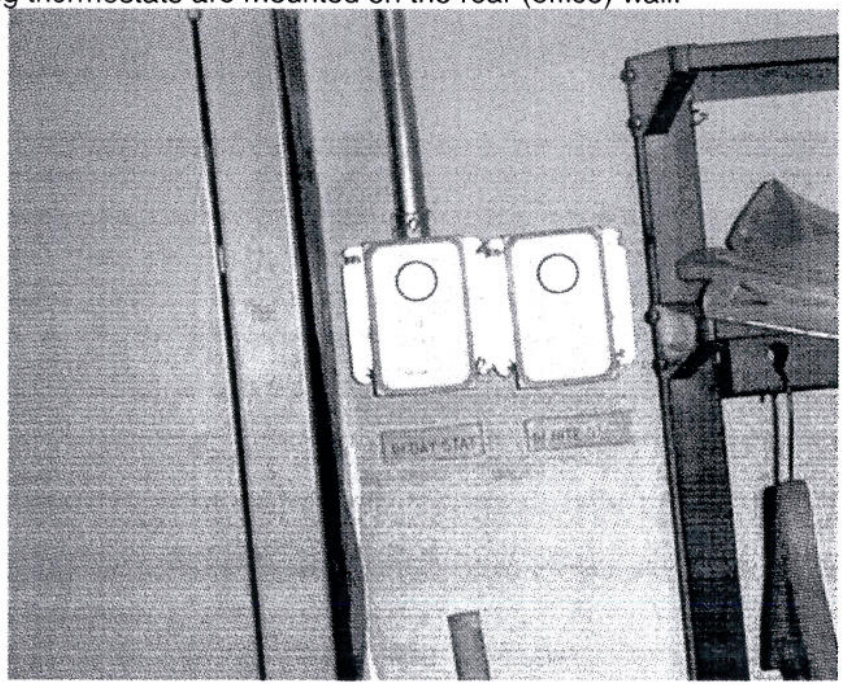
The OMS is served by a low pressure 1 ¼" gas line which extends belowground from the Training building corner near the gas meters.

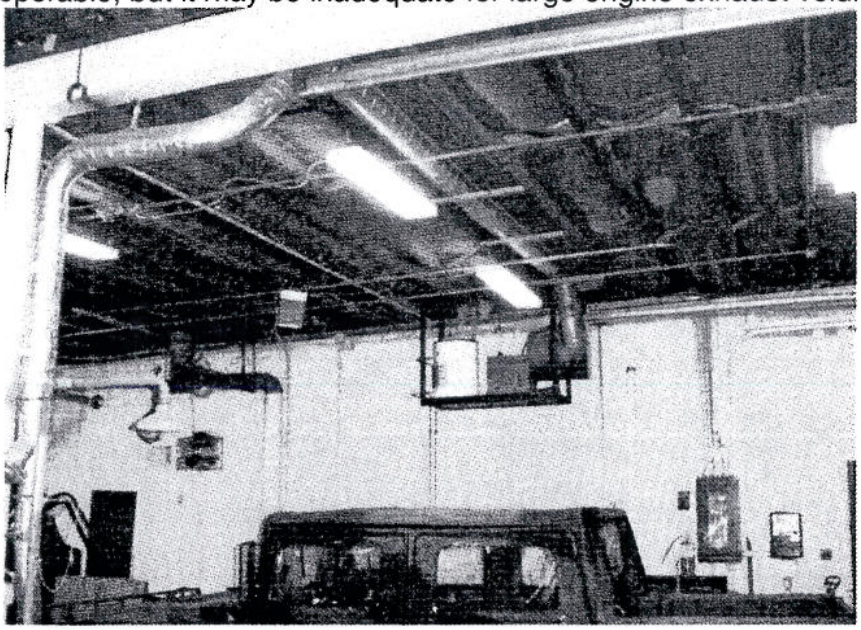
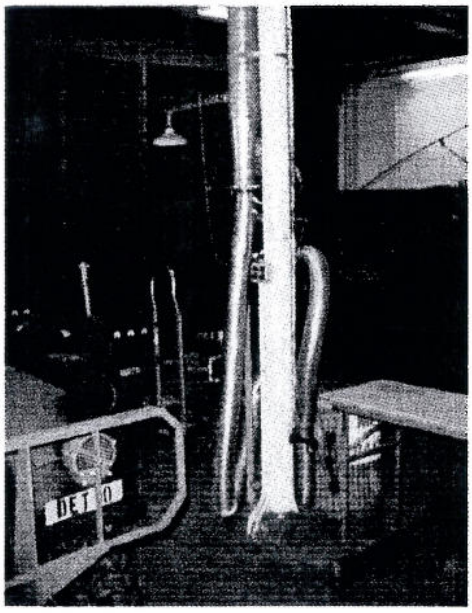
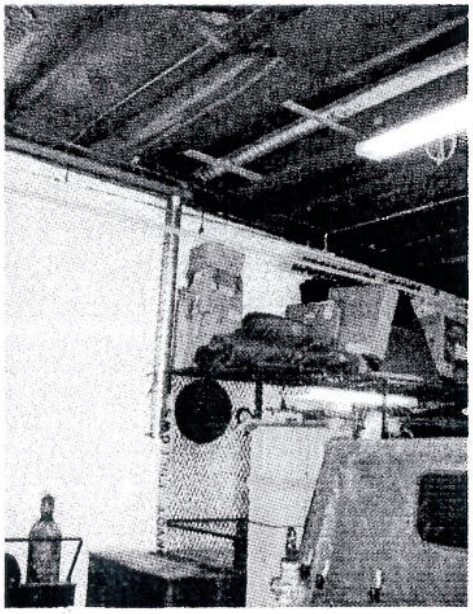


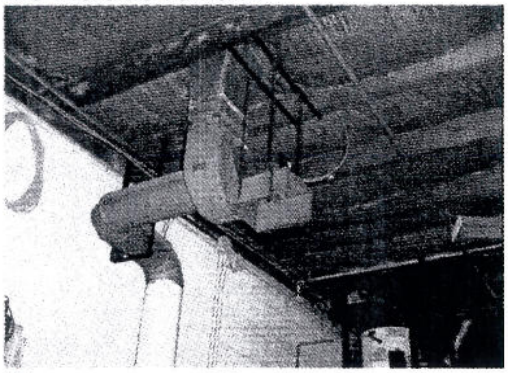
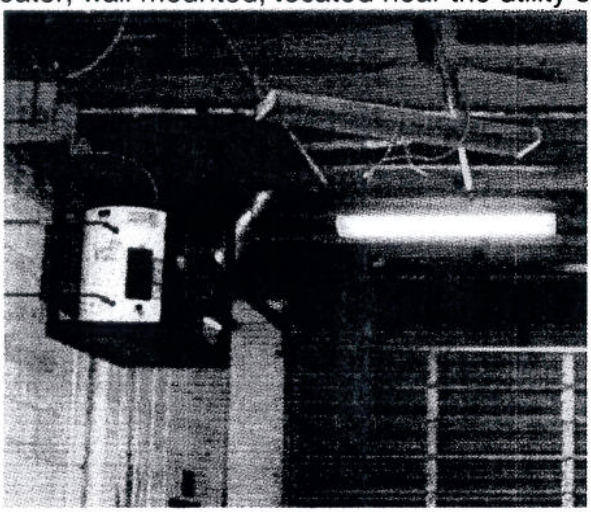
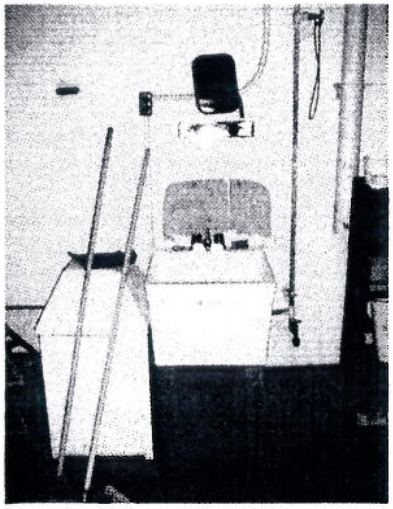
It enters the OMS through the wall above grade on the north side near the left bay door. (Location is incorrectly shown on the south side on the 1993 drawings.) Recommend painting the exterior OMS gas pipe and protecting it with a bollard.



It is very likely the gas line to OMS will not have adequate capacity for the proposed increased load. Recommend checking capacity of existing low-pressure gas line serving the OMS with respect to the selected new equipment. Choices to remediate may include re-metering to 5 psig and regulating down the pressure at the buildings (if this is allowed by the gas company service class); or replacing the line with a larger line.

Room Air Dist/Term	See above and below.
System Controls	Existing thermostats are mounted on the rear (office) wall.  We recommend the maintenance bay H&V units be provided with a discharge air thermostat to put out "neutral air" in winter, adjustable 55-70 degrees, with discharge air thermostat over-ridden by a space thermostat, when necessary to supply warmer temperature air to satisfy the space setpoint. We recommend the Vehicle exhaust system be manually controlled, and located for clear visibility to both bays. We recommend the new restroom fan be manually controlled with a wall switch.
General Exhaust	There are no exhaust fans, and other than the H&V unit there is no way other than opening the overhead doors to provide adequate air turnover for summer comfort ventilation. Adequate comfort ventilation will require minimum 15-20 Air changes in the space, or approximately 10,000 cfm. We recommend adding two roof mounted exhausters approximately 5000 cfm each, with propeller type fan selected at approximately 24" diameter so as not to be noisy. Price includes curb with gravity back draft damper for each exhaust fan. Intake for these exhausts can be made up in part by the proposed H&V unit when it is operating. See Section "Air Handling Equipment: above for description of recommended H&V unit. Remaining air to be relieved can be let into the building by partially or fully opening the bay doors or man-doors. A separate summer ventilation intake louver has not been included or priced, although this would be a viable design approach as well.

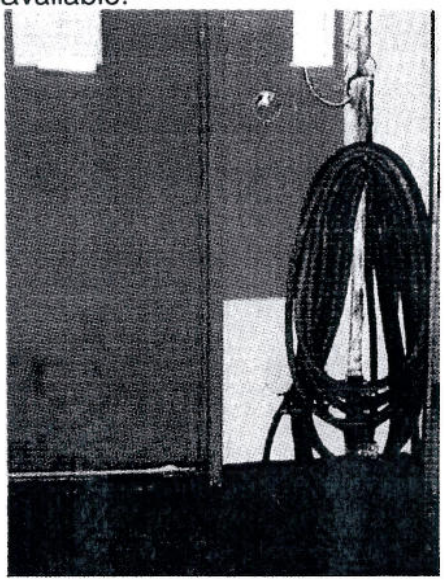
	No battery work is being done; and there is no existing battery room as such. Need for a battery room is not anticipated. We recommend a small bathroom exhaust fan be added to serve the proposed single restroom.
Vehicle Exhaust System	Vehicle exhaust system is reported operable and satisfactory. We confirmed fan is operable, but it may be inadequate for large engine exhaust volumes.    We recommend replacing existing vehicle exhaust system with a new central exhaust system comprised of a fan as necessary to serve both bays, each having an overhead exhaust and retraction reel with end adapters for various vehicle exhaust configurations.

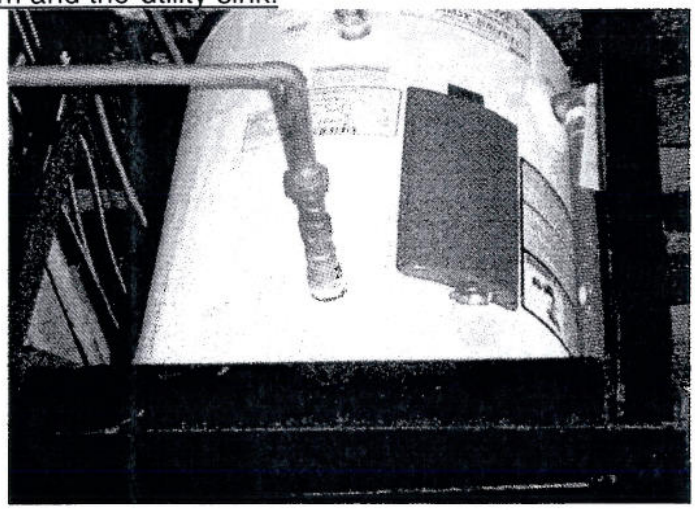
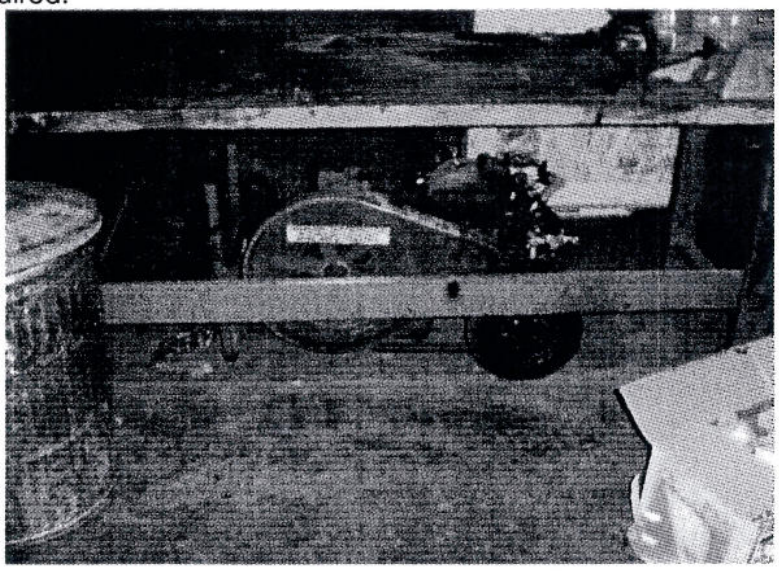
Demolition	Selective demolition of mechanical equipment as described above will be required. In addition to other equipment modifications described, the building also has the remnant of the floor pit ventilation system. Pits were filled in with concrete in the past, but a ceiling-mounted blower and associated duct down into the slab remain.  We recommend the abandoned grease pit ventilation system be removed.
Plumbing	
Fixtures & domestic water piping	No shop FD's are provided; bay floor has a slope of perhaps 8" downward from rear of the bay out the overhead door. This arrangement is satisfactory as is. There are no restroom facilities. Plumbing consists of only emergency eyewash/shower and several hose bibbs, some with retrofitted vacuum breaker. There is also a utility (laundry) sink which discharges through an open drain pipe onto the pavement just outside. Building has a hot water heater, wall mounted, located near the utility sink.   We recommend the building be provided with as a minimum 1 water closet, 1 lavatory, 1 electric hi-lo type water cooler. Toilet group and water cooler to be installed per ADAAG guidelines. ADAAG required insulated trim and trap wrap; faucets with approved handles are recommended

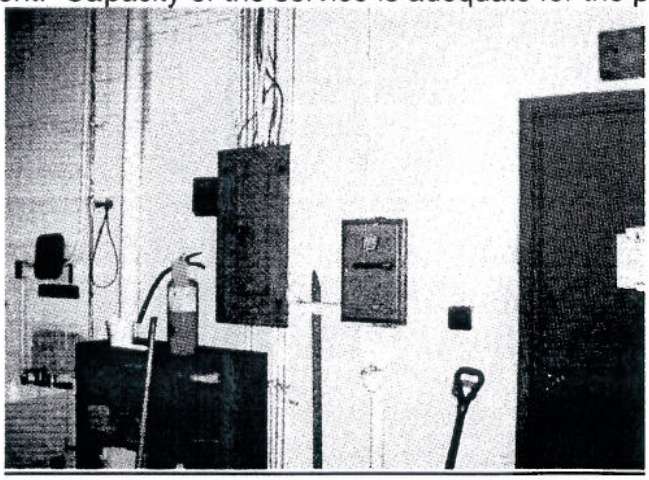
We recommend to retain and reuse the existing combination emergency eyewash/shower shower.

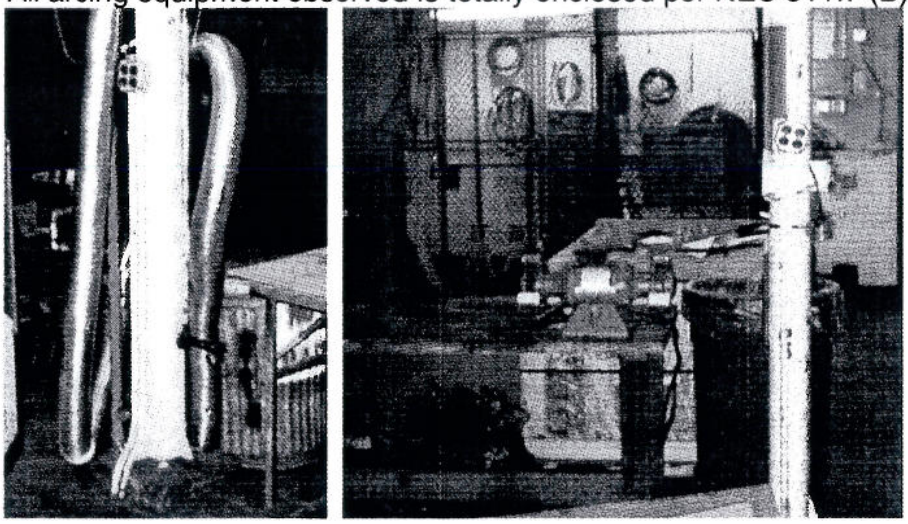
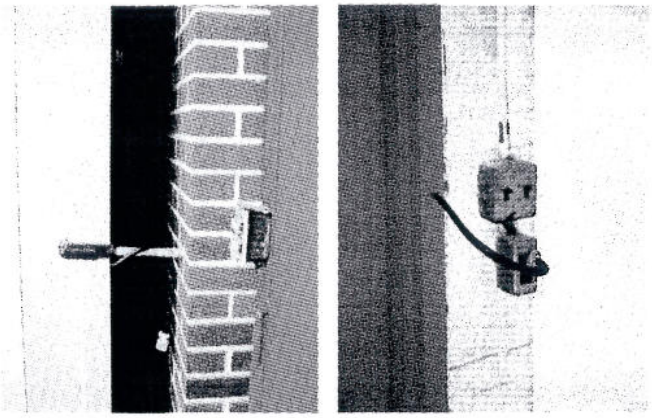
Existing pipe is believed to be copper. We recommend extending the existing domestic water piping with new piping to serve the new toilet group plus laundry sink. hose bibbs, and emergency eyewash/shower.

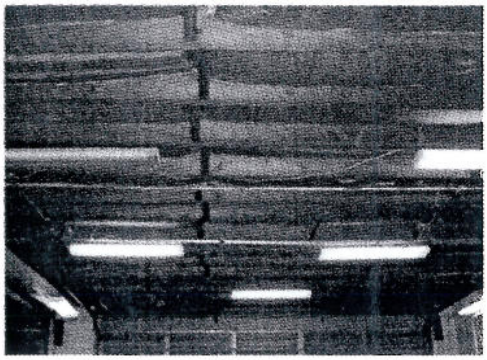
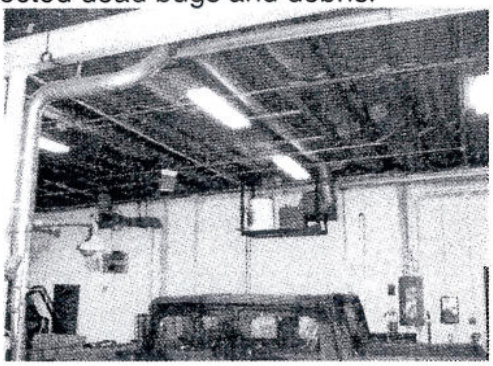
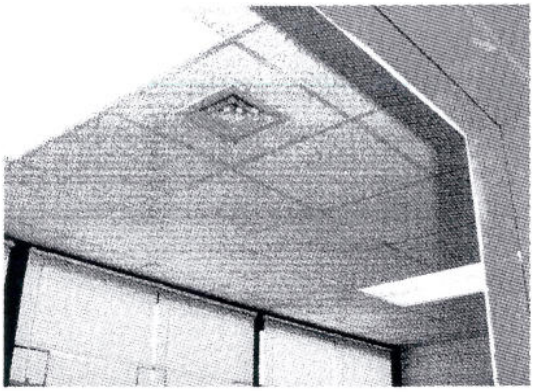
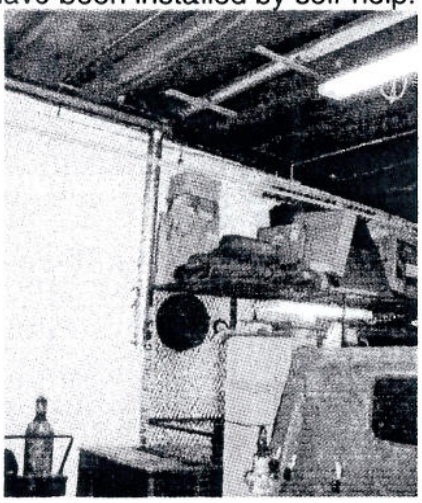
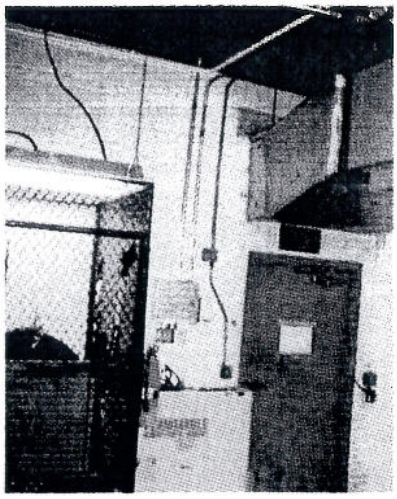
Plans indicate a 1-1/2" feed from the training building, which should be adequate to serve the toilet group and miscellaneous hose connections. A RPP backflow preventer for the OMS is recommended; there is none at present. A type rated for vertical installation may be desirable to fit in the existing corner space available.

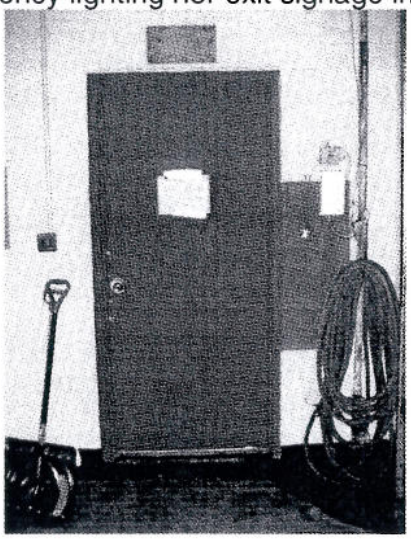


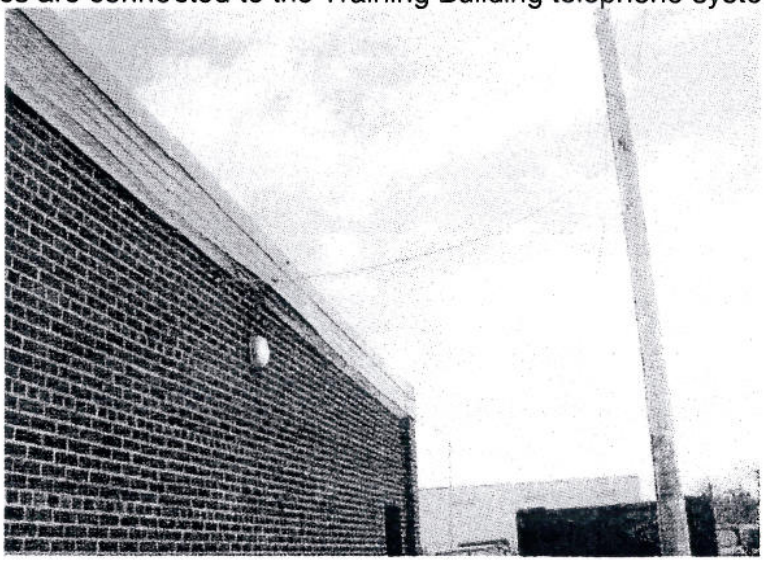
Hot Water Heater	OMS has an existing approximately 20-gallon wall bracket-mounted electric water heater. We could not determine age although it appears have been installed in the last 10 years. Based on limited hot water use we expect condition is acceptable. Recommend retaining this water heater to serve new restroom and the utility sink. 
Waste and Vent Piping	There is no existing sanitary drainage system for OMS. Recommend re-plumbing as needed with cast-iron system, to meet proposed new restroom configuration, and existing laundry sink.
Shop Air/Lube piping	There is no existing permanent shop air compressor or air distribution piping. Mechanics evidently use a portable gasoline powered unit when compressed air is required.  We recommend installation of a new industrial grade fully packaged air compressor unit, 5 HP, 175 psig, similar to Ingersoll-Rand type 30, simplex, with air-cooled aftercooler, and (if operations require dry air) a refrigerated air dryer.

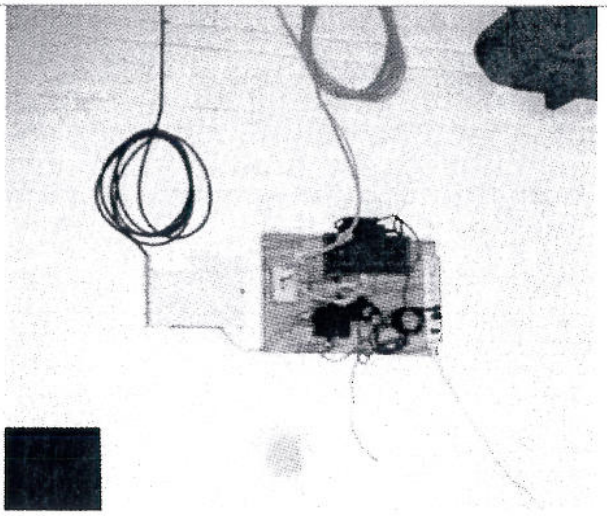
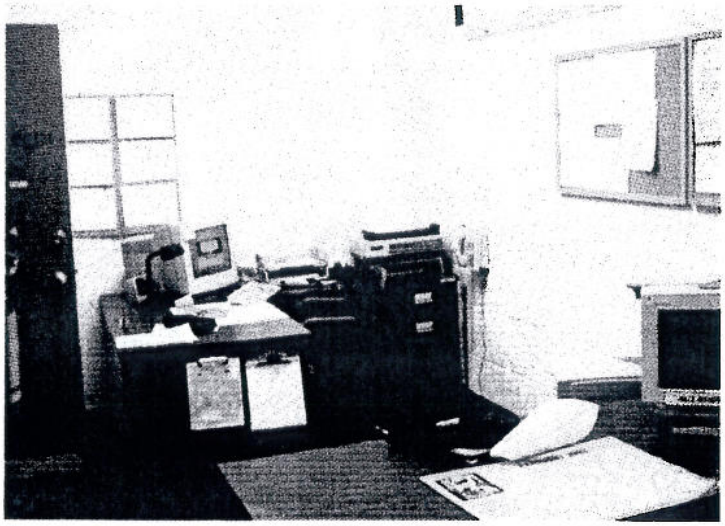
	We recommend new main air piping and approximately 1 service drop and quick connect in each bay, plus an auxiliary drop or drops at other locations in the OMS. There is no central lube system at present and need for such is not anticipated.
Demolition	A small amount of plumbing demolition will be required and is recommended, this to include minor domestic water piping, hose bibbs, and utility sink waste piping stub. As noted there is no existing sanitary waste piping.
Electrical	
Secondary Dist.	The existing service to the OMS is provided underground from a fused switch in the Training Building Main Distribution Panel. 208Y/120 volts is supplied by 4 - #1/0 copper RHW and a #8 bare copper ground in 2" conduit to a 100A fused disconnect switch in the OMS. Material and condition of the underground conduit is unknown. The neutral conductor passes through the service switch directly to panelboard 'L1' without separable lugs. (NEC 230.75) The service entrance conduit is not bonded with an approved method. (NEC 250.92 (B)) The #8 bare ground conductor is bonded to the switch and to the building water line. For connection to the water line, the ground conductor is installed in a metallic conduit for protection. This conduit is not bonded at both ends. (NEC 250.92 (A) (3)) Ground path from the panelboard is made solely through conduit connection. All of the distribution is original 1961 construction. The disconnect switch mechanism is badly corroded and in poor condition, generally due to age and environment. Capacity of the service is adequate for the present use.  Recommend replacing the service equipment and feeder for the OMS building because of its advanced age and condition. It may be necessary to replace the underground conduit if the existing feeder cable cannot be removed without damage to the existing conduit. Upgraded capacity should be considered for future needs.
Distribution Panels	N/A

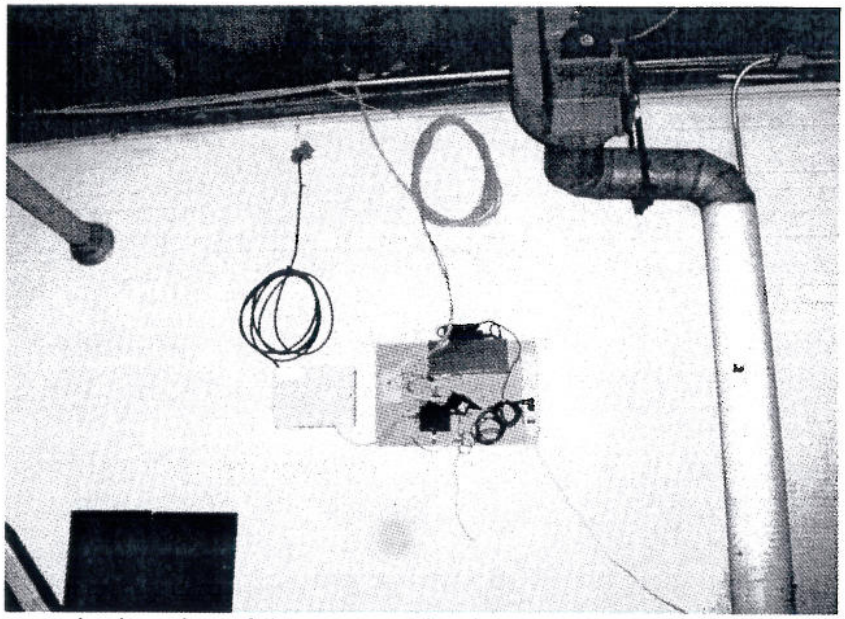
Lighting Panels	A 100A 30 pole Main Lug panelboard is installed adjacent to the disconnect for supply of all OMS loads. There are 6 spare spaces. This is a Federal Pacific NALP panel installed in 1961 and is obsolete. The panel is not provided with an equipment-grounding conductor. Condition of the panel is poor. Recommend replacing the panelboard and providing an equipment grounding conductor to the panel.
Electrical Wiring Network	Much of the branch wiring is original to the building and does not contain an equipment-grounding conductor. It appears that continuity of the metallic conduit used as a grounding path has been maintained. With the exception of three receptacles mounted on columns, seal fittings are installed in all conduits passing through the classified area below 18". All wiring devices are installed above 18" AFF in accordance with NEC 511.3 (B). All arcing equipment observed is totally enclosed per NEC 511.7 (B).  Temporary power to a flammables storage shed is supplied by SO cord passing through a drilled hole in the doorframe. This is a violation of NEC 400.8.  Recommend replacement of branch wiring which should include equipment grounding conductors. Existing conduit may be reused. Conduit seals should be installed for the column mounted receptacles. Fixed wiring should

	be installed to supply the flammables storage shed.
Lighting fixtures	Fluorescent wrap-around fixtures provide interior lighting for the work areas. These appear to be in serviceable condition, however the lighting level is below standards and fixtures have collected dead bugs and debris.   Two offices have been recently constructed for maintenance personnel. These have lay-in ceilings and troffer fixtures. Condition and levels are good.  Storage cages have fluorescent lighting of various types and conditions; these have been installed by self-help.   Recommend replacement of lighting in the work areas and storage cages to increase light levels to standard USARC criteria. Fixture types chosen should be appropriate to the facility and in accordance with NEC 511.7 (B)

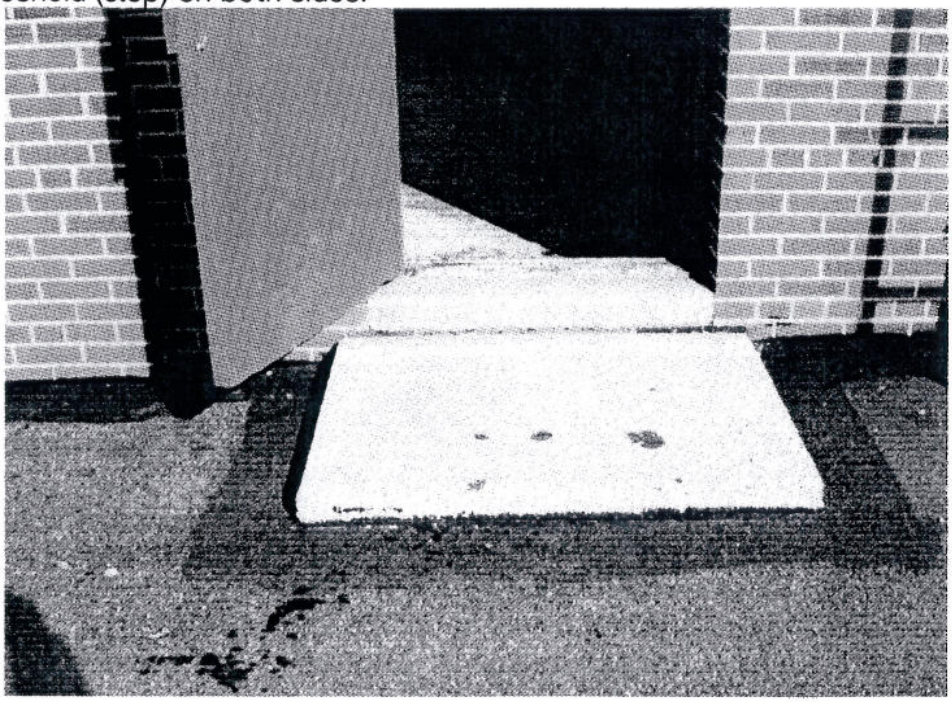
	(1). There is neither emergency lighting nor exit signage in the OMS shop.  Recommend addition of battery-backup exit signs and self-contained emergency lights . Exterior building mounted lighting is limited to an incandescent jar at the rear door and an incandescent jar and two PAR floodlights near the overhead doors. These are all original to the building and in poor condition. The floodlighting is inadequate for the outside work area. Recommend replacement of the fixtures adjacent to the personnel doors and addition of HID floodlighting on the front of the building.
Power Devices	The user reports that the number of receptacles is adequate. General-purpose receptacles are not GFCI protected as required by NEC 511.12 Most of the equipment control devices are original to the building.

	  Recommend provision of GFCI protection for all receptacles. Recommend replacement of equipment control devices due to their advanced age.
Security Alarm Systems	There is no electronic security system for the building.
Phone/Data (Panel Locals Only)	A 6 pair aerial cable from the Training Building communication closet supplies telephone service to the OMS. It terminates on a protector terminal on the wall of the shop area and is distributed to an outlet in each office. The protector is grounded to the water line. The cable appears to be in fair condition and has had no reported problems. However, it needs to re-supported at the OMS. The protector is in poor condition due to age. Telephones are connected to the Training Building telephone system.  A 6 strand multi-mode aerial cable from the Training Building data rack supplies data service to the OMS building. It terminates on a patch panel on the wall of the shop area and is converted to Category 5 cabling. The cat 5 cabling is distributed to three outlets in offices via a hub. The data system has been recently installed and is in good condition.

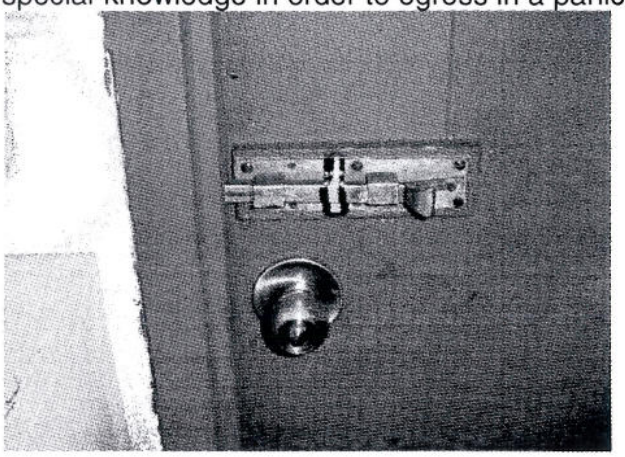
	 Recommend replacement of the telephone aerial cable and protector terminals with a 12 pair entrance. This will provide additional lines and support paging capability. Consideration should be given to placing the communication services underground if the power system service conduit is replaced.
Paging System.	There is no paging system for the building. The current telephone system has intercom capability that is available in the OMS shop office. Recommend including paging capability for the OMS in the upgraded telephone/paging system to be provided in the Training Building.
Interior IT	The communications cabling in the OMS is run exposed through the shop area and in surface mount raceway to outlets in the offices. The office area has two phones and three data connections. The telephone cables are in poor condition. The data cables have been recently installed and are in good condition.  Recommend replacement of the telephone cables and upgrade as needed to meet user's requirements. Recommend providing proper support for communication cabling.

Interior Transformers	N/A
Elec/Tele Closets	All electrical and communications equipment is installed in the general shop work area.  Recommend relocation of the communications equipment to a secure space with a clean temperature controlled environment.
Emergency Generator	N/A
Transport	
Elevators	No elevator required in this facility. Existing building is single story.
Material Handling Crane(s)	There are no material-handling cranes in this facility.

CODE COMPLIANCE	MAINTENANCE BUILDING - CODE
Project Name:	**Full Facility Assessment**
Building Name:	**Wilson-Kramer USARC**
Project Location:	**2940 Airport Road**
	Bethlehem, PA 18017
Year Constructed:	**1961**

REQUIREMENTS	RECOMMENDATIONS/COMMENTS
	Life Safety
Means of Egress	
Means of Egress Components	Paragraph 1-6.11of UFC-Chapter 10-Means of Egress, directs to use MIL-HDBK-1008C to determine compliance. MIL HDBK 1008C (2.6.1) requires facilities to comply with NFPA 101 for means of egress except as modified in MIL-HDBK 1008C. Therefore, this assessment regarding "Means of Egress Components" is based on requirements of NFPA 101 (2000). This facility does not comply with NFPA 101-7.2.1.3, 7.2.1.5.1, 7.2.1.5.6, and 7.2.1.7.1(1). These sections have to do with the floor in the Means of egress and the egress doors. NFPA 101-7.2.1.3 requires that thresholds at doorways not exceed ½" in height. The existing egress door at the south side of the OMS has an 8" threshold (step) on both sides.  <u>The A/E recommends that ramps be provided at this entrance</u>.

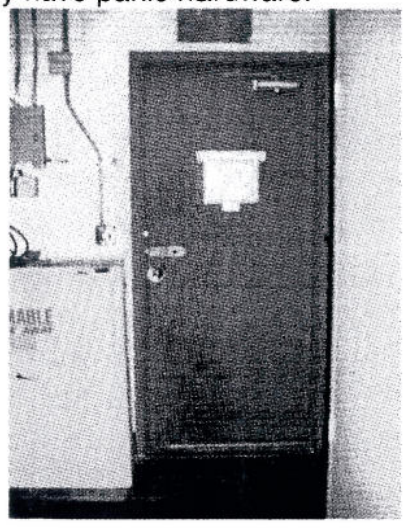
NFPA 101-7.2.1.5.1 requires that egress doors be openable without use of special tools or knowledge from the egress side. The existing egress door on the north side of the OMS has a deadbolt mounted to the inside of the door. This requires a special knowledge in order to egress in a panic situation.

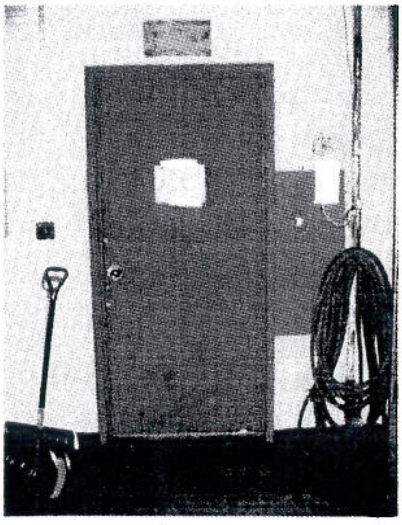


The A/E recommends that this door be replaced with a new door with panic hardware which does not require special knowledge to operate.

NFPA 101-7.2.1.5.6 requires that devices shall not be installed on any egress door that prevents free use of the door for purposes of egress. The existing egress door on the north side of the building has a deadbolt on it that when locked impedes the use of the door for egress purposes. The A/E recommends that this door be replaced with a new door with panic hardware that does not require special knowledge to operate.

NFPA 101-7.2.1.7.1(1) requires egress doors to have panic hardware consisting of cross bars or push pads. Neither of the existing egress doors currently have panic hardware.

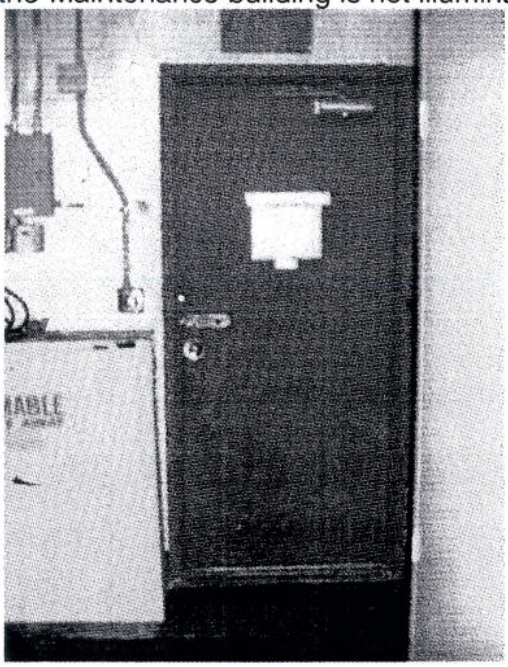


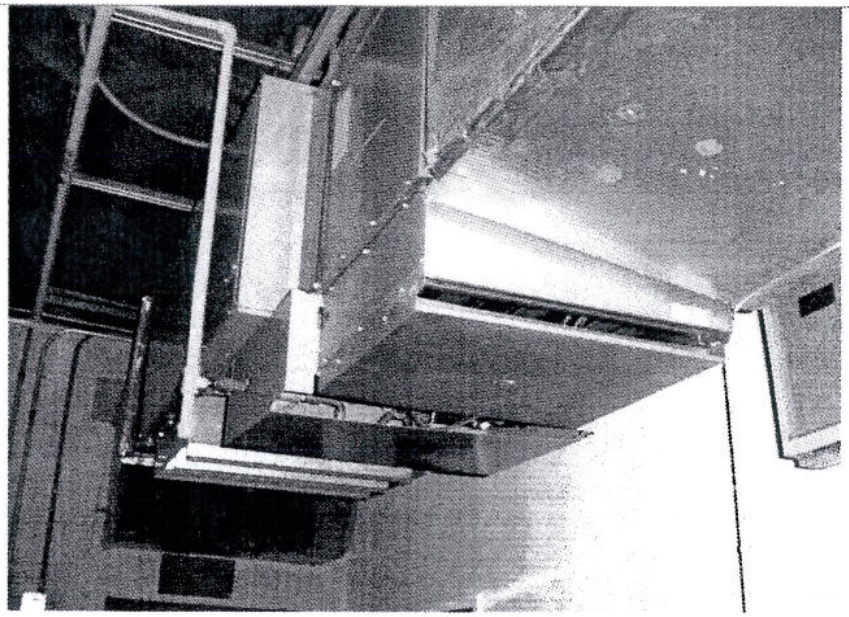


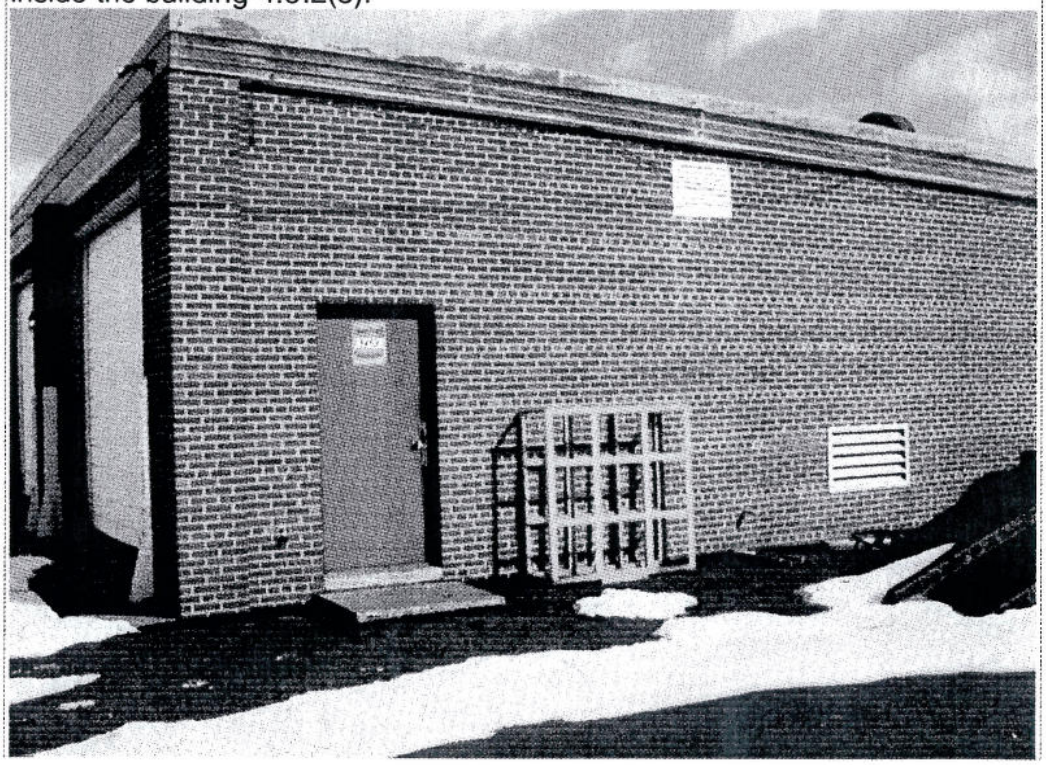
The A/E recommends that these doors be replaced with new doors and panic hardware which complies with codes.

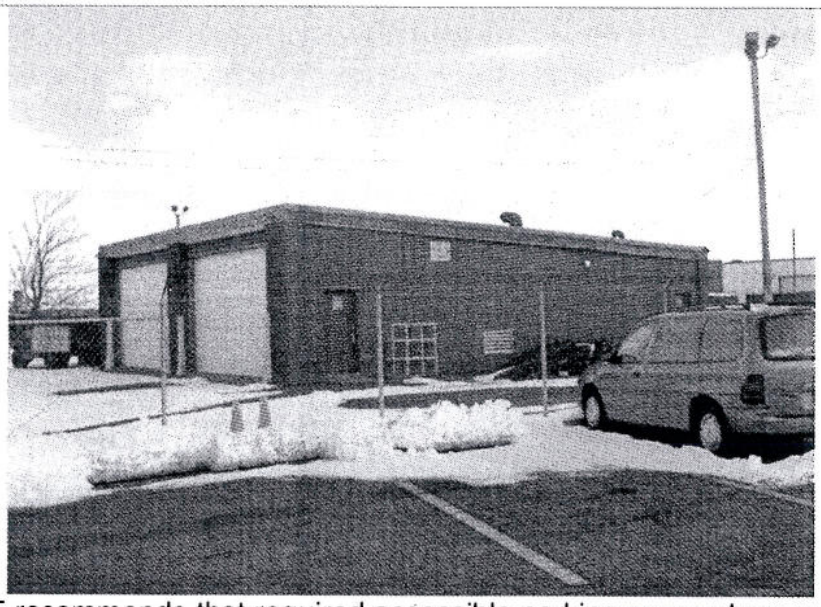
Capacity of Means of Egress

Complies.

Number of Exits	Complies.
Arrangement	Complies.
Travel Distance	Complies.
Discharge from Exits	Complies.
Marking Means of Egress	The Maintenance building does not comply with NFPA 101-7.10.1.2, 7.10.5.1 and 7.10.5.2. These sections pertain to building exit signage. NFPA 7.10.1.2 requires exits to be clearly marked by approved exit signs readily visible from any direction of exit access. Existing egress doors are not marked with appropriate exit signage. 7.10.5.1 and 7.10.5.2 requires that exit signage be illuminated. Currently, the exit signage inside the Maintenance building is not illuminated, or present.  <u>Due to the age of the exit signage and the current technology available, the A/E recommends that providing modern state of the art, code compliant, illuminated exit signage.</u>
Protection	
Protection of Vertical Openings	N/A in this building.
Protection from Hazards	The Maintenance building may not comply with IBC 406.6.5 which requires heating equipment to be placed in another room separated by a 2-hr fire barrier with outside access or access by a two door vestibule entrance from the inside. This specifically pertains to the HV unit located in the ceiling of the workbays. The IBC allows the exception of unit heaters located at least 8 feet above the floor to be within the space and not separated.

	 *Note: This Assessment in the "Building- Maintenance Overall Recommendations /Comments" segment, evaluates mechanical equipment for the Maintenance building in a way not necessarily per IBC 406.6.5 language as currently written. See further notes in Appendix, item "Supplementary Notes on Building Codes.doc"* In the FFR phase, <u>it is recommended the designer reevaluate IBC code and requirements status relating to "Repair Garage Equipment".</u>
Interior Finish	Complies.
Detection, Alarm, and Commo.	Refer to report Section: Electric—NFPA 70 and Life Safety code.
Extinguishing systems	Fire extinguishers are located within 75'-0" of each other, therefore complies.
Corridors	N/A.
Subdivision of Building Spaces	Complies.
Special Protection Features	N/A.
Special Provisions	N/A.
Building services	Complies.
UFAS/ADAAG Access	
Minimum Essential Features	
Parking	See Site-Accessibility.
Curb Ramps	See Site-Accessibility.
Entrance	Does not comply with 4.1.6(3)(b), and 4.14.1. None of the current building entrances are accessible to the handicapped. An accessible route to the entrance is not provided from parking areas.

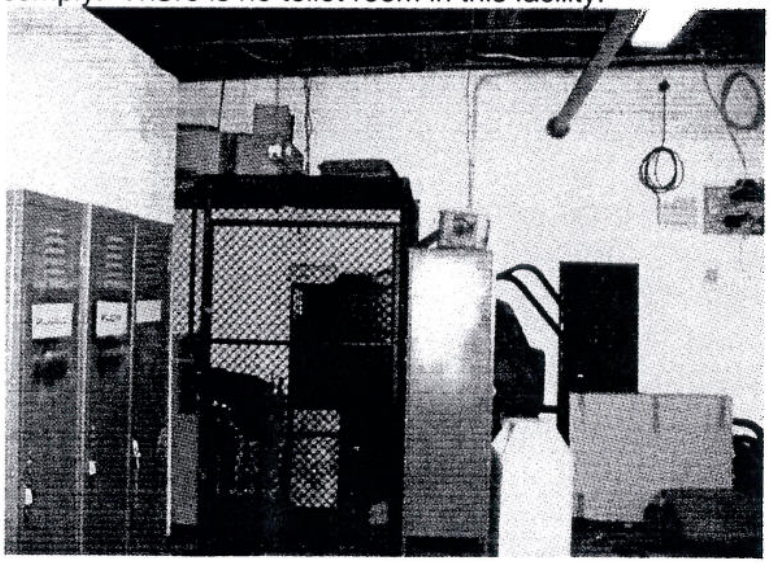
	 The A/E recommends that a ramp be constructed at the entrance to this facility to replace the step at the building entrance.
Accessible Routes	Does not comply with 4.3.2(1), 4.3.2(2) and 4.3.2(3). These sections of UFAS require an accessible route from accessible parking spaces to the building-4.3.2(1), an accessible route between each building on the site-4.3.2(2), and an accessible route within the building to all accessible spaces inside the building-4.3.2(3). 



The A/E recommends that required accessible parking spaces be provided within close proximity of the Maintenance building entrance and be marked with appropriate signage and striping. Also required is pavement striping marking the accessible route a handicapped pedestrian would take between accessible building entrances, and a ramp at the entrance of the building would need to be added in order for a handicapped person to get from accessible parking to inside the building.

Toilet Rooms Accessibility

Does not comply. There is no toilet room in this facility.

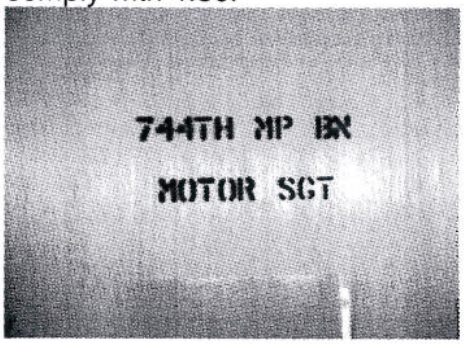
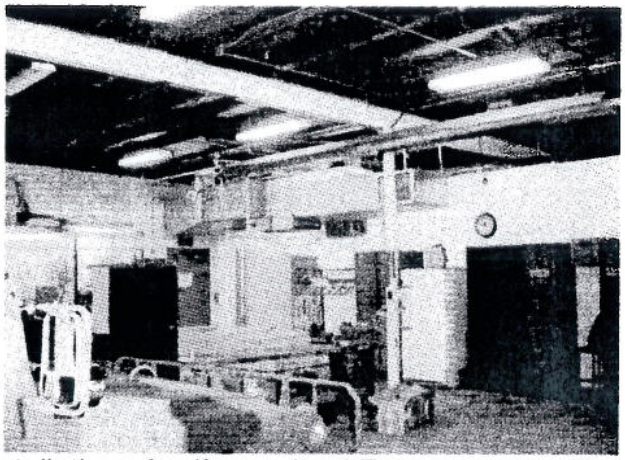


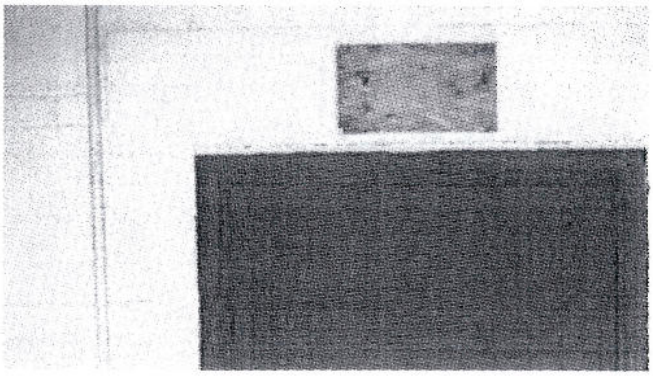
The A/E recommends that an ADA accessible unisex toilet room be constructed in this building.

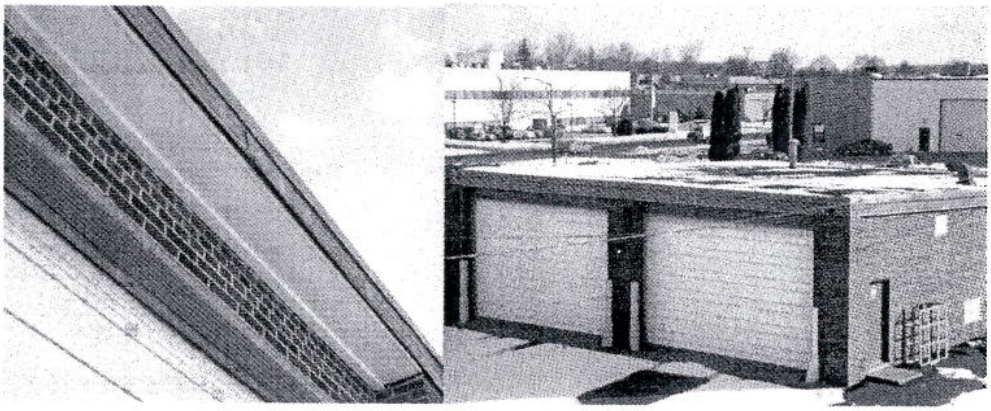
Drinking Fountains

Currently, there is not a drinking fountain in this facility.

The A/E recommends installation of a new hi-low type accessible drinking fountain for this facility.

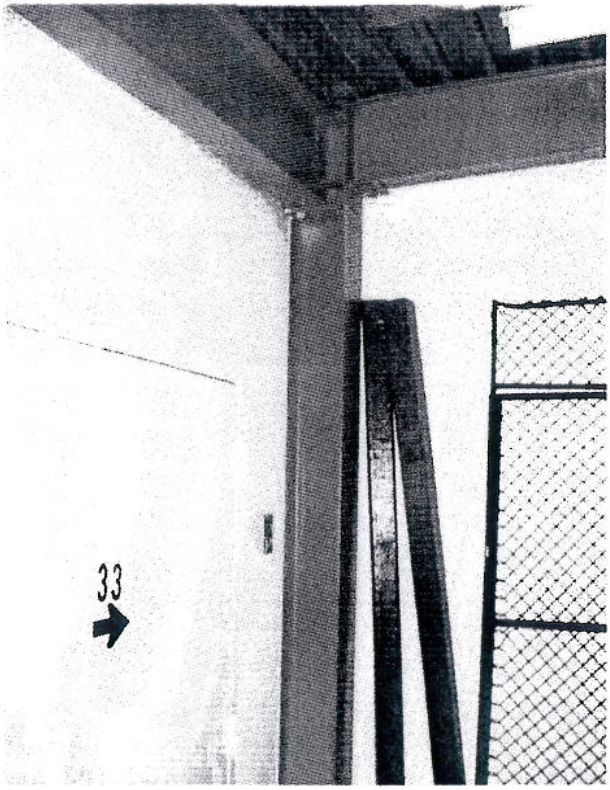
Accessibility Signs	Existing signage is painted onto doors and in some cases non-existent. Therefore it does not comply with 4.30.  The A/E recommends that all interior signage be replaced with new ADA compliant interior signage.
Public Use Space (when applies)	
Interior Assembly Spaces	N/A.
Business Occupancy Office Areas	Complies.
Shops and Storage Occupancies	Complies.
Total Facility Upgrade	
Accessible Building	Does not comply with ADAAG 4.1.3 and 4.1.6. These two sections spell out the requirements for new construction and alterations for ADA compliance and accessibility. Refer to the items mentioned above as recommendations to bring the building up to ADA compliance. Costs are included in individual items mentioned above.
Electrical	
Illumination of Means of Egress	General area lighting in the shop area fulfills requirements of NFPA 101 Section 7.8.
Emergency Lighting	This building does not have any Emergency Lighting as required by NFPA 101 Section 7.9  Recommend installation of self-contained Emergency Lighting units to provide required illumination.

Marking of Means of Egress	The means of egress from this building are not marked as required by NFPA 101 Section 7.10.  <u>Recommend adding battery backup internally illuminated exit signs for each personnel door.</u>
Fire Detection, Alarm, and Commo	This building does not have a fire alarm system. No system is required.
Remove Dangers to Human Life	There are no imminent dangers to human life.
Correct Existing Hazards	<u>Recommend replacement of all shop area receptacles with GFCI type for personnel protection. Recommend proper bonding of grounding electrode conductor conduit.</u>
NFPA 13, Sprinklers	
Retroactivity (AHJ Reqmt's)	
Plan Changes Affecting Coverage	The building is not fitted with a sprinkler system; none is required.
Occupancy Hazard Change	N/A
Inspection, Testing, and Maintenance	N/A
Unsuccessful Performance	N/A
Other	
Halon Decommissioning/Removal	N/A
Kitchen + Equipment	
Exhaust Hoods	N/A; no kitchen
Water Heaters	N/A; no kitchen
Sneeze Guards	N/A; no kitchen
Other	N/A; no kitchen
Hazmat	
Asbestos	Asbestos is reported no longer present in this building per the April 1995 survey and subsequent September 1995 report by R.E. Wright Environmental. That report was a follow-up to a 1987 survey by Biospherics, Inc. Wright reported there had been obvious evidence of abatement at locations where suspect material had been previously observed.

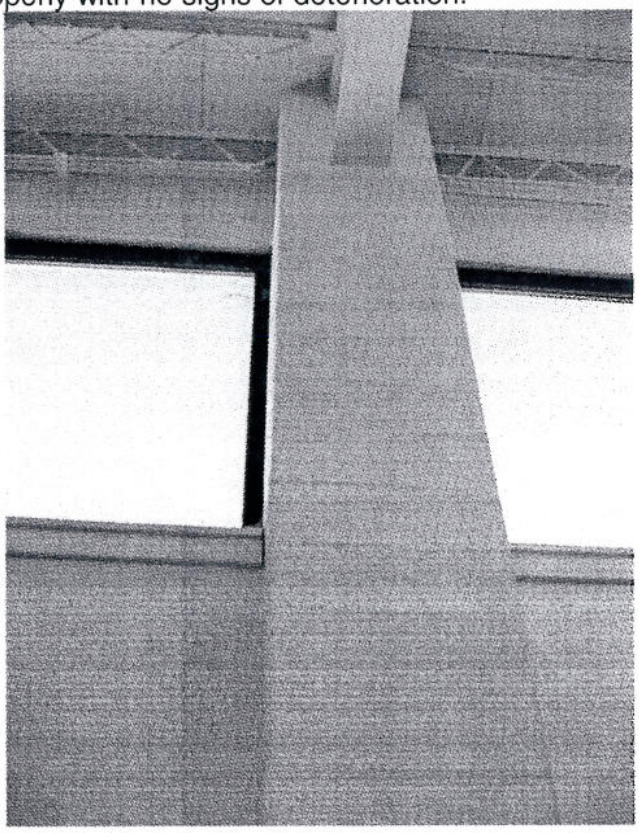
Lead Paint	No lead paint prior survey data was identified. In facilities this age lead paint is often found on overhead door frames and on yellow striping and caution paint, and elsewhere.  We recommend a lead paint survey be conducted, and any lead paint found be abated in the course of Revitalization.
Other	It appears a radon survey has never been conducted for the OMS facility, although one was done for the Training Building. We recommend a radon survey be conducted in the course of, or before, revitalization design. However, there is a low probability of radon accumulation at the OMS due to its small size and open construction. Therefore no radon costs are estimated or anticipated.

BUILDING	TRAINING BUILDING
Project Name:	**Full Facility Assessment**
Building Name:	**Wilson-Kramer USARC**
Project Location:	**2940 Airport Road**
	Bethlehem, PA 18017
Year Constructed:	**1959, w/ 1975 addition**

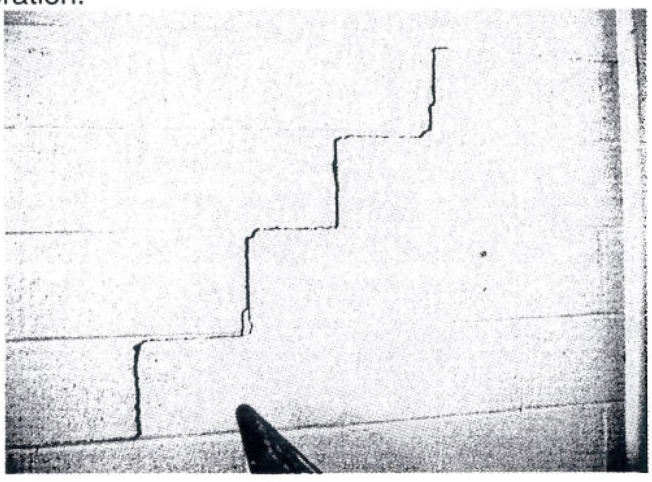
REQUIREMENTS	RECOMMENDATIONS/COMMENTS
Building Environment	
Exterior	
Foundations	Existing foundations were not visible around the Training building due to grade coverage. Based on our evaluation of the exterior wall construction there are no visible signs of deterioration to the existing foundations.
Vertical Structural Members	Existing original construction (ca. 1961) is load-bearing masonry (exterior walls). The new addition (ca. 1975) is typical steel frame construction with isolated steel columns and steel beams framing the roof. Vertical structural members (i.e. steel columns) are located around the exterior wall of the new addition and along the interior of the building at the corridor and inside the unit storage area.



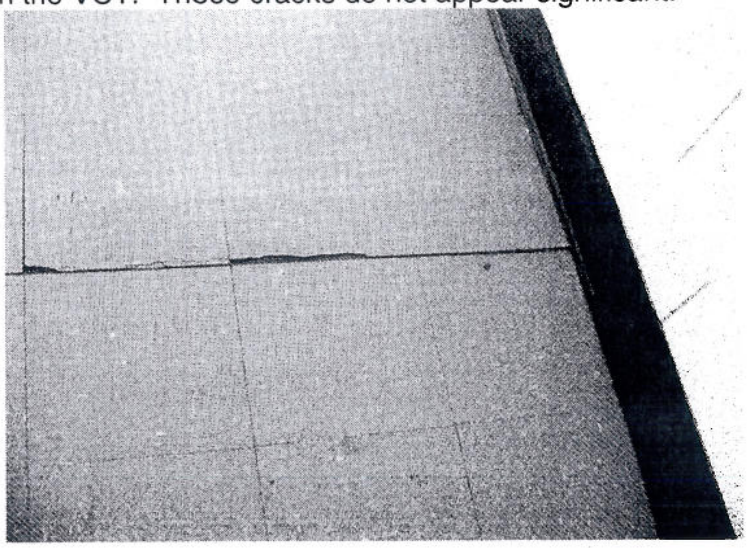
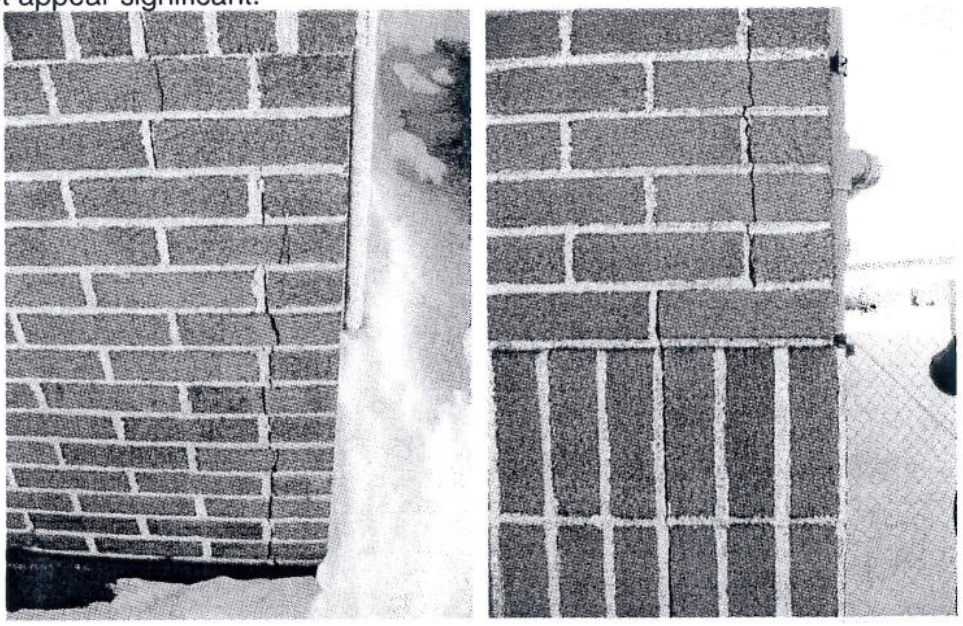
The building has CMU pilasters in the Assembly hall (ca. 1961) supporting the roof framing. The isolated structural steel columns appear to be functioning properly with no signs of deterioration.

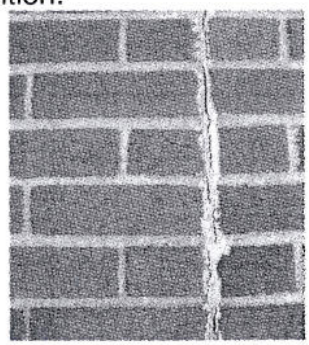
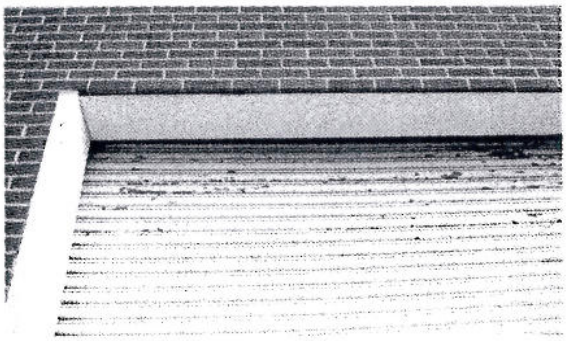
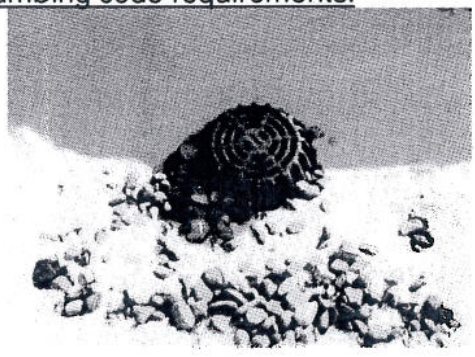


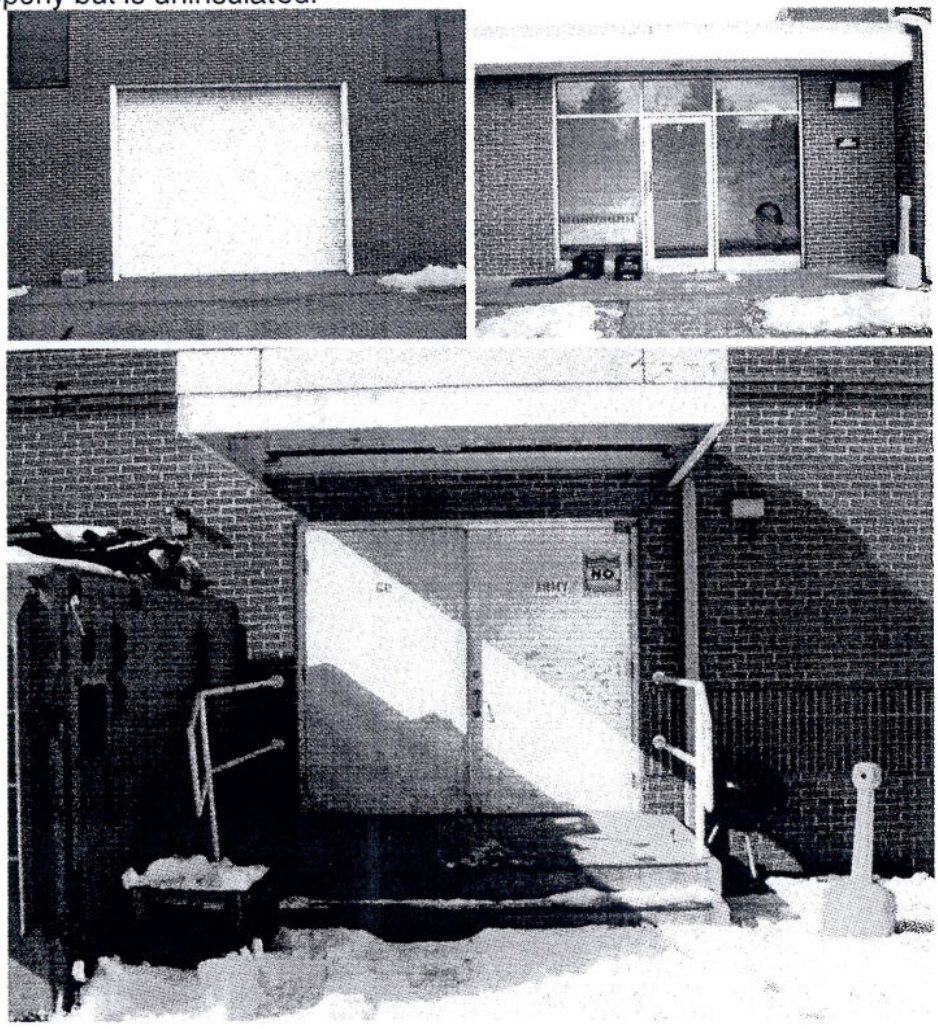
Existing CMU pilasters also appeared to be in good condition without visual sign of deterioration.

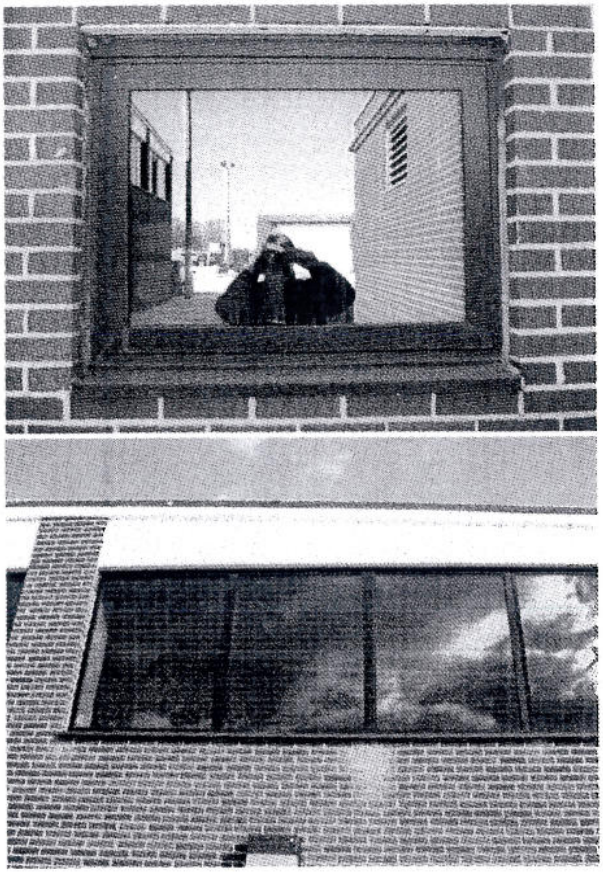
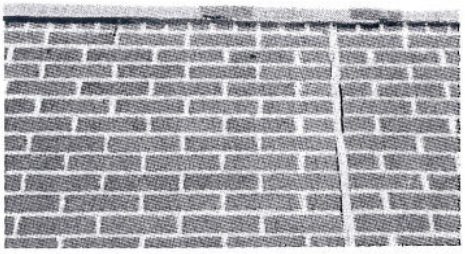
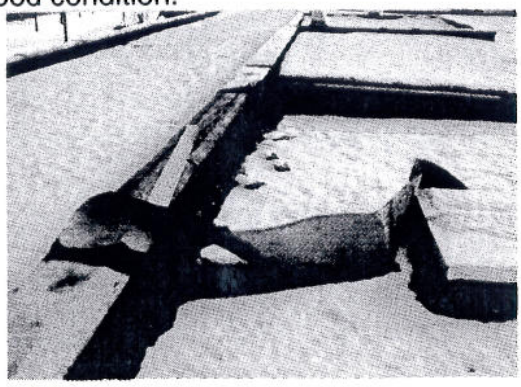


There is cracking in the corner of the Assembly Hall next to the clerestory windows wherein the blocks have offset slightly. We observed this same condition at another reserve facility of very similar construction, and there undertook a structural examination that concluded the cracking did not present a structural issue. It is believed the assembly hall corner cracks at Bethlehem are less significant yet, therefore not a structural concern.

Floor Structural Systems	Existing floors are concrete throughout the building exposed in the Assembly hall, unit storage and locker room areas and covered with VCT, carpet, and ceramic or quarry tile throughout the rest of the building. There is evidence of cracks telegraphing through the VCT in the corridor floors in various locations -- most likely where there is a control joint cut underneath the VCT. These cracks do not appear significant.  The A/E also noticed isolation of the floor slab at the 1975 addition via expansion joints; these appeared to be functioning properly. Overall, the existing floors are in good and serviceable condition for their age with no major signs of deterioration.
~~Seismic/Wind Load~~	Not included in this assessment.
Exterior Walls	Existing exterior walls are brick veneer with CMU and/or cast concrete backup around the building perimeters. The A/E noted hairline cracking at the corner of the building where the rifle range is located. These cracks do not appear significant. 

	Also noted were vertical control joints with deteriorating sealant along the front of the building. Overall, the existing walls were noted to be in good condition.   The A/E recommends that all existing masonry control joints be raked out and re-sealed, existing steel lintels be prepped and repainted, hairline cracks be pointed and sealed and the entire building perimeters be sealed with a water permeable sealer product.
Roof	From existing drawings it appears there have been two (2) roof replacements -- one in 1982 covering most of the original portion of the building and one in 1993 covering the remainder of the roof. Based on this information the existing roof varies from 10 to 20 years in age. From visual inspection, the existing roofs are loose laid, ballasted EPDM membranes. The A/E noted the appearance of roof leaks on ceiling tiles inside the building also indicating the age and condition of the roof. Since the existing roof has two different ages and two different conditions, the A/E recommends that the entire roof be replaced during building revitalization in order to provide a weathertight building. Reworking the roof will require incorporation of secondary roof drains or scuppers to meet plumbing code requirements. 

	Consideration might also be given to constructing a pitched roof over the flat roof areas as an accent and for a low maintenance, more reliable solution to the flat roof. In this instance installation of secondary roof drains would not be required.
Doors	Existing exterior doors of the Training building are hollow metal with hollow metal frames except for the galvanized metal, uninsulated coiling overhead door in the Assembly hall. There is also an anodized aluminum storefront door at the entrance to the connector between the Assembly hall and the Training building. The aluminum storefront door is in good condition with functional hardware, but needs some repairs. The existing hollow metal doors are original to the construction and are in poor condition. The overhead coiling door is manually operated and currently functioning properly but is uninsulated.  <u>The A/E recommends that all exterior doors and hardware, including the overhead coiling door be replaced since they are in poor condition, uninsulated and in need of repairs.</u>
Windows	Existing windows are bronze anodized aluminum, operable (awning-type) with insulated glass and screens. From as-built drawings they are approximately 14 years old (ca. 1989) and were observed to be in good condition. The clerestory windows in the Assembly hall are also anodized

	aluminum with fixed, insulated glass. These windows were also observed to be in good condition. Existing sealant joints around the perimeters were failing.  The A/E recommends that all existing windows be re-sealed around the perimeters and laminating film be applied on all windows for anti-terrorism/force protection measures.
Trim/Fenestration	Existing trim, copings, flashing, gutters and downspouts are copper except at the rear of the Training building and at the Assembly hall where they are prefinished aluminum. The A/E noted copper copings on roof parapet walls were damaged due to high winds and numerous locations had open, exposed joints between sections of metal. Existing copper flashings are original to their construction and in bad repair. The prefinished aluminum trim is newer and appears to be in good condition.  

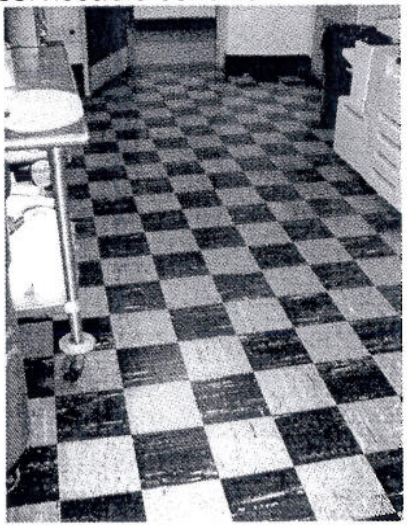
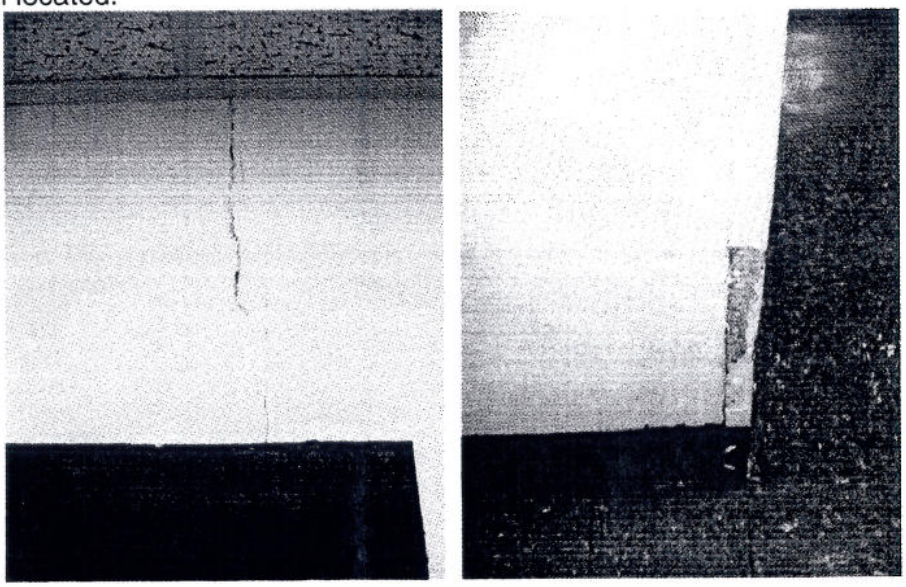
The A/E recommends that all metal trim, copings, flashings, gutters and downspouts with the exception of at the Assembly hall be replaced with new copper as the existing trim has reached its useful life.

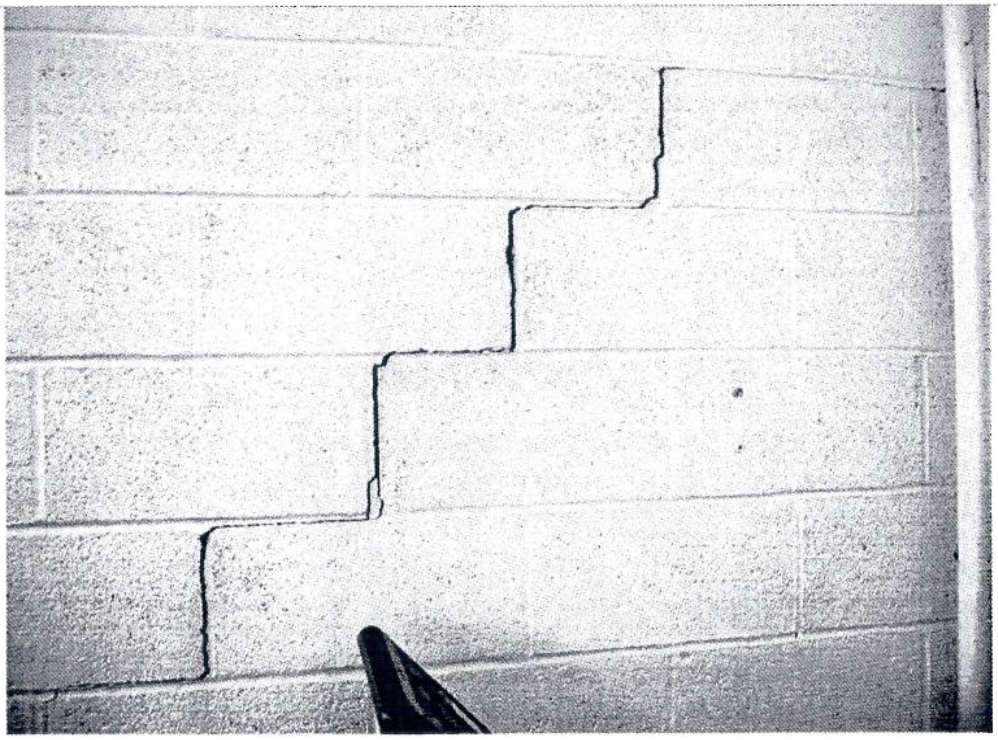
Interiors

Floor Finishes

Existing floor finishes are VCT in corridors and classrooms; carpet in Admin areas, ceramic/quarry tile in the toilets and kitchen areas and exposed concrete in the boiler room, unit storage area and locker rooms. By visual inspection there is evidence of asbestos present in the 9" x 9" vinyl tile located in a part of the unit storage area of the 1975 addition. This is also indicated in the Asbestos Containing Materials (1995) report provided. The report also indicates that ACM's are present in the mastic used throughout the building to secure the tiles. From the report these ACM's are considered to be non-friable.

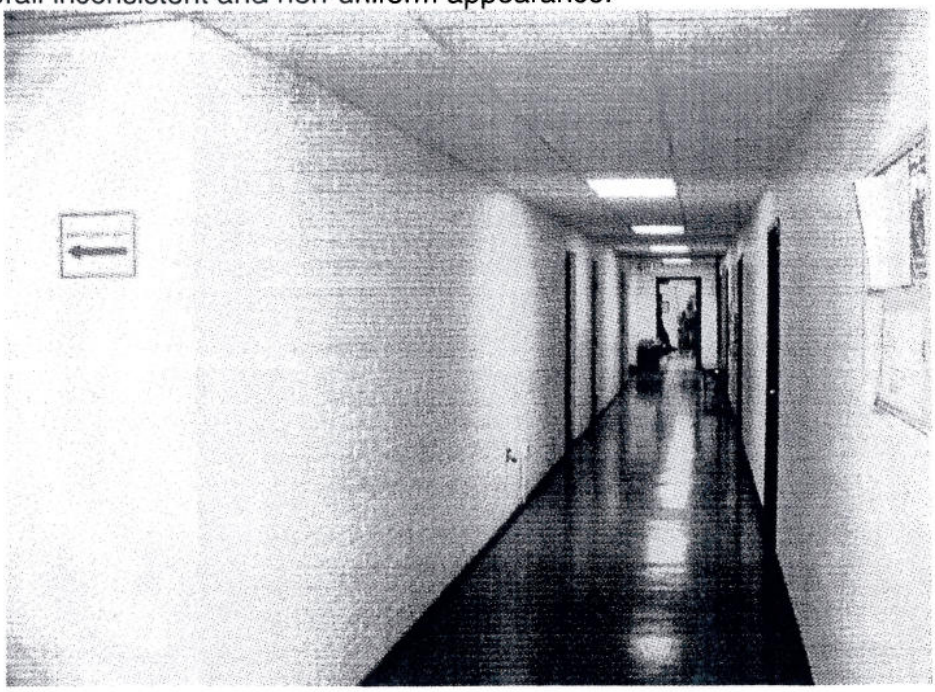
The A/E observed that floor tiles inside the unit storage areas of the 1975 addition had been damaged and disturbed therefore recommends that these and other ACM's be removed by a qualified asbestos abatement contractor.

	Existing carpet is minimal in quantity and located only in a couple of office areas. It is relatively new and in good condition. Existing ceramic and quarry tile floors are in serviceable condition.  The A/E recommends that the existing VCT be removed and replaced with new VCT throughout the building for an updated appearance and to eliminate ACM's.
Stairways, treads, and railings	There are no interior stairs in this facility. This facility is a single story building.
Wall Finishes	Existing wall finishes consist of painted concrete block, painted brick, and drywall where partitions have been added. Existing walls and finishes appear dirty, scuffed and of inconsistent appearance. The A/E noticed a few locations in the Training building corridors where minor cracks have occurred adjacent to expansion joint locations or where a control joint should have been located.  There were numerous cracks located in the drywall along the corridor wall where a drywall control joint should have been placed.



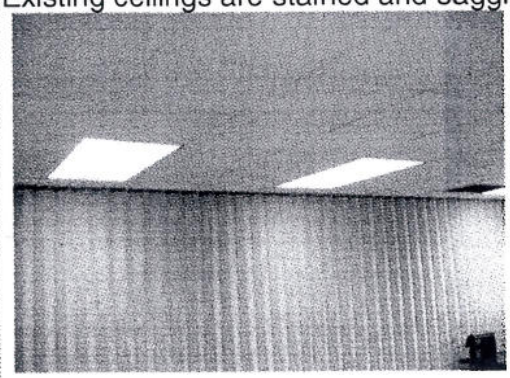
Also, there are minor diagonal cracks in the CMU at the corners of the Assembly hall.

The difference in materials for wall types inside the Training building gives an overall inconsistent and non-uniform appearance.

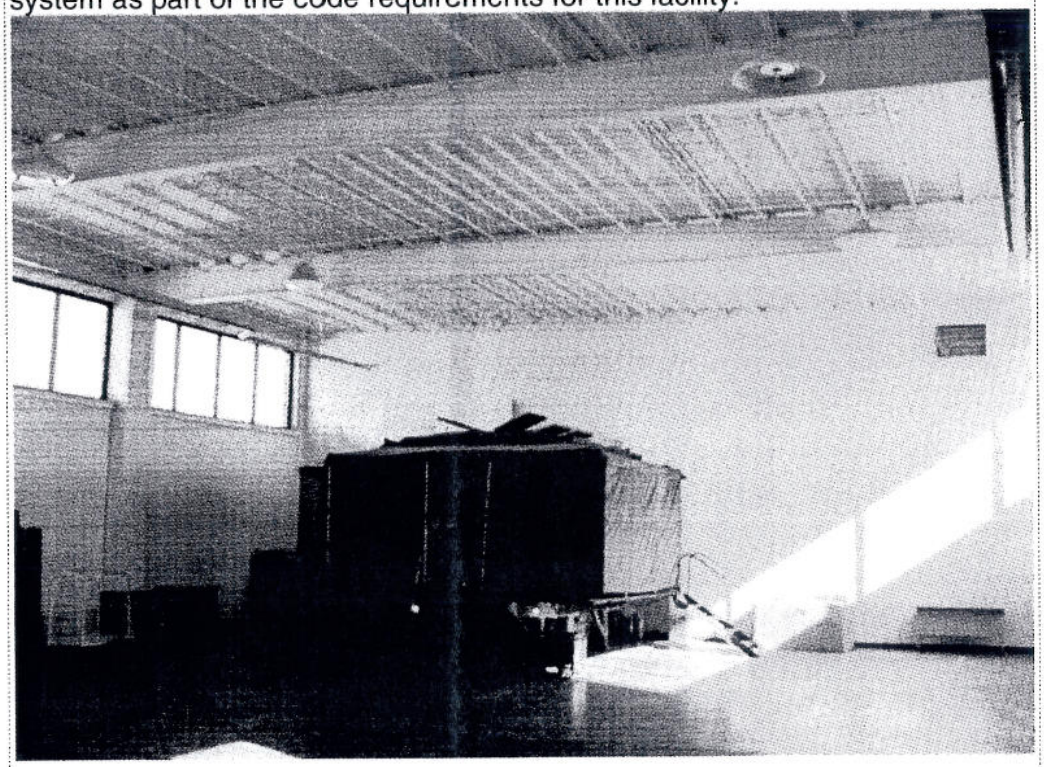


The A/E recommends that existing wall finishes be furred out and drywall installed throughout the building to provide a uniform interior appearance for the facility.

Ceilings/Finish	Existing ceilings consist of suspended acoustical type-admin areas, gypsum board-painted-classroom, admin, toilets and corridor areas and exposed structure-Assembly hall, unit storage and locker room areas. The A/E noted exposed surface mounted piping and conduit runs inside the corridors. Existing ceilings are stained and sagging and overall in poor condition.

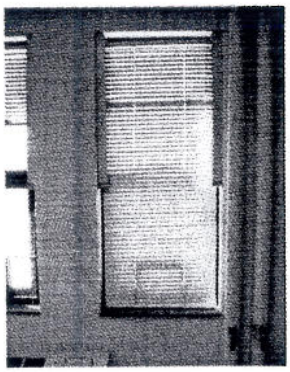


The A/E recommends that all existing ceilings be removed and new lay-in acoustical type ceilings be provided throughout the building. Most likely the existing ceilings would have to be removed for the installation of a sprinkler system as part of the code requirements for this facility.



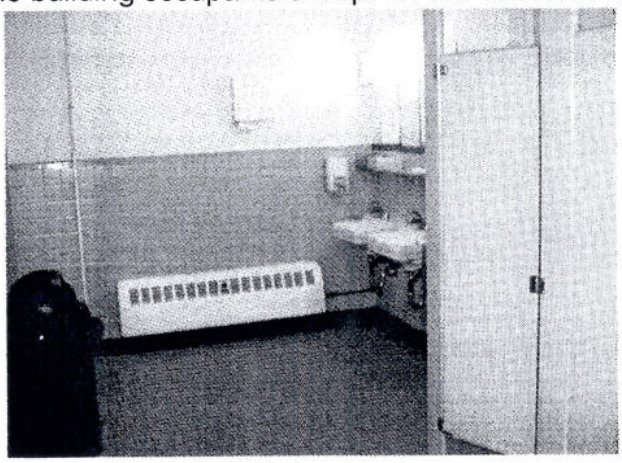
In the Assembly hall current standards require installing new lay-in acoustical type ceilings. We recommend gypsum board bulkheads splayed to the Assembly Hall clerestory window heads as part of a new acoustical ceiling installation. The new ceiling will also conceal HVAC equipment.

Doors/Hardware	Existing interior doors are hollow metal with hollow metal frames, non-rated. Most of the doors facing into the corridors have louvers in them, some flush and some with half glass. Existing door hardware is brushed stainless steel, knob-type, original to the facility and partly inoperable. All doors appear to

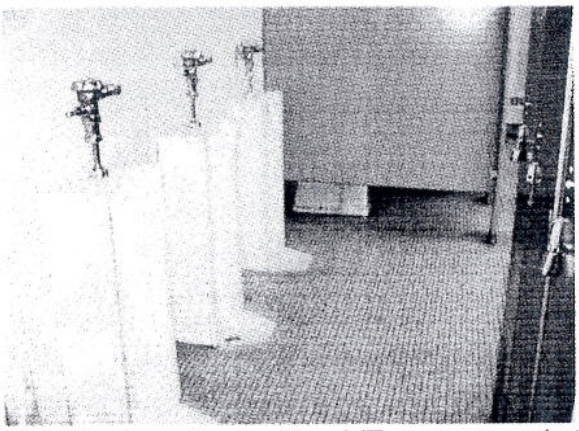
	be in average to poor condition with inadequate hardware. The A/E recommends that all interior doors, including hardware be replaced with new solid core wood doors with new ADA compliant hardware.
Window Treatment	Existing window treatments consist of 1" horizontal aluminum mini-blinds in fair to poor condition. At present, there are no blinds in the Assembly Hall clerestory windows.  The A/E recommends providing throughout the building new 1" aluminum horizontal mini-blinds to coordinate with future new color schemes. This would include new blinds for the clerestory windows in the Assembly hall.
Signage (General)	Existing interior signage is a mixture of stamped metal number plates, engraved plastic stick-on signs and painted room names or numbers. The A/E noted that the existing signage is random and does not meet current ADA standards. The A/E recommends replacing all interior signage with new ADA compliant signage throughout the building.

Restrooms

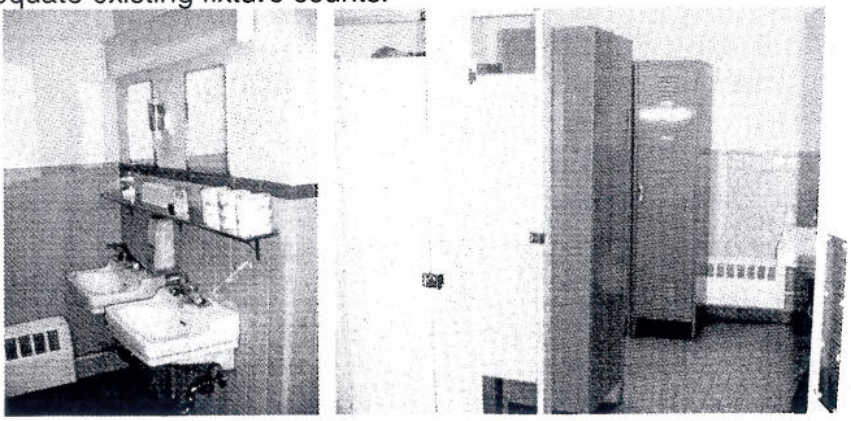
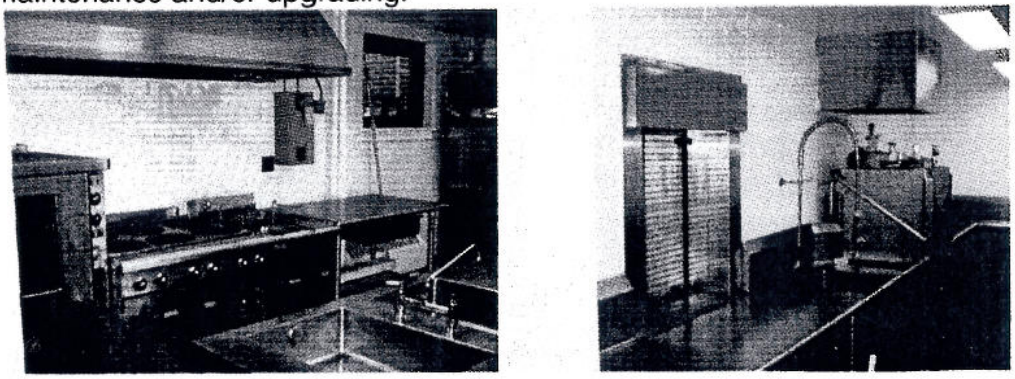
Existing toilet rooms are generally in good condition and appear to be functioning properly. Existing fixtures and finishes are dated and in need of updating. The layout is a bit constrained however seems to be adequate for the building occupants except for the women's restroom.

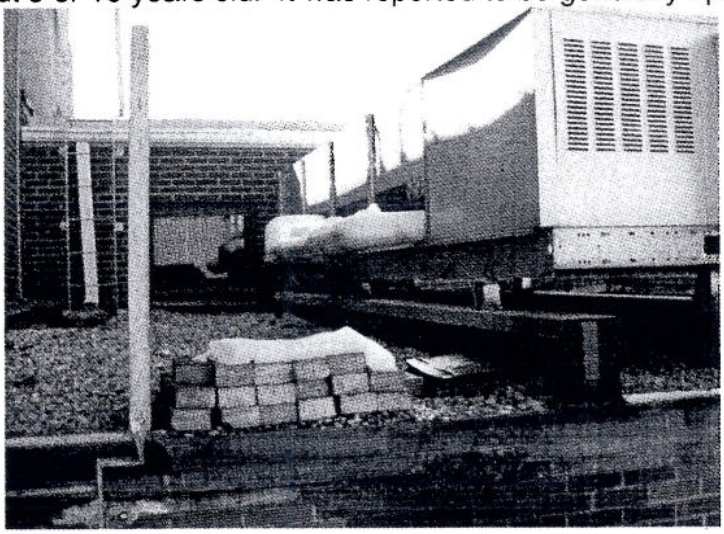
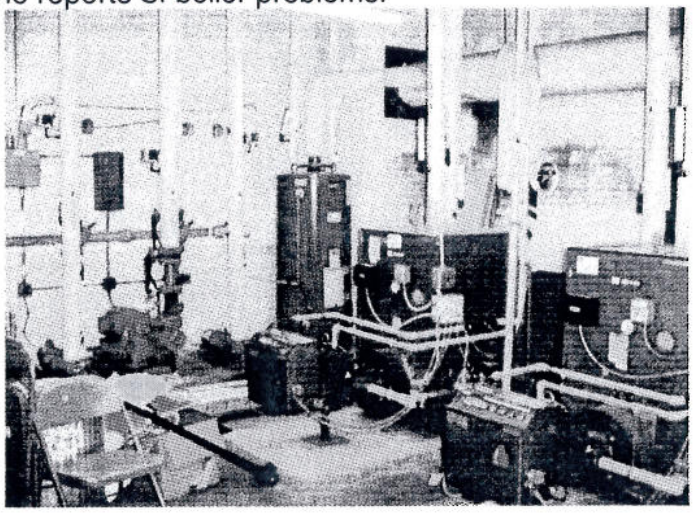


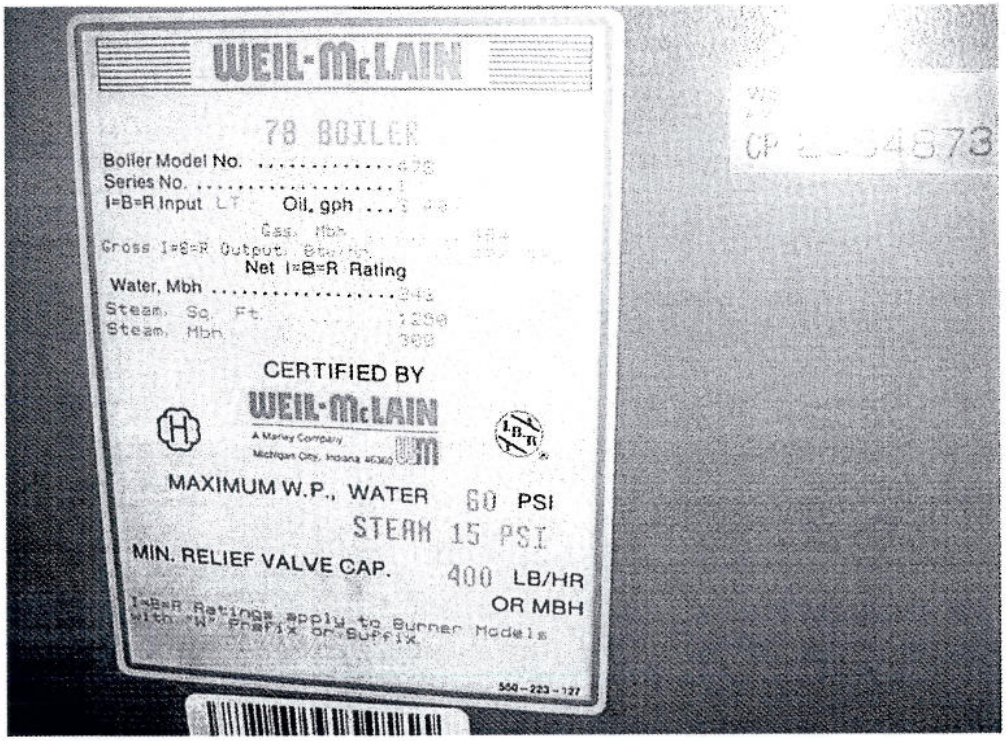
The A/E recommends that the smaller (1961) men's restroom become the HC accessible toilet room by providing a new water closet to HC accessible mounting height and location, new toilet partitions around the water closet to HC clearances and a new countertop with drop-in type, HC accessible lavatories.

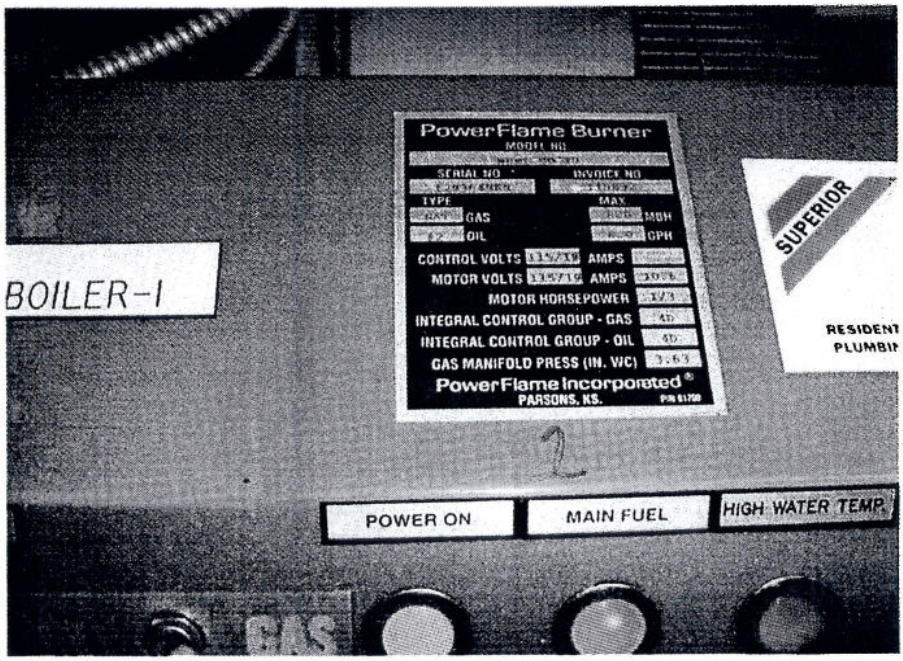


For the larger (1975) Men's restroom, the A/E recommends that the larger existing Men's room be renovated and upgraded for a uniform appearance by providing new fixtures, toilet partitions, and new accessories. Wall hung

	lavatories may be replaced with a new countertop and drop-in type, HC accessible lavatories. The existing stall (floor-set) urinals can probably be retained, as these are in good condition and more expensive to remove. Existing women's restroom is cramped, and (due to conversion from a former men's restroom) has poor space utilization. The users complain of inadequate existing fixture counts.  The A/E recommends that the Women's restroom this room be renovated entirely, and be expanded into the adjacent two small storage closets. This should capture enough space to satisfy additional required fixtures showers and handicap accessibility requirements.
Arms Vault	According to the Security Construction Statement, 09Jan2002, the Arms vault meets the minimum structural criteria of AR 190-11, 12Feb1998, and is therefore certified for Category II storage of arms
Kitchen	The existing kitchen is operable however requires major upgrades to the existing plumbing and exhaust systems in order to meet code requirements. Necessary plumbing upgrades will require major cutting into the existing floor slabs for re-working. Existing kitchen equipment is old and in need of maintenance and/or upgrading.  The A/E recommends that the kitchen be re-worked entirely with new kitchen equipment provided due to plumbing deficiencies. Consideration should also be given to increasing the size of the kitchen in order to provide a more functional and efficient layout.

Building Systems	
Mechanical	
Refrigeration Equip	Chiller was off for the winter season during the Assessment site visit. Chiller nameplate data has faded off and is unreadable. Based on HVAC renovation plans dated 1993 it appears chiller was installed in1993 or 1994 thus is about 9 or 10 years old. It was reported to be generally operable.  Existing chiller data: Applied Products air cooled unit. Faded nameplate says HeatCraft, Inc. From 1993 drawings, capacity appears to be 28.75 tons, water flow 70 gpm from 55F EWT, 45F LWT, and 2 steps of compressor loading. See explanation of the proposed replacement system below under air handling equipment.
Heating System	Building as constructed 1959 was originally equipped with two coal-fired steam boilers. These were converted in 1973 from coal to oil-fired. The steam system was replaced with the current hot water boilers in approximately 1993. Installed boilers are each "478-series" Weil McClain cast iron units with PowerFlame forced-draft burners, gas-fired with IBR gross output of 494 MBH, and I-B-R net output (hot water) of 400 MBH. There were no reports of boiler problems. 





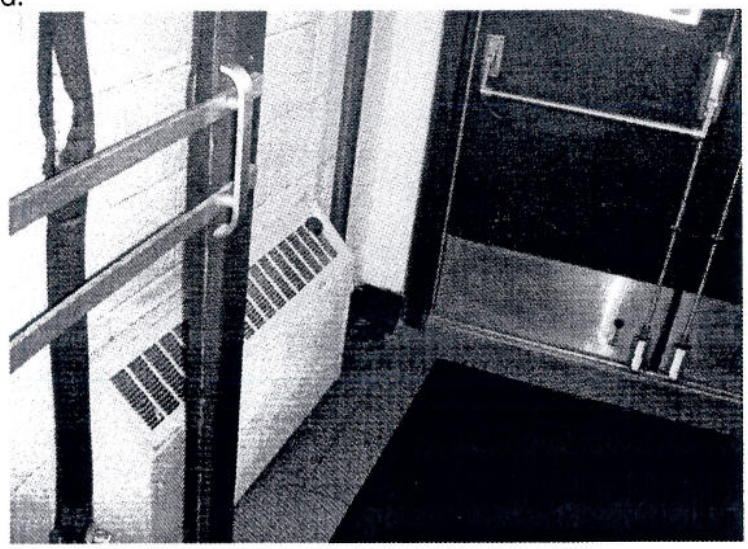
The Weil McClain is a heavy duty long-life cast-iron type, and should have many years of remaining life. Cast iron boilers of this type are generally recognized as quality units, with an expectable service life of nearly 30 years, given reasonable care.

See explanation of the proposed boiler system revisions in the Section "Proposed New HVAC System" below.

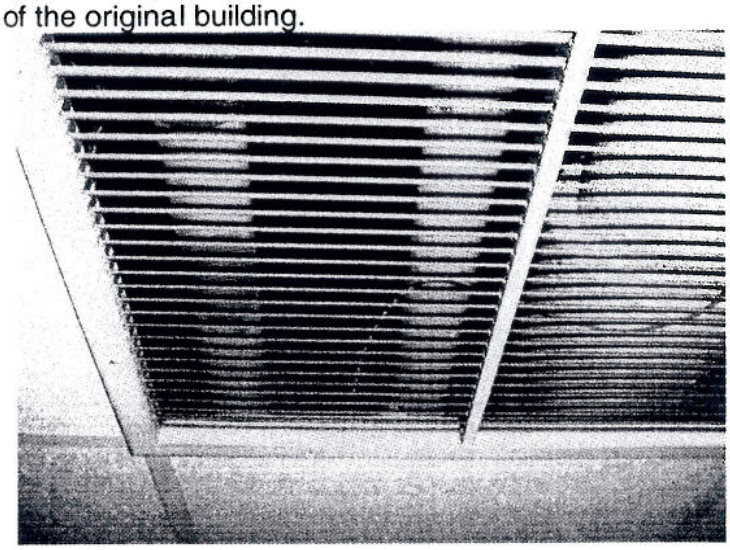
Air Handling Equipment and **General Overall Description of Existing System**

The existing heating and cooling system is made up of a combination of various equipment types added over the years and over several renovations and additions.

Existing Original Building:
Per drawings numbered 29-06-46 and dated Jan 60, the original building appears to have been designed for heating and partial air-conditioning, using fan coil units. There are convectors providing heating only in spaces not air conditioned.



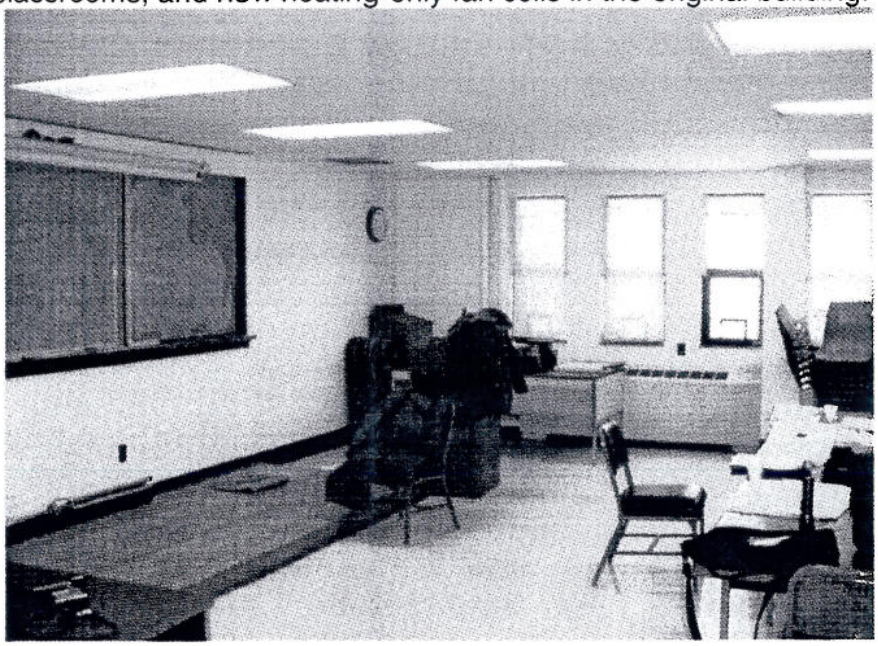
In addition, there were grilles in the ceiling that connected to gravity reliefs on the roof. These appear to have been non-ducted, using the space above the ceiling of the original building.



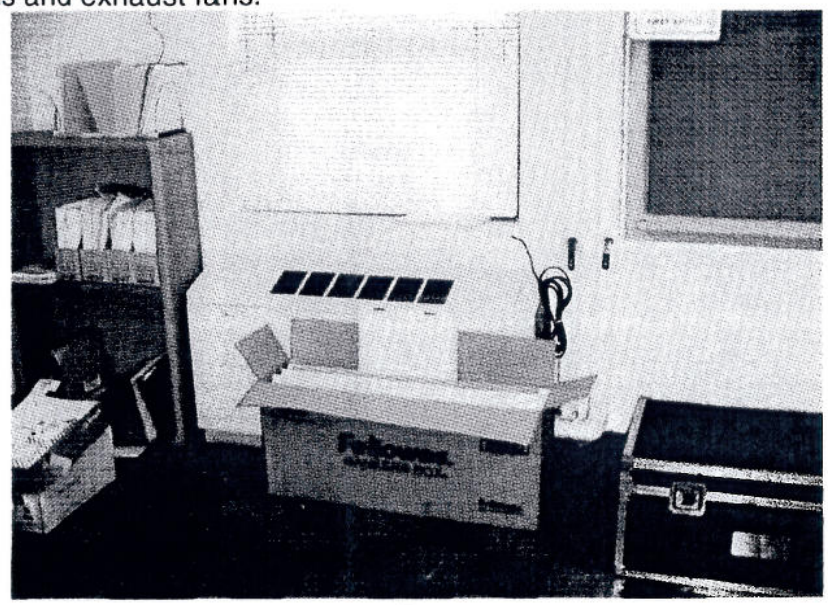
We could not determine whether the original 1961 cooling system (consisting of small chiller and cooling tower) was ever installed. There appears to be no mention of it except on the original plans. Perhaps it was eliminated as a deductive change and never installed. At any rate there is no evidence of this original cooling equipment in any subsequent drawings available to us.

Existing Building Additions and Revised Mechanical Systems:
The 1975 addition doubled the size of the facility adding classrooms, office space, unit storage, and a firing range. In addition it revamped the kitchen.

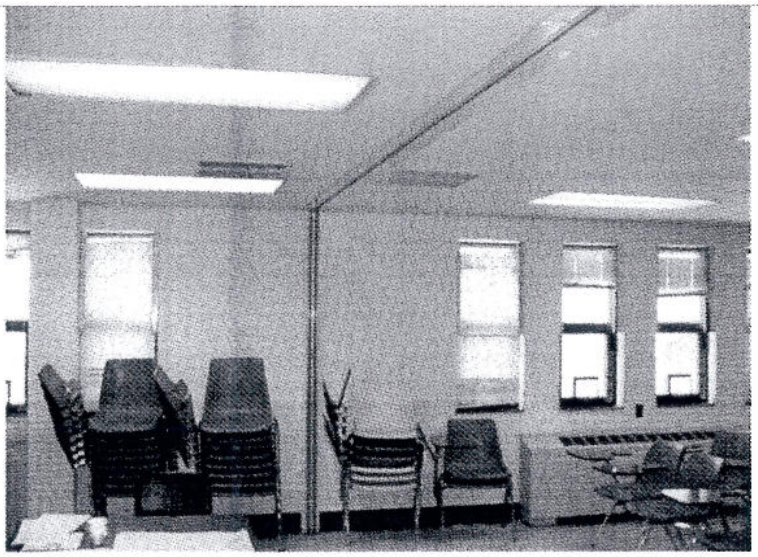
The mechanical system as shown on the 1975 plans consisted of unit ventilators in the classrooms. These were heating-only unit ventilators in the new classrooms, and new heating-only fan coils in the original building.



The original portion of the building was renovated at the same time with new fan coils and exhaust fans.



The areas served by unit ventilator as well as the corridors were coupled with switch controlled exhaust fans. In the classrooms the fans were ducted to dual grilles in the classroom ceiling. The user could switch the fans on and exhaust large volumes of air.



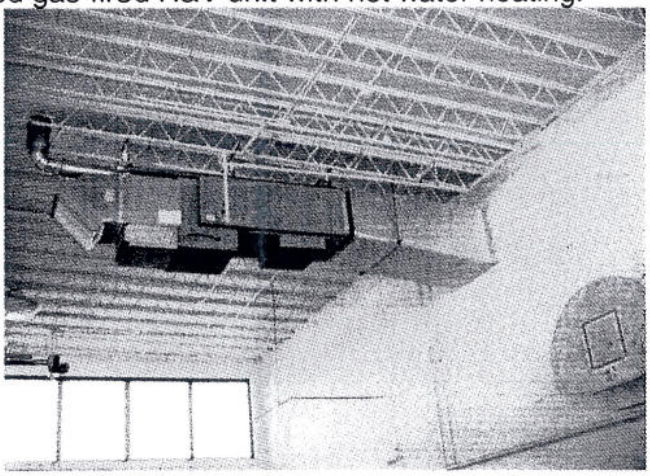
Evidently the intent was to provide summer comfort in the absence of air-conditioning by using large fans similar in function to the "whole-house ceiling cooling fans" sometimes used in residences. These exhaust fans still remain in place and are operable, although they are counterproductive in the now air conditioned building. They are in the original building hallways and in the 1975 large classroom areas. The fans leak a large amount of air out of the building in the wintertime.

There was a similar arrangement in the corridors of the original building, and in the corridors of the 1975 addition, except these were gravity vents whose mission was to relieve excess building static pressure. These units are also still in place, and in the 1993 mechanical systems renovation, they were equipped with new static pressure control systems, according to the 1993 plans. Again the function and need for these vent systems in an air conditioned building is not confirmed; it would be a matter of checking the

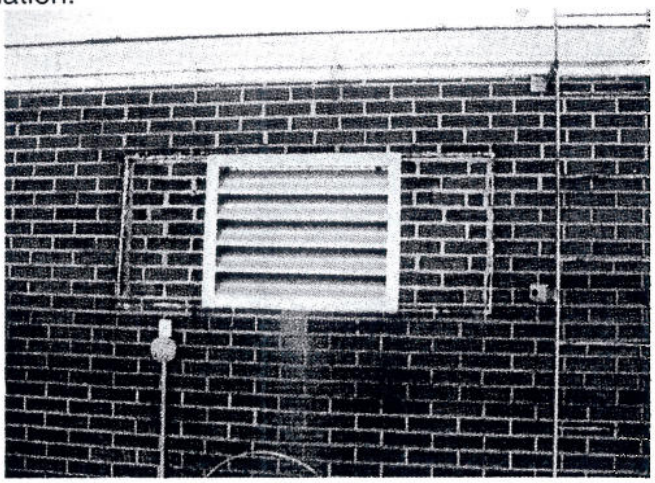
intended fresh air quantities introduced at the fan coils versus the amount of air exhausted at toilets and other exhausted spaces. Most likely they serve no purpose.

The overall heating and cooling system was renovated around 1993. (See Entech Engineering drawing set 8950 dated 6-4-93 sheets 1 thru 7). Now serving a portion of the original building is a two-pipe fan coil system having a nominal 29 ton reciprocating chiller and two (2) 400 MBH (output) hot water boilers, these as described above. The 2-pipe system provides cooling to some areas, and heating only to other parts of the original building. Heating only areas include the assembly hall, and storage and service areas.

The **existing Assembly Hall** area also has had its mechanical system revised several times since the original 1961 installation. It now has one ceiling mounted gas-fired H&V unit with hot water heating.

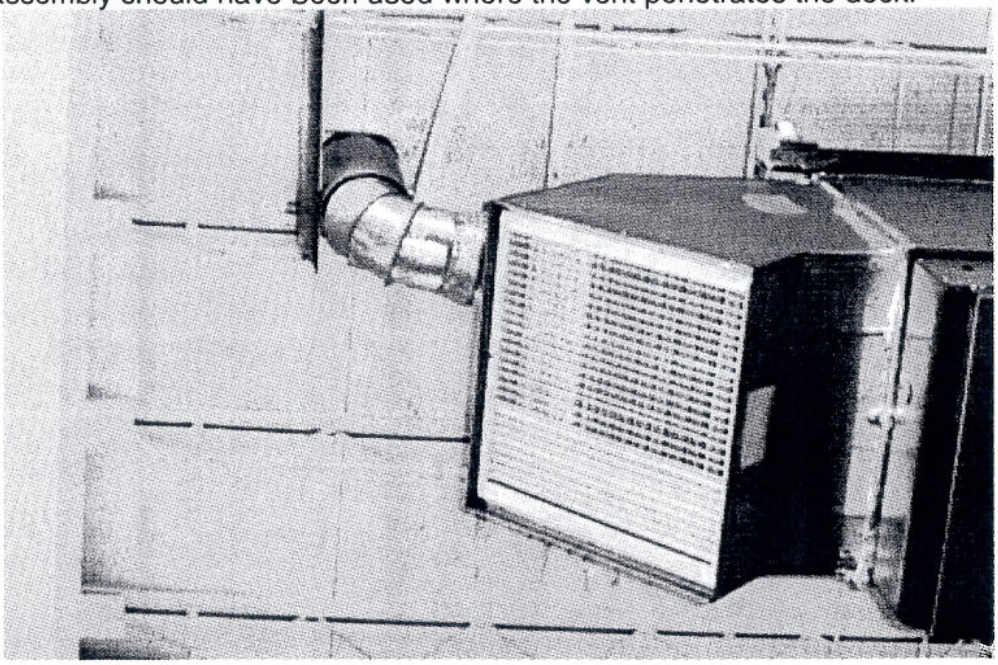


There is an intake louver on the west wall to bring in fresh air and for summer ventilation.



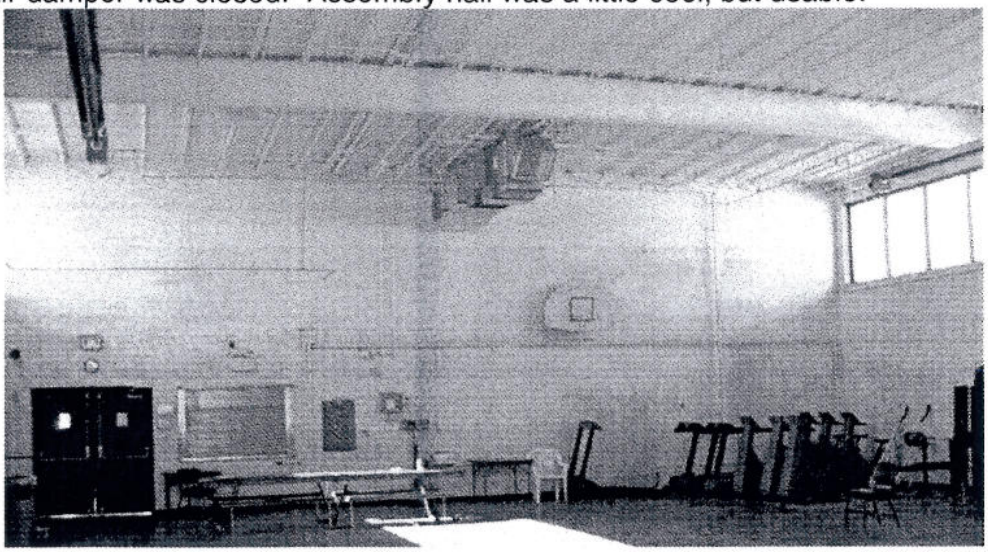
Ventilation air is exhausted through a wall mounted relief louver on the opposite (East) end. This system was installed in 1993 and appears original to that installation.

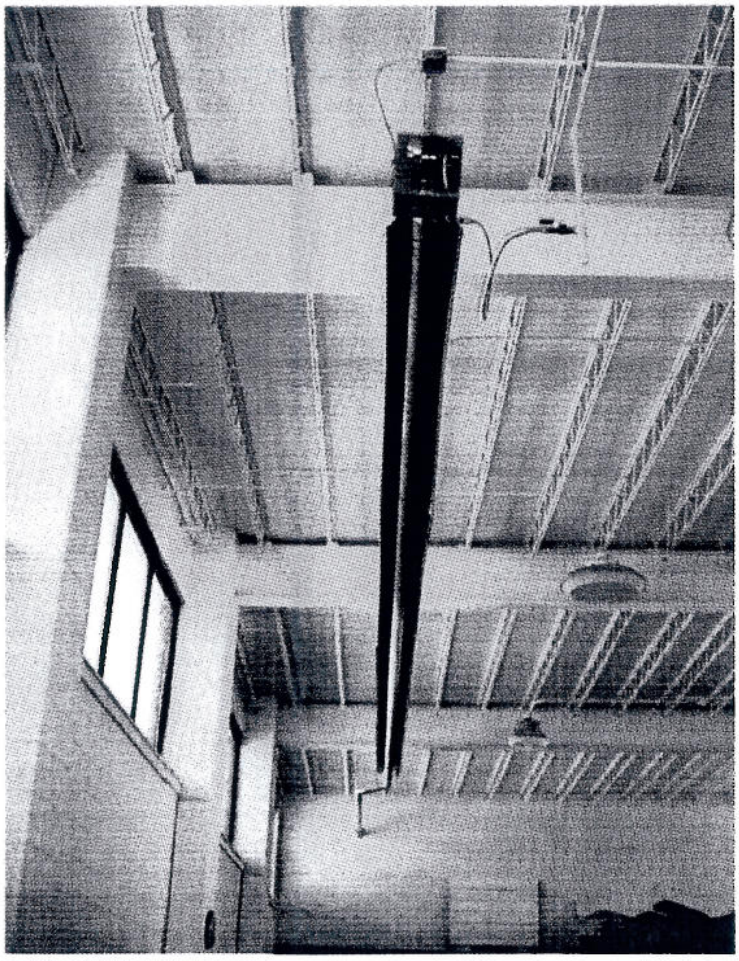
A type B gas vent extends from the H&V unit burner section up through the plywood deck and terminates above the roof. This vent is installed without proper clearance between it and the wooden deck. An approved sleeve assembly should have been used where the vent penetrates the deck.



Also installed in 1993 were two rows of overhead gas-fired radiant (tube) heaters, 6 feet in from and parallel to the sidewalls of the Assembly hall. These units are shown on the drawings as vacuum draft type, but what was installed is a forced pressure draft type of heater. The radiant heaters have an input rating of 120 MBH each and were in use for heating the Assembly

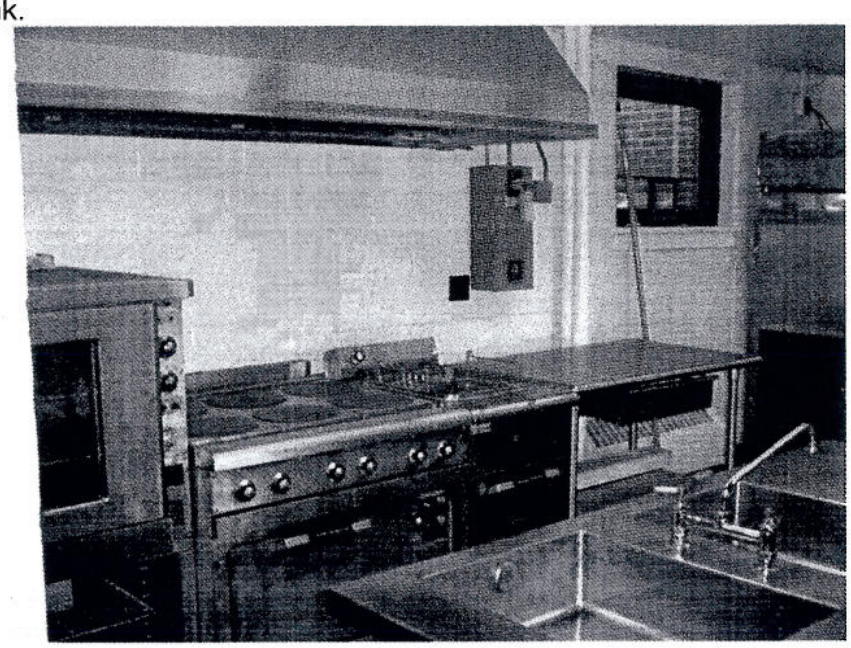
hall during our visit. The H&V unit appeared not to be in use, and the relief air damper was closed. Assembly hall was a little cool, but usable.

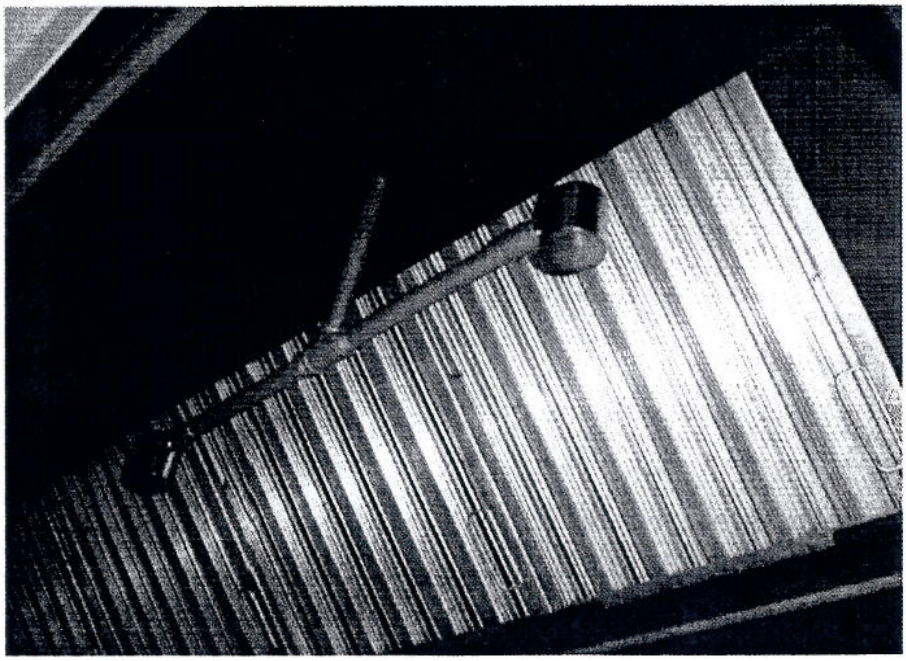


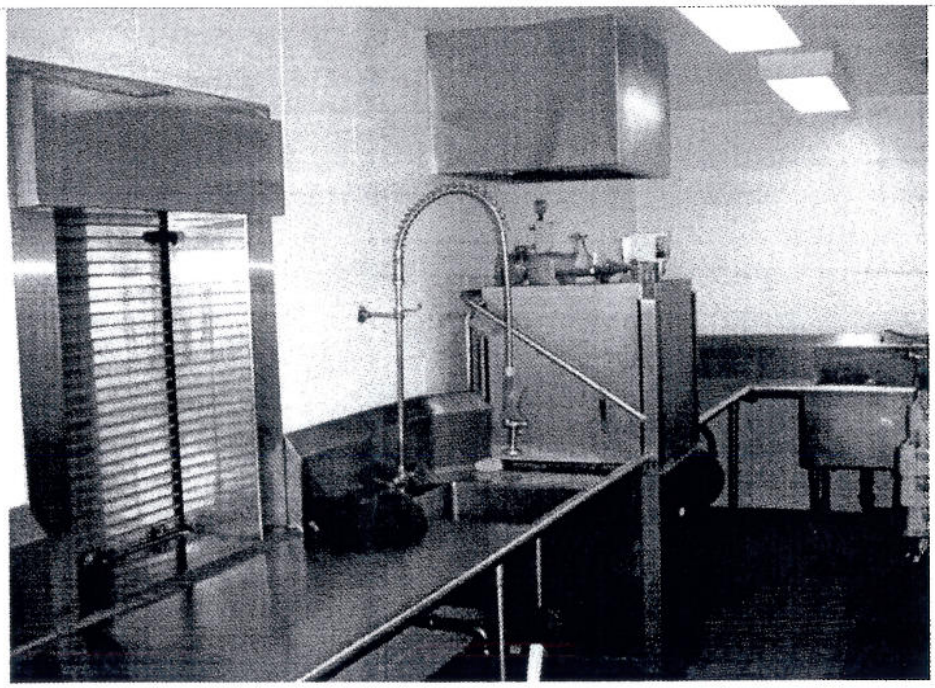


Kitchen was substantially altered and revised as a part of the 1975 addition work. Mechanical systems serving the kitchen date from that time, and

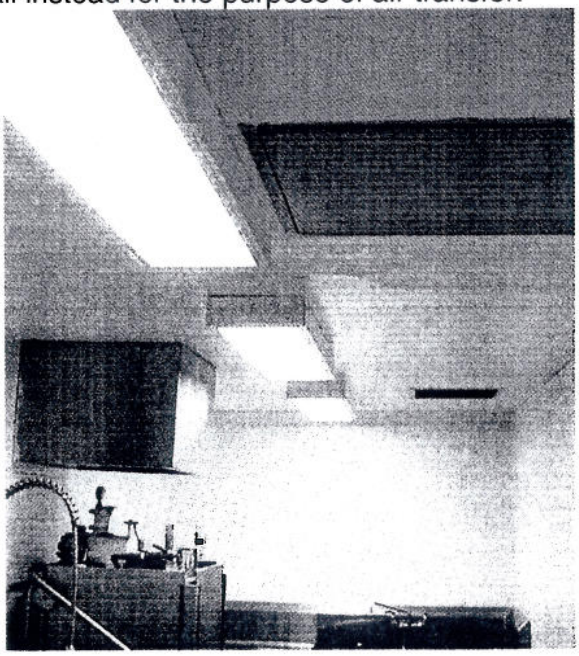
include a kitchen hood with an Ansul dry chemical suppression system, a hood for the dishwasher, a hood over the serving line, and no hood over the pot sink.

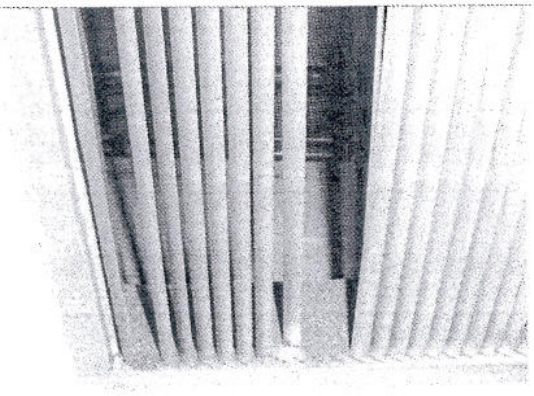






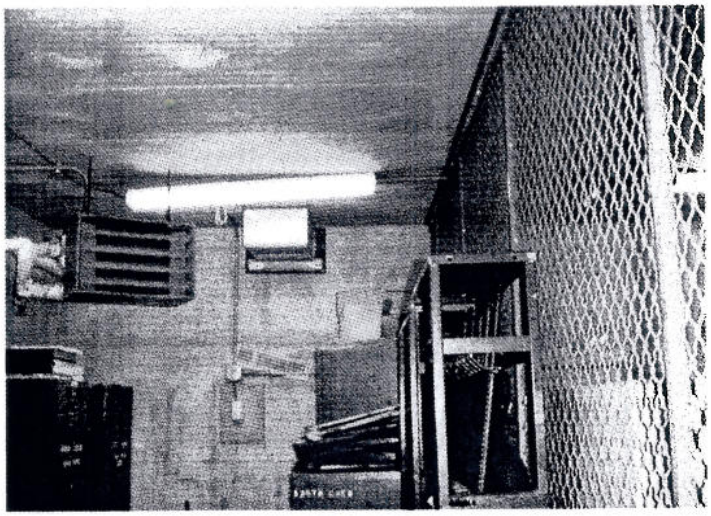
There is a grille in the ceiling of the scullery whose intended purpose evidently was to allow above-ceiling air to drift into the scullery and serve as makeup when the dishwasher hood is in operation. Original design also showed transfer grilles from the assembly area into kitchen, but evidently these were never installed, it being decided to use the serving line opening into assembly hall instead for the purpose of air transfer.

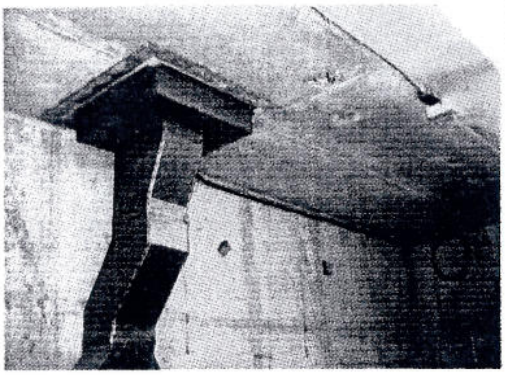


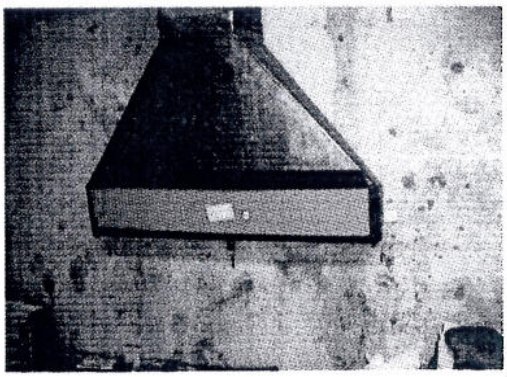


All told there is no makeup air system for the kitchen, inadequate ventilation in the scullery, no hood over the pot sink, and (although we did not have an opportunity to verify performance while kitchen was is use), probably unsatisfactory ventilation and comfort system for the kitchen in general.

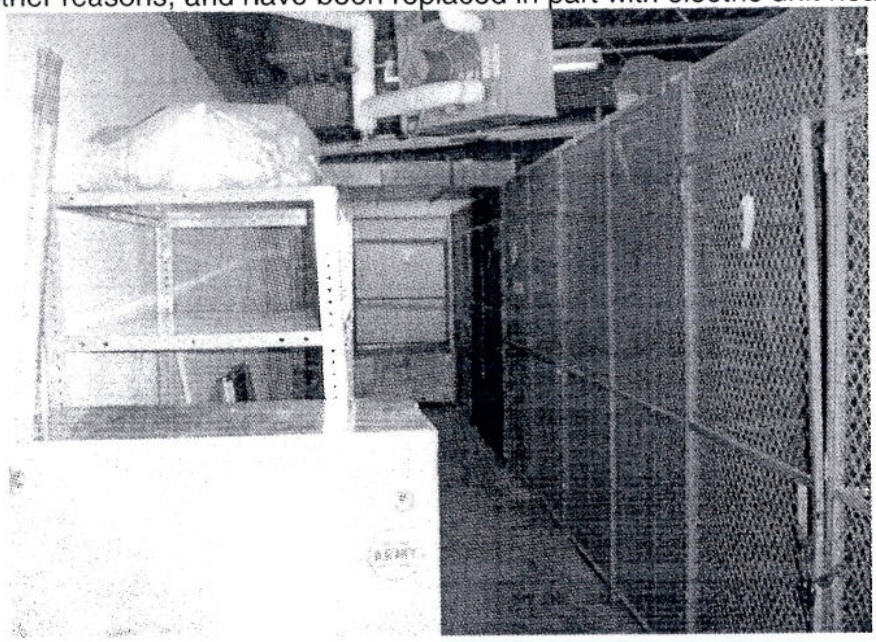
Vault area is not conditioned. There is a bench within the vault for the armorer, and a hood for the bench. The hood has been taped off. We are told that people generally clean weapons while sitting in the hall. There is no humidifier presently installed, but we understand one will be ordered soon.

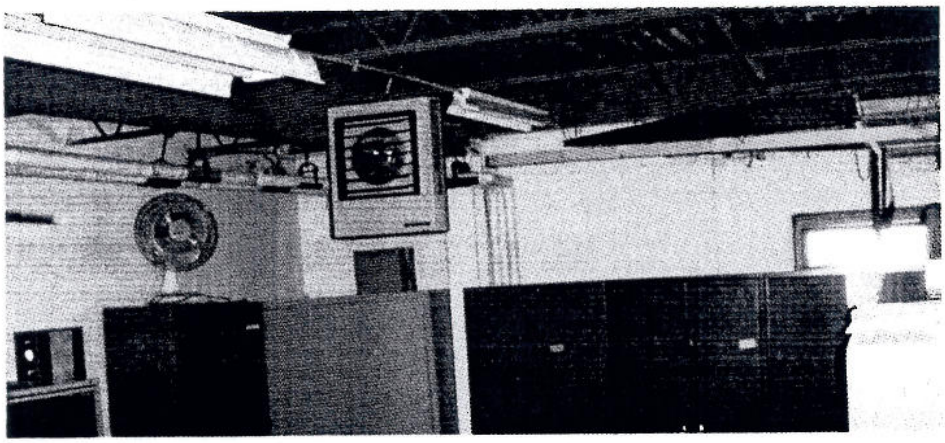


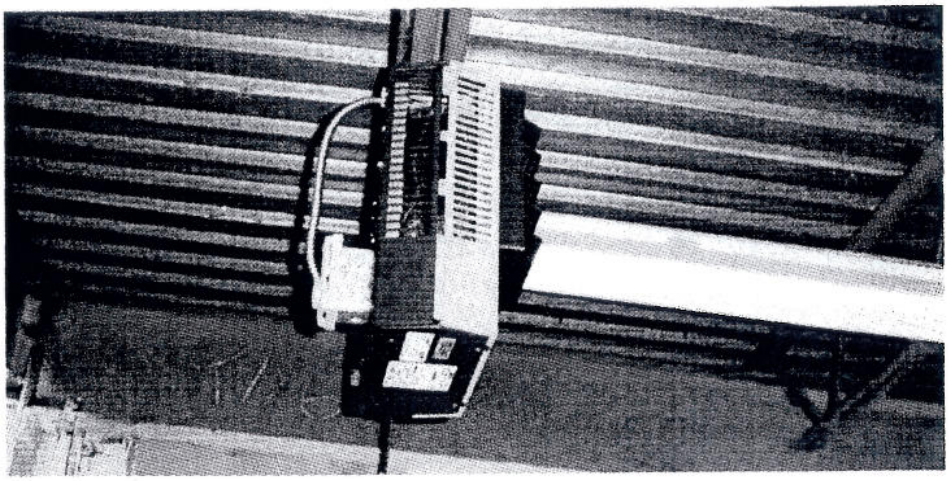




Unit storage and locker areas are fitted with hot water unit heaters. Some of the hot water unit heaters have ceased to work due to valve stoppages and other reasons, and have been replaced in part with electric unit heaters.

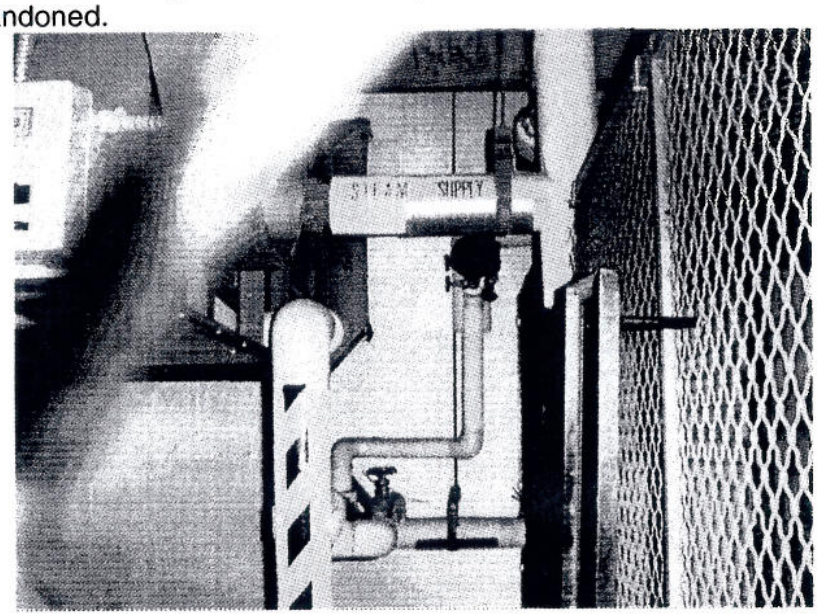


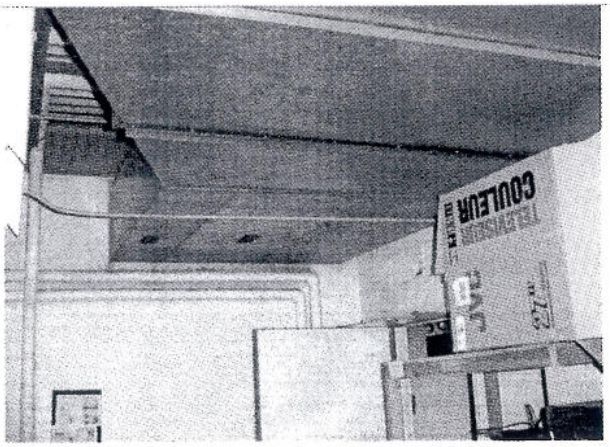




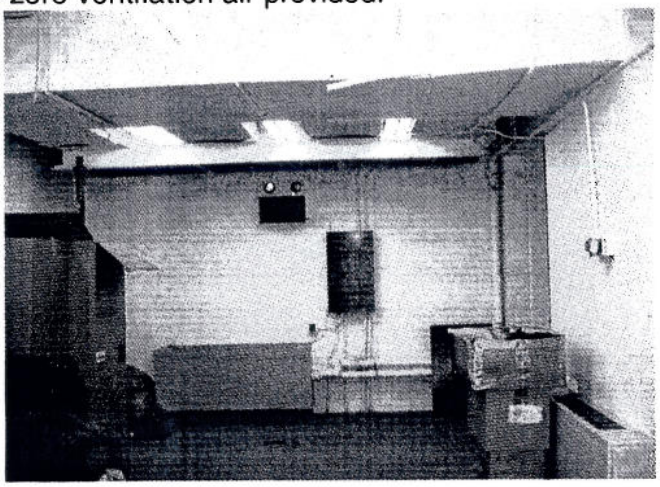
Firing Range:
(Firing range is per Scope not part of the assessment, however some information was gathered and is passed along here.) All firing range equipment has been removed, and steel storage cages have been installed along one wall for the full length. Firing range has been abated of lead, and is now used for caged storage.

The original ventilation system consisted of a makeup air unit with steam coil, suspended from ceiling across the hall in a storage area, with a large duct extended into the firing range at the shooter end where supply air was introduced into the space. This makeup air unit and ductwork is still in place, but abandoned.

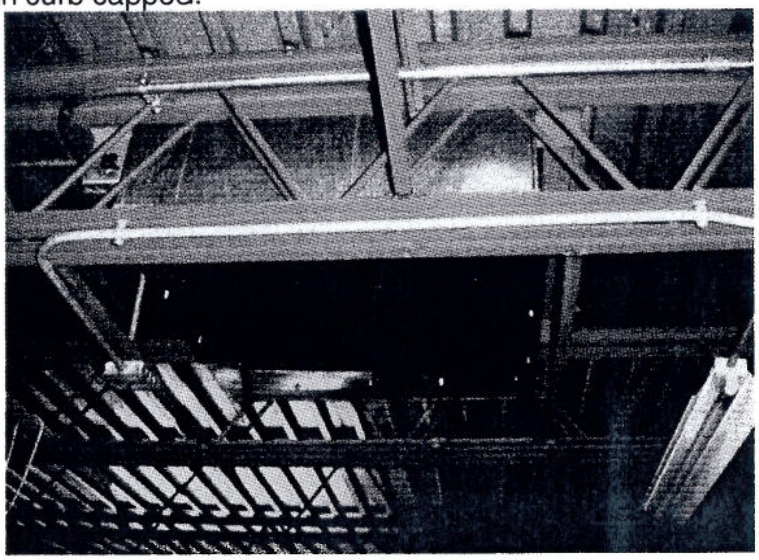


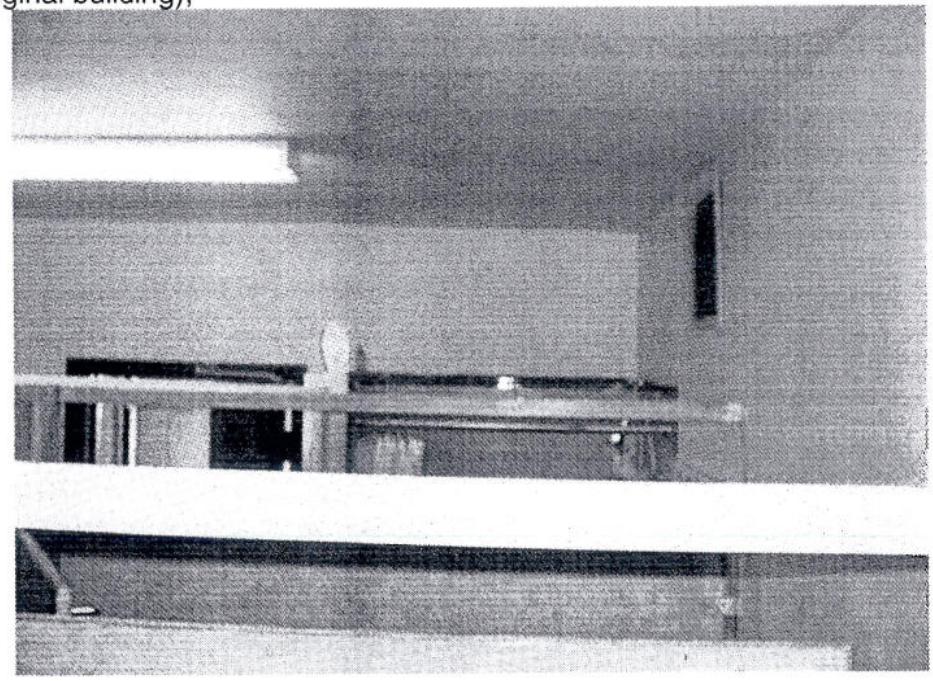
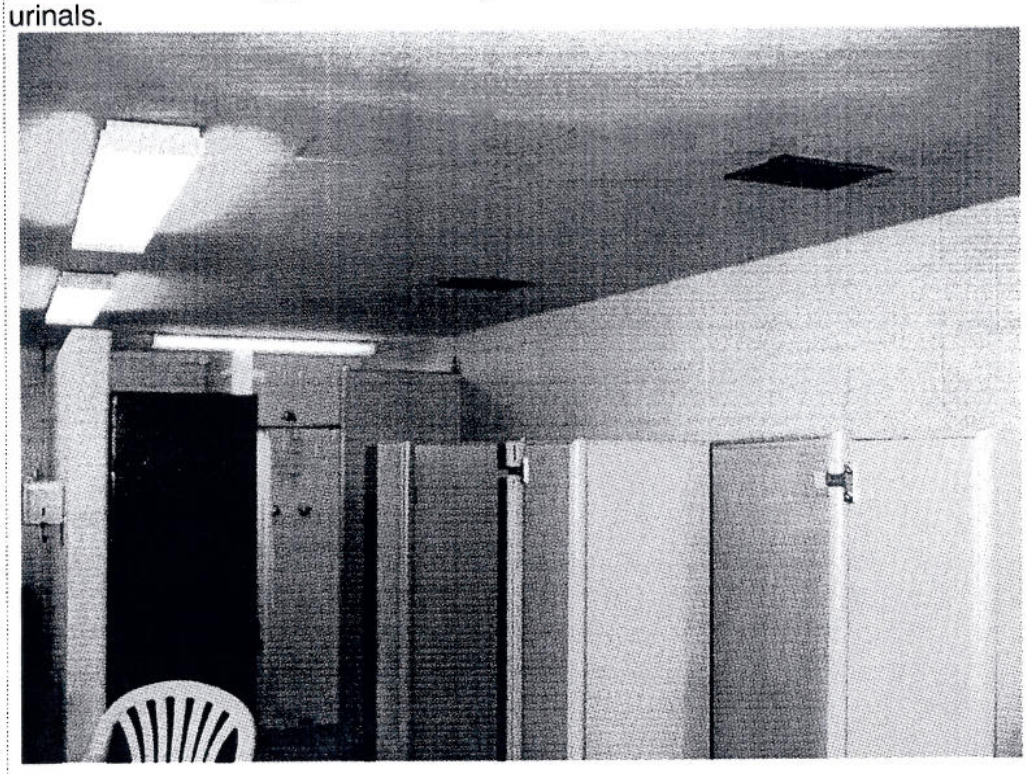


A fan coil (heating only) has been extended into the space recently and is providing heating. Space was adequately heated during our visit, but there appears to be zero ventilation air provided.



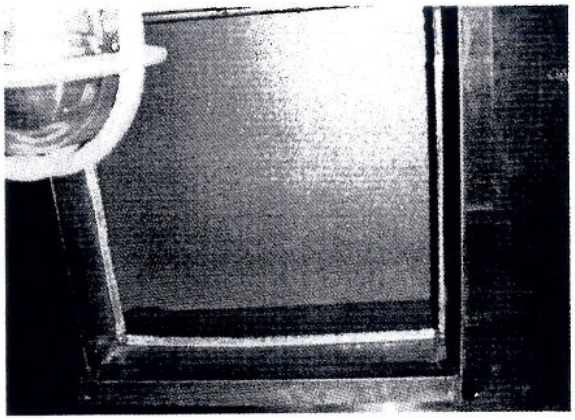
At the opposite (target) end of the range there was an exhaust system, served by a 6400 cfm exhaust fan mounted over the adjacent storage room. This fan has been removed probably as part of the lead abatement process, and the fan curb capped.



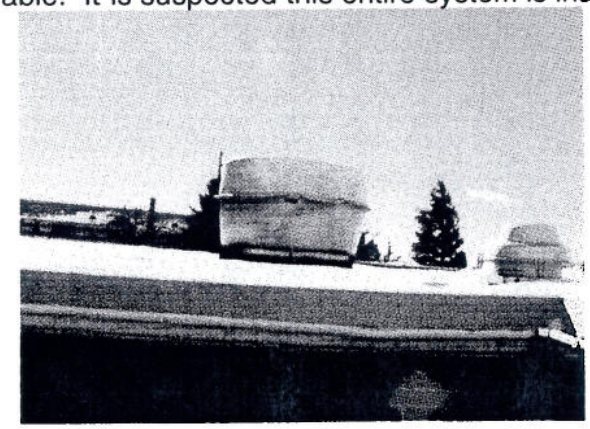
Ducts & Water Dist	Ductwork is limited. Original general ductwork was mostly at Restroom exhaust systems, and at the makeup and exhaust systems serving the former Firing Range and a small amount for the Assembly area gas-fired H&V unit. There are no exhausts in the shower areas. Shower vapors are removed indirectly by drifting to exhaust grilles mounted high on the wall (original building);  or in the hard ceiling (1975 addition), and located over water closets and urinals. 

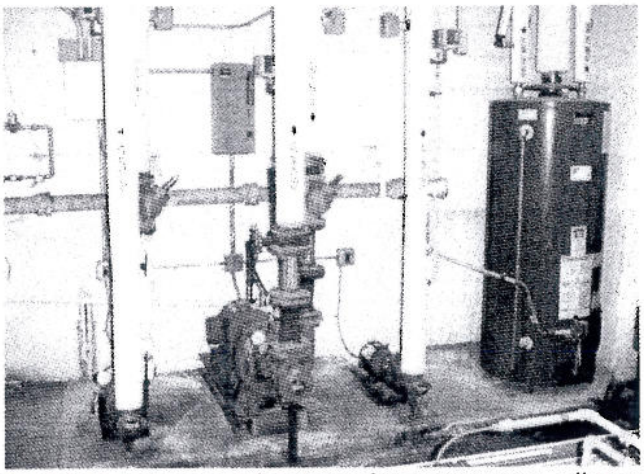
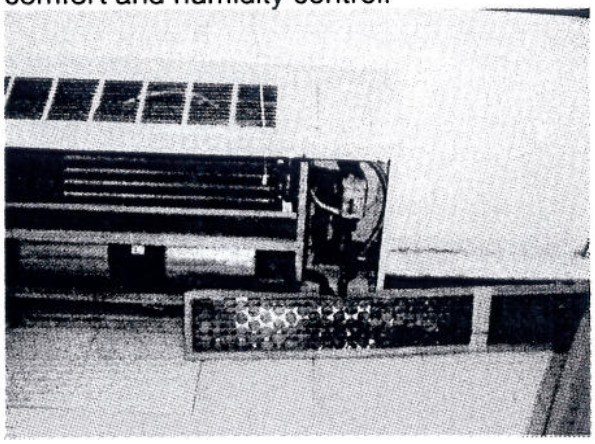
Duct condition insofar as could be seen appears satisfactory, but grilles are deteriorated and the roof-mounted fans also show their age.

We were not able to inspect all the kitchen hood exhaust ductwork, but did observe the hood exhaust over the serving line is of normal galvanized construction.

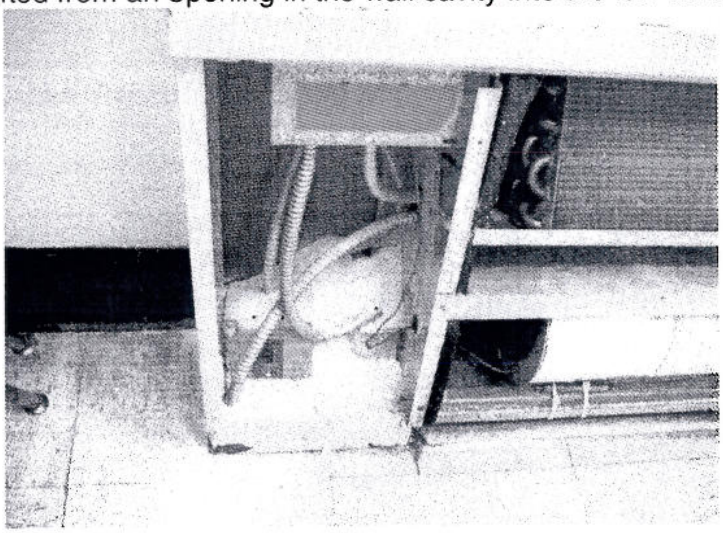


This hood is served by the same fan as served the cooking hood and duct is interconnected. The up-blast discharge fan on the roof is dented, but fan is still operable. It is suspected this entire system is inadequate.

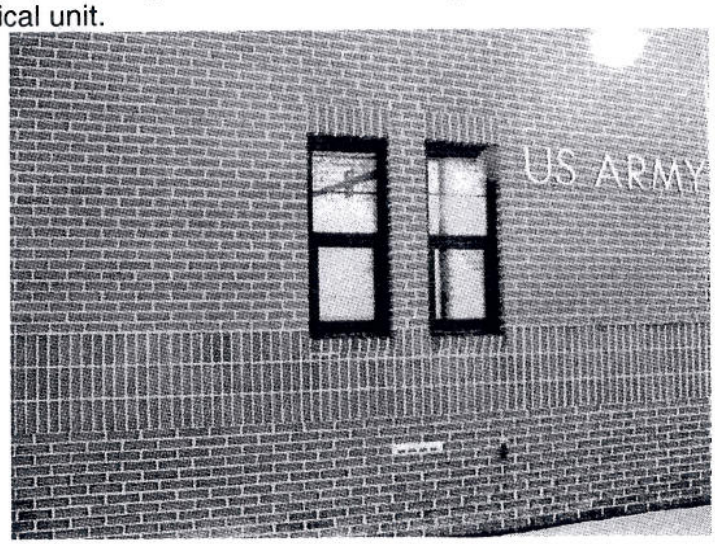


	Existing pumps are comprised of three base-mounted Bell and Gossett pumps, mounted on a pad at the end of the mechanical room and laid out for good access.  All pumps appeared to have good external appearance, all were in operation, and none were reported to be having problems. The three pumps comprise three zones. The largest pump is a series 1510 for hot/chilled water, the other two are close-coupled 1522 series units and serve heating systems only, thus do not operate in cooling season. There are isolation valves marked to show how system is changed over from heating to cooling operation. Pumps are • CP-1 7.5 hp 70 gpm at 118' head - heating/cooling • CP-2 0.5 hp 23 gpm at 20' head - heating • CP-3 .25 hp 7.5 gpm at 20' head - heating
Room Air Dist/Term	The room distribution is generally from terminal units including console type fan-coils, with ceiling hung horizontal discharge unit heaters in heating only areas. Existing fan coils have a deteriorated appearance. We took the face off one fan coil in the large classroom. The fresh air damper was motorized, but it could not be made to operate. The damper when closed had a very loose fit and introduced a large amount of outside air. Air was introduced below the filter, and when wind was blowing hard or fan coil was turned off a strong cold draft spread across the floor. This arrangement may help prevent accidental coil freeze-up, but at the expense of energy, room comfort and humidity control. 

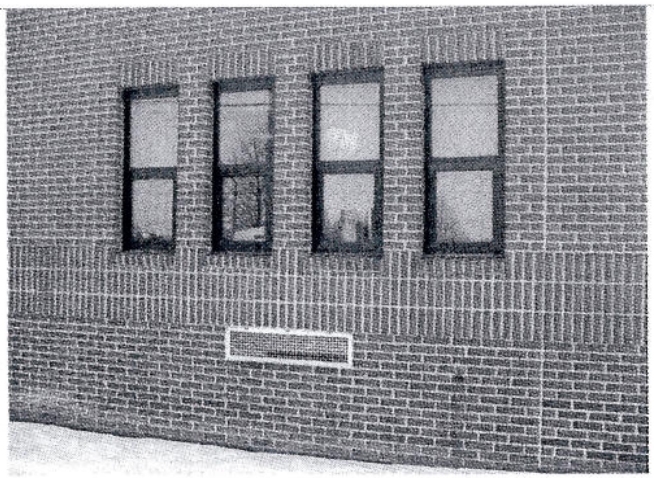
Also there was a large amount of loose powder inside the fan-coils, with appearance like soap powder. We were told it is granulated insulated wall fill that had drifted from an opening in the wall cavity into the fan-coils.



Typically fan-coils have a small fresh air opening perhaps equivalent to the size of two bricks along the wall, and are designed to introduce only 30-75 cfm per typical unit.



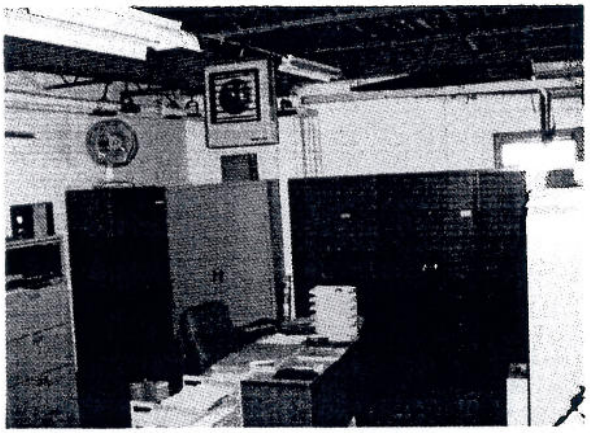
The louvers at former unit ventilator locations look to be 2-3 times larger than that.

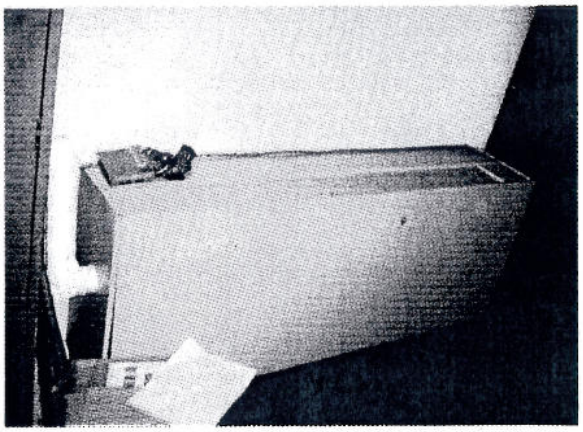


The unusually large quantity of fresh air being introduced may be in part be due to the size of the louver in the wall associated with the fan coil units that have been installed where unit ventilators were formerly present.

There were no reported leaks in the hydronic or condensate drainage piping at terminal units. There was no reported rainwater coming in through the fan coil air intake louvers.

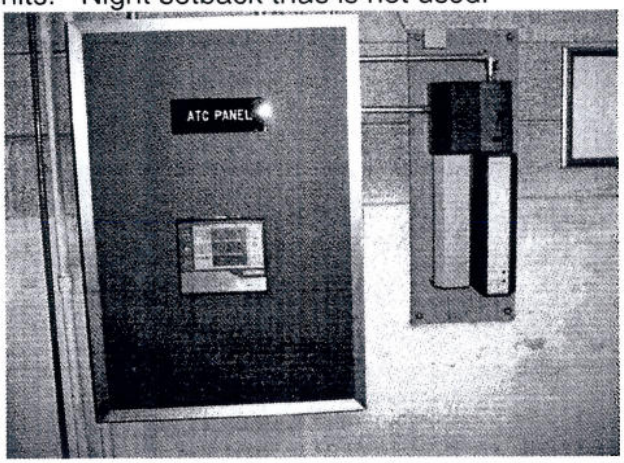
Several of the unit heaters have failed and have been replaced with electric unit heaters, or in some cases with spare fan coils pressed into heating-only service.

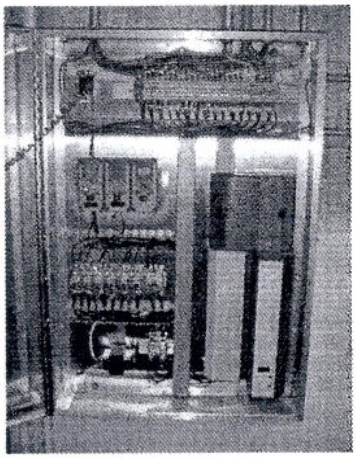




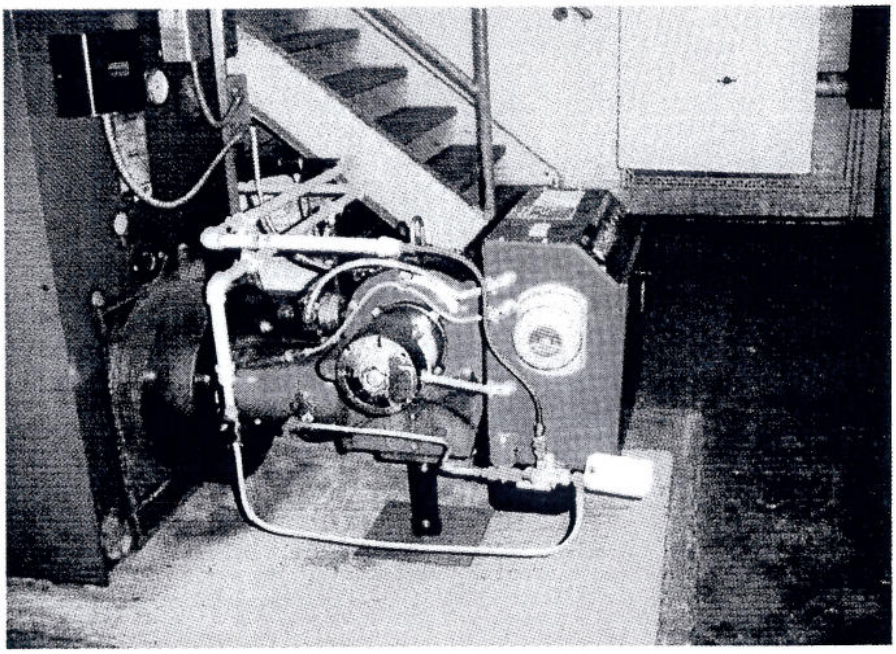
System Controls

Building controls are electric, not pneumatic. There is a Johnson Metasys system in the mechanical room that evidently was intended to integrate all building controls into one building control system. However we were told the operators do not have access codes for the Metasys units and it has been bypassed and deactivated. Units are therefore running under their individual controls. This includes the boilers, the chiller, and the individual terminal units. Night setback thus is not used.





The boilers appear to operate under their individual controls as noted. Although both boilers appear to be activated only boiler No 1 was observed to be cycling on and off. Owing to cold weather and very high wind speed at the time of the site visit, boiler No 1 appeared to be cycled on nearly 75% of the time, thus was at near its peak load. Operating set point of both boilers (the low-limit control) appeared to be set the same. Peak water temperature was approximately 190 degrees, and return temperature was 180 degrees plus.

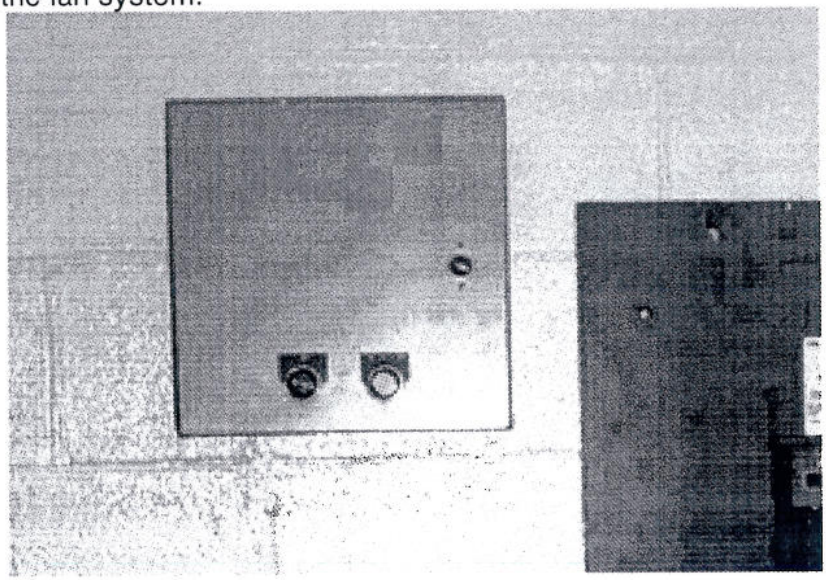


There was lots of water noise in the pipes out in the system indicating water velocity was too high. System probably needs to be rebalanced.

Ventilation (O.A. & Exhaust)

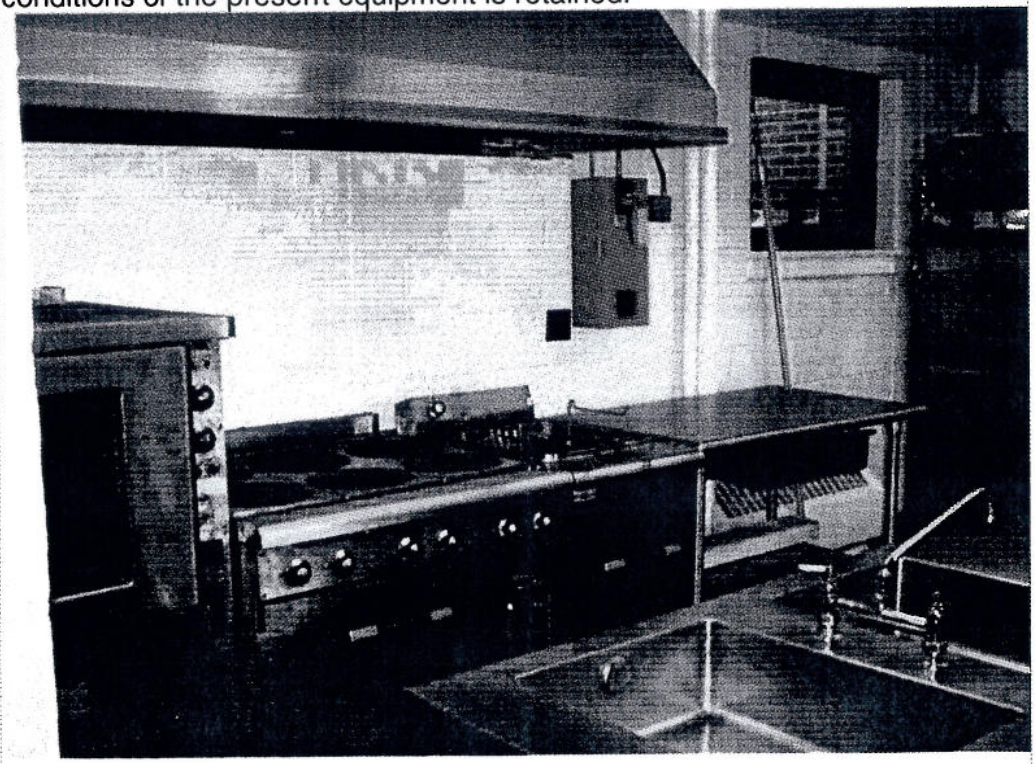
and

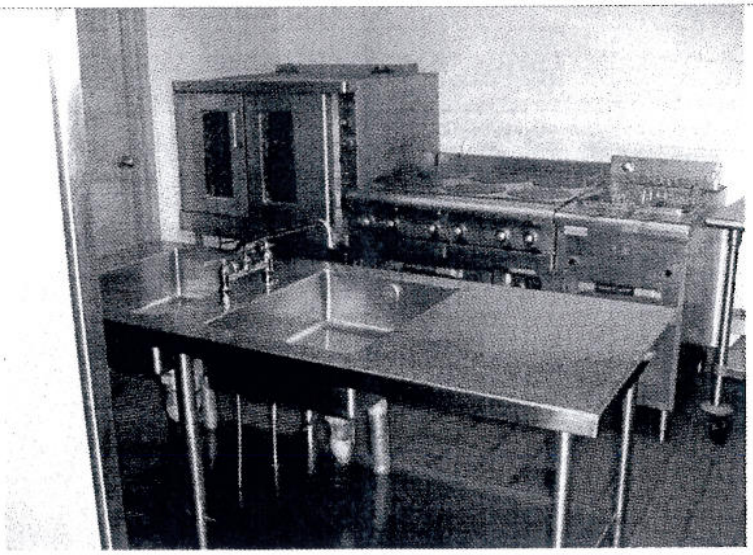
Kitchen serving line, and dishwasher have conventional exhaust hoods. The 2-compartment scullery sink does not have a hood. Kitchen cooking hood is non-compensating type, and there is no makeup. There are switches and pilot lights on the wall adjacent to the serving line hood to control the fan system.



Kitchen equipment under the hood includes oven, range, and also a deep-fat fryer; therefore some grease generation is expectable, and good capture is important. Air velocity / hood capture capability was not tested. Although kitchen hood exhaust fan was operable and reportedly captures cooking vapors as intended, testing would need to be done under actual cooking conditions of the present equipment is retained.

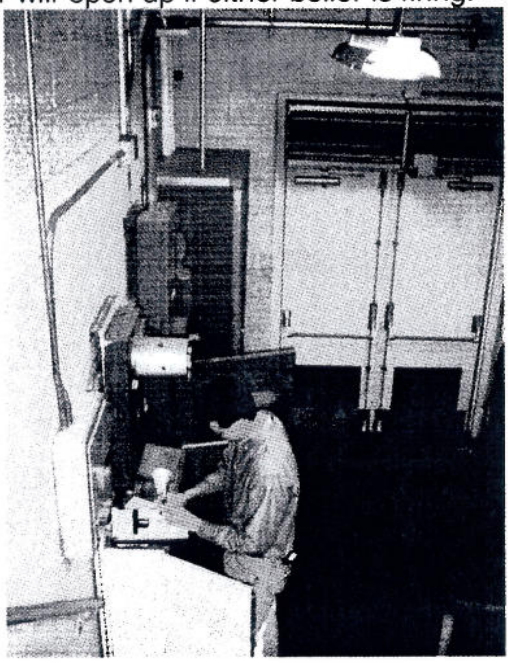
Proposed New HVAC System





Male and female restrooms each have a roof-mounted exhaust fan. Fans appear to date from 1975, but appeared to be operating.

Mechanical Room combustion air and ventilation originally consisted of louvers with motorized damper over the mechanical room outside double door and in the doors. The motorized damper cycled open and shut with the boiler burner cycling. Although we only saw 1 boiler in operation, we assume the damper will open up if either boiler is firing.



Proposed New Systems:

Boiler:
Subject to verification in design, it is possible the existing boilers are adequate to serve the proposed replacement HVAC systems. At present we are told the second boiler is infrequently needed. During our site visit with 30

mph wind and high teens temperatures, one boiler could keep up although it was running maybe 75-80% of the time.

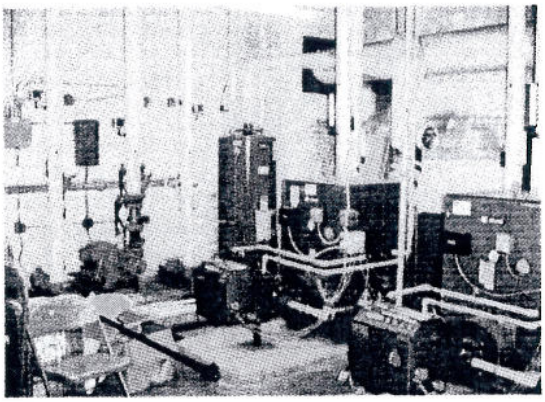
Adequacy in the future will be determined by how the revitalized system is designed:

- If the net result of all HVAC system changes is an increase of outside air over the present hodge-podge system (which is probable) then renovation of existing building will increase outside air heating load.
- A separate fresh air system is being proposed herein. It can contain either its own stand-alone gas fired heating section, or if equipped with a hot water coil, will add to the boiler load.
- Because a separate fresh air system is proposed, the proposed replacement fan coils will not have outside air Introduced directly into them through wall louvers or brick vents, as does the present system. This will reduce the heating load attributable to the fan-coil units.
- Heat loss due to exfiltration should be slightly reduced as a result of building renovation.
- If more hoods are provided in the kitchen, there may be an increase in associated heating load, but only while the hoods are operating. However the kitchen should be equipped with a makeup air unit, which will not add to the boiler load if a gas-fired makeup air unit is used.
- This Assessment is not scoped and does not address square footage expansion of the present USARC to house new programs or requirements that may be made part of Revitalization. If building expands, it is possible the existing boilers will not be large enough.

Multiple boilers provide redundancy. Because cast iron boilers are large-water-volume type units without a minimum water-velocity concern, boiler-sequencing will is simple: operator can select to run either boiler or both.

As noted, present boilers may be at or near capacity after proposed changes. This assessment proposes to keep the existing boilers. If additional loads as determined in future design exceed the present installed capacity, we recommend removal of one existing boiler, and installation of a larger boiler, in parallel to one of the present units.

The removed boiler should be mothballed and used as a spare or for spare parts.



Alternatively and perhaps better, we recommend some of the added heating

load be handled by other means, such as gas-fired makeup air units, and gas-fired dedicated ventilation air units.

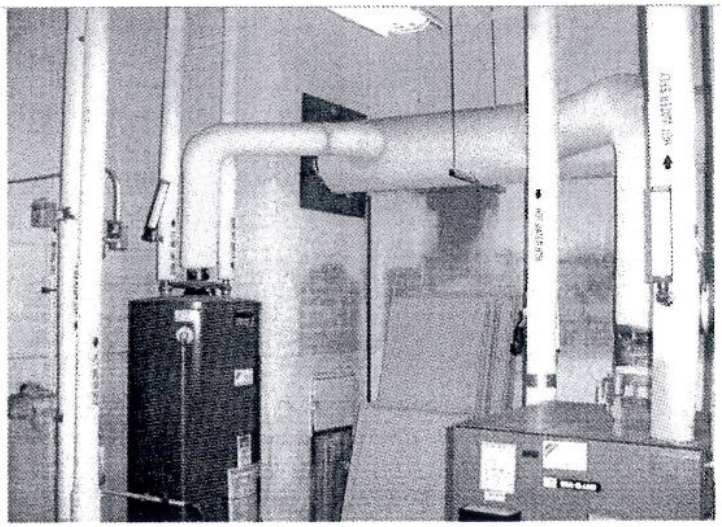
Once installed boiler capacity is determined, we recommend combustion air openings into the boiler room be recalculated, and the existing boiler room ventilation be provided as required to meet mechanical code.

Masonry flue system:
The flue is a masonry stack, with 18" inside diameter round clay tile liner, exposed about 10 or 11 feet above the roof. There appears to have never been a cap on the chimney top. We could not observe condition of the tile as chimney was too tall, but would expect to find the tile in good condition.

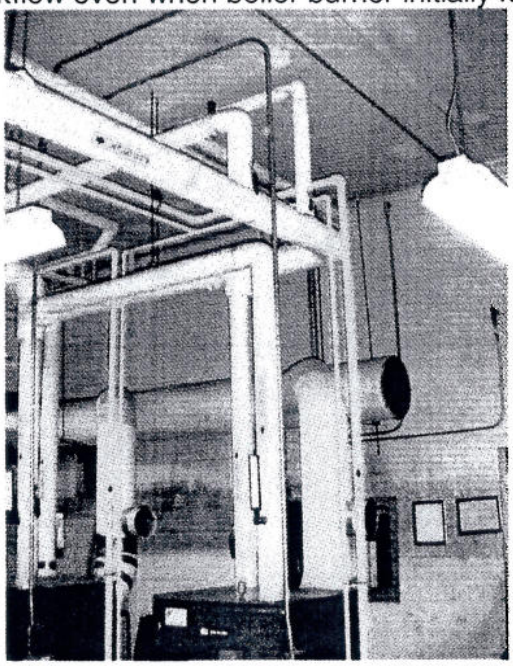
Estimated effective stack height is approximately 26 feet. This stack was originally designed to serve two coal boilers, each of capacity 3000 square feet EDR. This translates to an input capacity of approximately 850 MBH btuh each. The coal boilers had in induced draft fan, since removed.

Capacity appears marginally adequate for the installed capacity of 1100 MBH (boilers plus water heater). Notes:

- The masonry stack is required to be under negative pressure. This can only occur if its capacity meets and exceeds the capacity of connected boiler and water heater.
- The water heater is natural draft, has a draft hood.
- Boiler breeching is very well constructed. Breeching has been reinsulated fairly recently, possibly in conjunction with asbestos abatement. Boiler breeching is insulated field-fabricated all welded single-wall black steel, with connectors coming in the side at 45 degrees. Breeching appears to be in good condition, at least as could be observed peeking through the barometric damper opening.

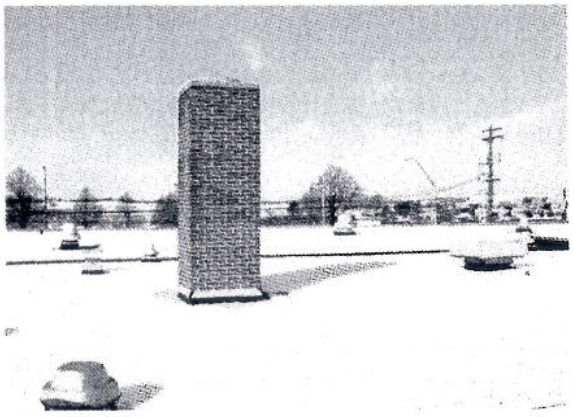


- The boiler is forced draft and is most likely intended to operate with a slightly positive pressure at its flue discharge.
- There is a barometric damper at each boiler's connection to the breeching. Both barometric dampers appeared to be partly open at all operating cycles, indicating the draft was more than adequate. Draft at the water draft hood remained negative; there was no backflow even when boiler burner initially kicked in.



- However we never saw both boilers in operation at the same time, thus cannot confirm how it would operate with all equipment firing simultaneously. We suspect it is adequate, but have not verified this to be the case.
- <u>We recommend no additional gas-burning equipment be connected into the existing stack, until further confirmation of adequate capacity is obtained.</u> This will require either a future designer engaging both boilers and the water heater on a mild temperature day and observing performance, or calculating the stack capacity per ASHRAE methods.

- When the water heater is replaced, we recommend it be a direct vent type, and that it be vented separately, not connected into the existing stack. The boiler draft should then be checked under the new conditions and adjustments made accordingly.
- We recommend adding a cap to the masonry boiler flue opening to keep rain and birds out. Cap must be non-flow restrictive; stack must continue to produce adequate draft.
- We recommend some minor pointing up of the chimney brick above the roofline. (Note: The chimney appears to be in good condition. We observed only minor deterioration, with little mortar loss.



Chiller:
The unit is an Applied Products (HeatCraft) reciprocating machine with about 29 tons capacity. The chiller is about 9 years old, with perhaps 6 or 7 years of remaining life. Reciprocating-compressor air-cooled chillers are not particularly energy efficient.

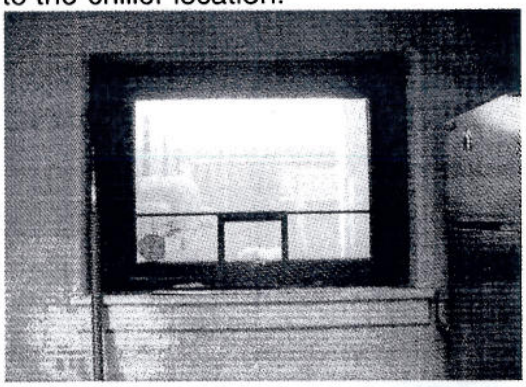
We would roughly anticipate a future requirement for 45 tons after revitalization, assuming no substantial building size increase will be involved, and assuming the proposed fresh air system is independent and does not use chilled water.

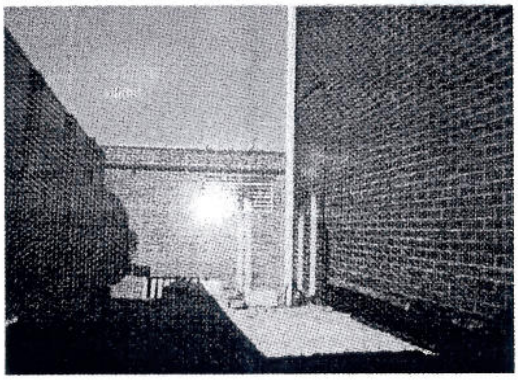
We recommend removal of the existing chiller unit and replacing it with a unit of larger capacity, say 50 tons, but not a reciprocating type. Size range indicates a scroll or possibly a screw machine. Replacement should be with a modern, relatively efficient packaged air cooled unit.

As a further note, the existing chiller is now located on the roof of the former coal storage bunker outside the mechanical room and adjacent to the kitchen. Access to the control panel side of this existing unit is dangerous, as one has to climb over the chiller, or cling to its edge while swinging around the unit end near the basement stairwell. This location is not safe, and may not be large enough for a larger unit anyway.

We recommend locating the replacement chiller on grade near the existing mechanical room. This will serve two purposes:

- Unit access will be safer and OSHA compliant.
- The coal bunker top will be freed up. We anticipate that at some point the kitchen will be expanded. There appears to be no place to expand the kitchen except by chopping the top of the coal bunker down about 3 feet to match kitchen floor level, and expanding kitchen in that direction. The pictures below are taken out the screened kitchen window and show the relationship of the kitchen to the chiller location.





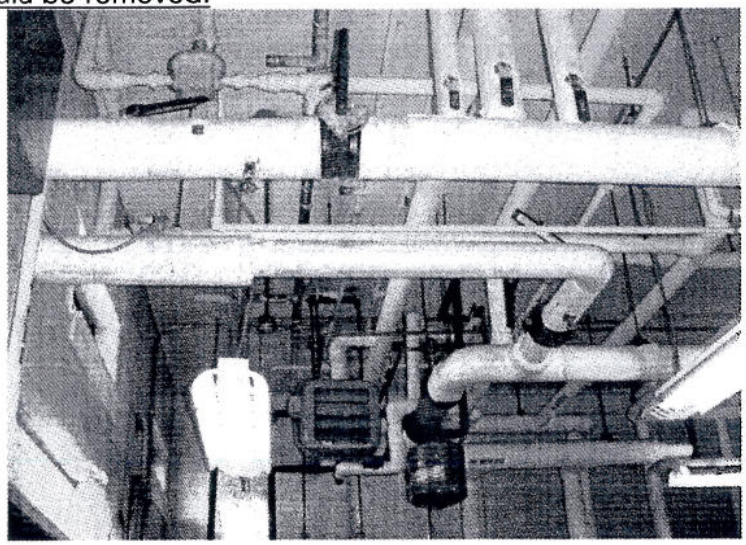
- Piping should be arranged to preserve the ability to drain down chiller piping for winterization.

Admin and classroom spaces – Recommend a new fan-coil heating and cooling system for the admin and classroom spaces: Replace existing unit ventilators with a four-pipe fan-coil system, using three-way valve control for hydronic flow. As noted below, the equipment will need no outside air connections, as tempered outside air is being provided by a separate system.

We recommend existing wall openings for fan-coils and unit ventilators be

bricked in. We recommend the fan coils be provided with valve control, not fan control, to prevent convective overheating of the spaces in mild weather.

Pumps:
For the proposed 4-pipe fan coil system, separate chilled water pumps are needed and recommended. The current dual temperature system would be split into two separate piping circuits. Existing hot/chilled changeover control valves would be removed.



Existing Hot and Hot/Chilled water pumps were installed approximately 1990-1993 and appear in very good condition. Subject to design verification of heating-side requirements, it might be recommended to retain existing pumps and much of the mechanical room piping and appurtenances, and use for heating-side service. However, extension of the chilled water system to serve additional areas will likely result in much of the equipment being too small. Therefore we recommend new pumps, and repiping and reconfiguring the mechanical room to match proposed new heating and cooling load requirements.

We recommend that controls in general be replaced with a DDC control system, to current standards. We recommend that an effort be made to ensure the replacement controls system is an open non-proprietary type. Designer should ask for BacNet compliance, and do so in a manner that ensures compliance by the controls vendor. Several controls vendors resist providing non proprietary systems.

Fresh air system:
We recommend providing a neutral-air fresh air unit for the Training building office and classroom areas, with a small duct system to distribute the air to occupied spaces, per ASHRAE 62-1999 ventilation requirements. This approach will do away with fresh openings into the back of wall-mounted room cooling equipment.

Fresh air unit should supply approximately 20 cfm per person cfm fresh air to the building. At present USARC facility size and building occupancy, the normal weekend capacity is about 100 persons. For a peak reported

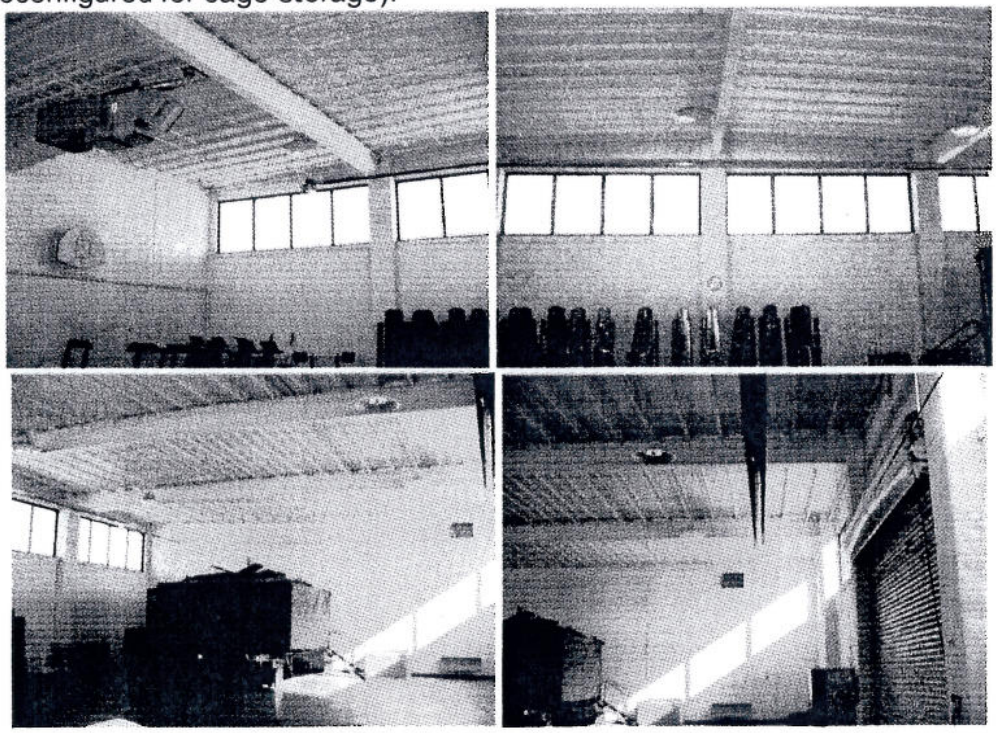
weekend occupancy of 140 persons with both units drilling, 2800 cfm should be sufficient, and will probably also be adequate to meet fixed exhaust conditions at restrooms, etc. This correlates to a fresh-air cooling load of about 13 tons.

The fresh air unit chosen could be built-up type, using chilled and hot water. Alternatively, and especially if the designer expects planned boiler or chiller capacity would be marginal of serving this load also, we recommend using stand-alone fresh air equipment, similar to Dectron DK/RK -040 or 50 units. These units come arranged for either roof mounting or inside the building. (The cost estimate in this Assessment assumes standalone fresh air equipment.)

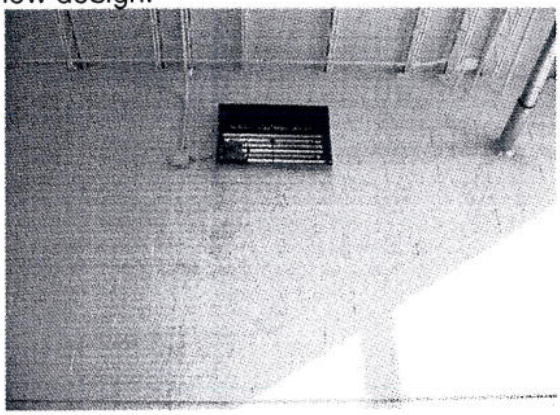
The Dectron stand-alone units are packaged complete with all controls and employ DX cooling with refrigerant reheat to deliver dehumidified air at approximately 65-70 degrees F to the spaces. Unit may be equipped with return/ outside air dampers to reduce outside air load when building is less than fully occupied. Unit may require the addition of an auxiliary heater to bring winter air up to the desired 65-60 neutral setpoint. Proposed heater is a modulating gas-fired separated combustion duct furnace.

(As a third alternative for supplying neutral fresh air, Reznor and others make gas fired units with DX cooling sections. For these, the basis is the gas section with the DX cooling added on, rather than the other way around.)

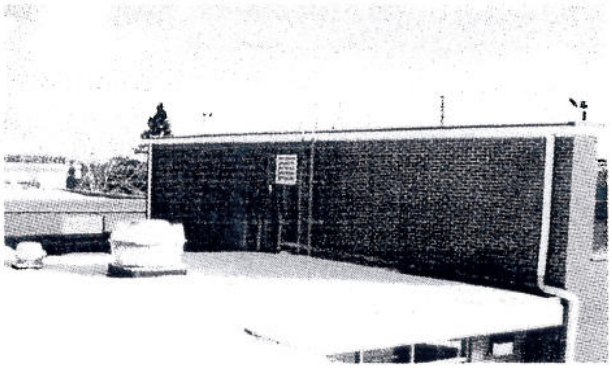
Assembly Hall:
The projection is to air condition the modified assembly hall (modified with lay-in ceiling, reduced assembly area and the back end of current space reconfigured for cage storage).



We recommend one or two new hot and chilled water air handlers in the Assembly Hall, suspended from the structure, to replace the existing H&V unit and radiant tube heating. New system will serve the proposed renovated and air-conditioned Assembly Hall. Air handling system(s) may be single-zone type, and should have a full economizer section. The two existing wall louver openings can probably be reconfigured to serve as intake and gravity reliefs in conjunction with full economizer mode on the new equipment. Existing louvers are high up on wall and placement should meet current UFC 4-010-01 anti-terrorism requirements. Size would need to be confirmed in the new design.



Note that the louver on the front end of the assembly hall is very near the present kitchen hood exhaust location; one or the other should probably be relocated.



We recommend existing louvers be replaced with new louvers having an AMCA-500L certified ability to prevent entrance of wind-driven rain.

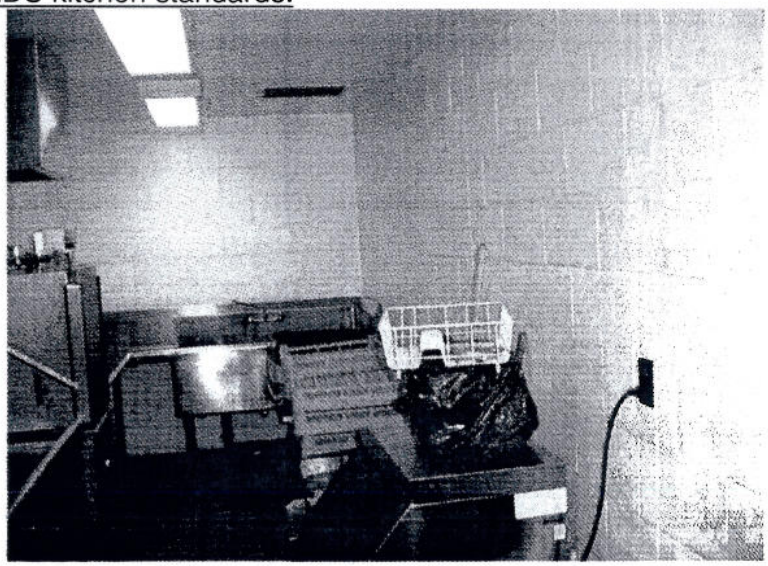
Kitchen and Scullery:

Existing non-compensating type kitchen hood and existing makeup air system can be retained, provided capacity is compatible with the as-revitalized kitchen and equipment arrangement. Existing system has a dry chemical fire protection system; recommend changing to a wet chemical type.

If the kitchen arrangement does change in the future, it is recommended the existing hood system be replaced with a dedicated kitchen hood makeup air system providing about 75% of kitchen hood exhaust, and that kitchen hood

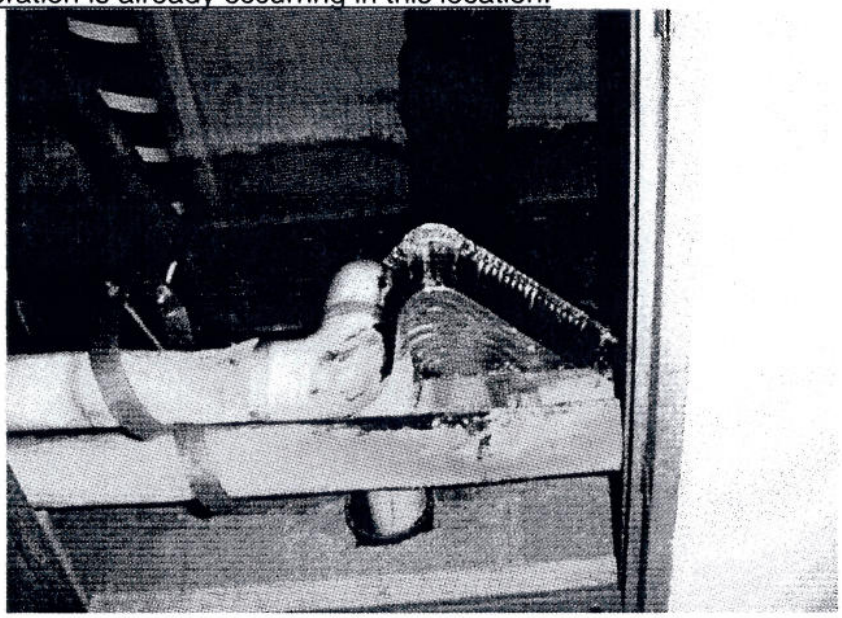
be replaced with a "compensating" (not "short-circuit") type hood similar to Greenheck Gxx series, wherein the makeup air is distributed through perforated panels on the hood outside perimeter. New hood should be fitted with a wet chemical hood fire suppression system.

We recommend addition of a hood over the scullery sink, in accordance with current MDS kitchen standards.



We recommend that all new wet hood ductwork be provided with fully sealed seams. Any existing wet ductwork of regular galvanized construction and/or not having waterproof seams is recommended to be replaced.

We recommend removal of the existing scullery area transfer air grill system that uses the attic space as a plenum. Any transfer should be accomplished with duct so moisture cannot be let into the above ceiling space. Some deterioration is already occurring in this location.



Demolition	It is recommended to do away with the current fan-coil cooling/heating units, for the following reasons: • Inherent poor humidity control at part-load with two-pipe fan coils with direct fresh air connections to the outside. The fresh air introduced frequently does not get dehumidified. • O/A louver can be a portal for rain leaks, (but this does not appear to be occurring at this facility). • If fresh o/a dampers stick, coils can freeze (A strong wind increases this possibility. It was noted at Bethlehem that a strong wind was regularly bearing in on the building from the large flat expanse of the nearby airport, due west of the site.) • Many of the units present a shopworn and battered appearance. We recommend removal of the roof-mounted ceiling fans, and associated curb, duct stub, backdraft damper and ceiling grilles. There appear to be six such exhaust fans located over the 1975 addition. • This equipment is not used at present, and if used would negatively contribute to comfort, building life and energy consumption. • The fans have not been deactivated and are mostly still operable, except that many of the back-draft dampers are probably stuck shut (or open). • The dampers do not seal tightly and allow considerable exfiltration/infiltration, and a potential path for vermin and insects to enter the building. Ongoing air leakage was demonstrated during out site visit by observation that snow had been melted off the roof for several feet around the vents; also warm air could be felt exiting the vents. • The curbs offer a potential future rain leak. (This does not appear to be a problem at the present time, probably because the curbs are well flashed, and the existing fan hoods are effective at keeping rain from entering the air exit opening.) We recommend removal of the existing static pressure controlled gravity vents in corridors. • There are three such vents located above the corridors. • Reasons for removing these vents are similar to those given above for the classroom exhaust fans. It is also recommended to do away with the existing H&V unit and the radiant tube heaters in the Assembly area, because: • The intent is to air-condition this space in keeping with current USARC practice, and the present H&V equipment is capable of heating only. • Future Assembly area will be an conditioned space with a lowered ceiling. The type, number, and location of units needs to be compatible with this function and located for accessibility. It is also recommended to remove the abandoned steam heated makeup air unit and associated ductwork serving the former range, and to close the associated intake and exhaust roof openings by removing the curbs and reapplying decking and roof membrane where the curb is removed. • This equipment serves no purpose, takes up needed headroom and

floor space, and offers a roof leak opportunity.

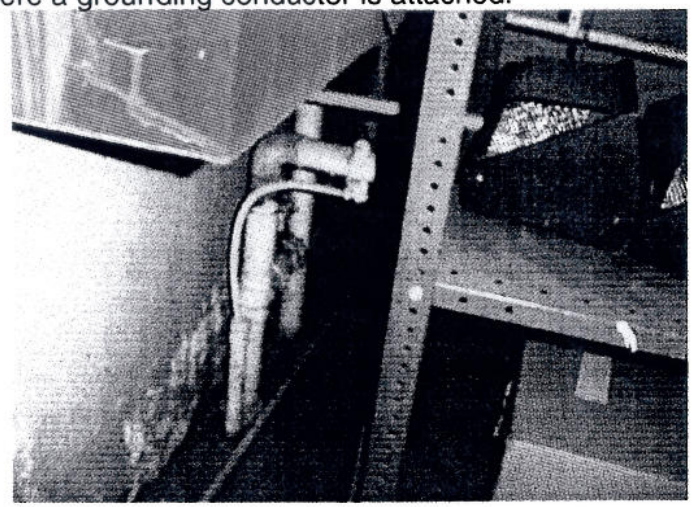
- Note: This equipment appears to be in excellent condition. Refitted with a hot water coil or gas burner section, it might be usable as a kitchen makeup air unit. Size appears more than adequate; fan could be slowed down. The future Designer should consider this possibility if there is available inside space nearby (the unit is an indoor unit) and if cost-effective to do so. However, we suspect it will probably not be cost-effective compared to a standard purpose-built Greenheck type rooftop kitchen hood makeup air unit.

Plumbing

Fixtures & Dom Water Piping and **General Overall Description.**

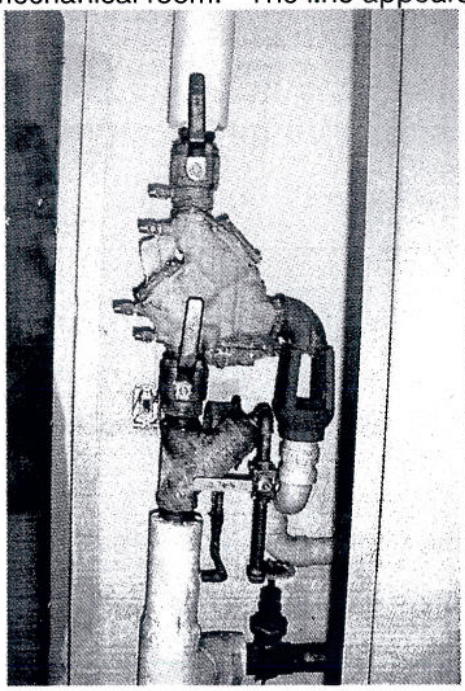
Building domestic water piping system is copper. A considerable amount of it was put in place in the mid 1970's in the course of the building addition and kitchen renovation. There were no reported problems.

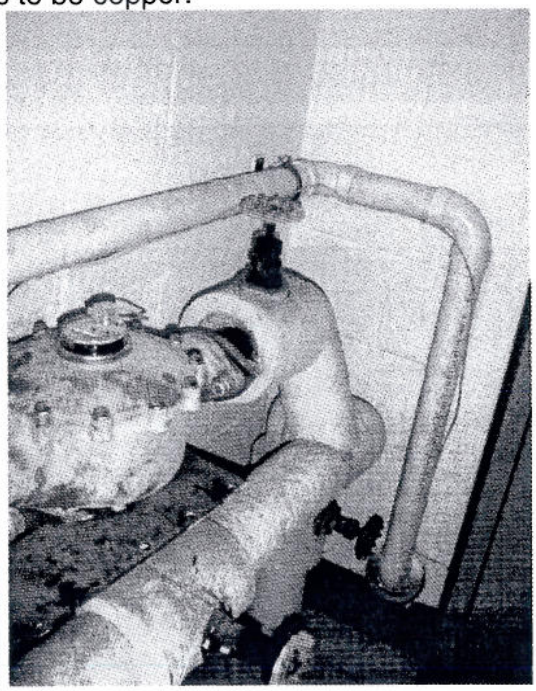
Original drawings show a 2" water line extended from the front (Airport Road side) of the building. The original belowground feed into the mechanical room has been abandoned and the piping removed in the mechanical room just after where a grounding conductor is attached.



Water service now enters the 1975 addition, then turns up above the floor

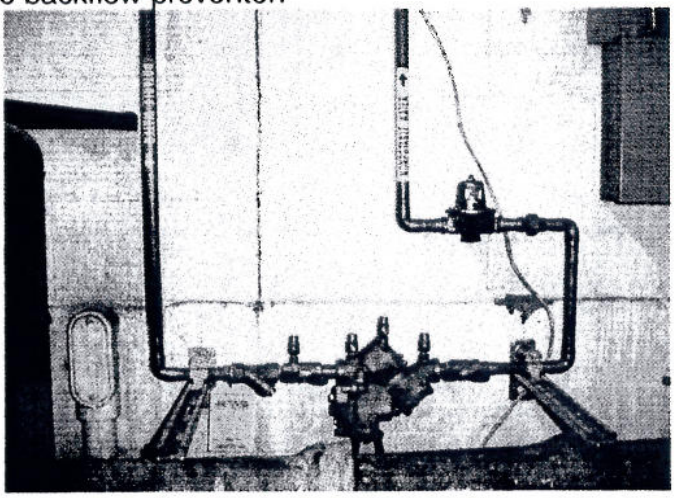
slab to a water meter and RPZ backflow preventer, and overhead into the mechanical room. The line appears to be copper.





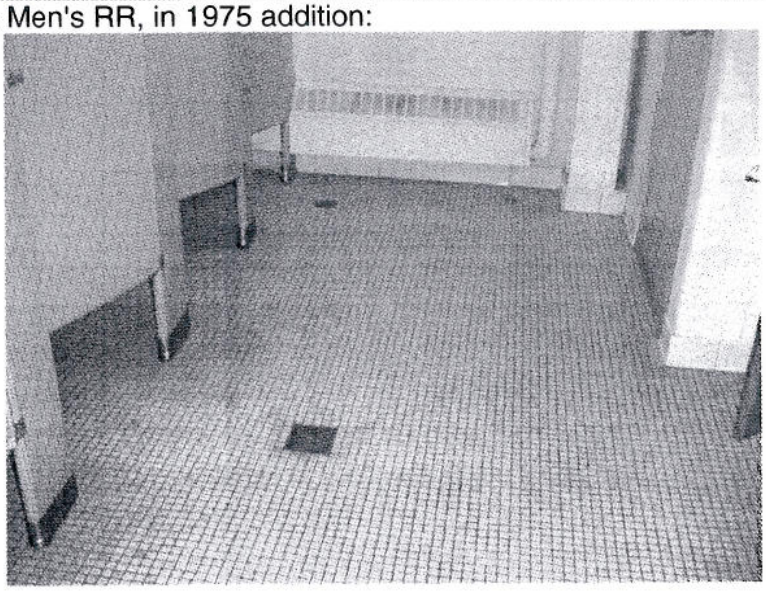
Recommend the designer investigate whether the inside meter installation remains an acceptable arrangement for the water utility company, especially in view of the proposed addition of a wet-pipe sprinkler system. Sometimes the utility companies have a specific outside vault or other service arrangement requirement for water and fire protection service.

Domestic fill/makeup line to the 2-pipe hydronic system is protected with an approved type backflow preventer.

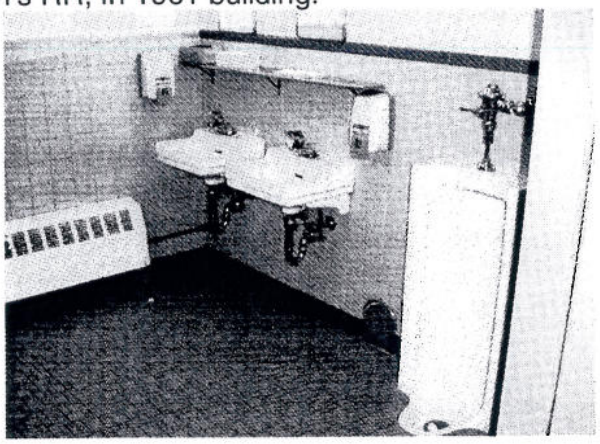


Existing restrooms generally date from the 1975 building addition/renovation. There are insufficient showers and no accessible fixtures. Refer to the Interiors section of this narrative, and to the Training Building Codes narrative for more detail of proposed changes.

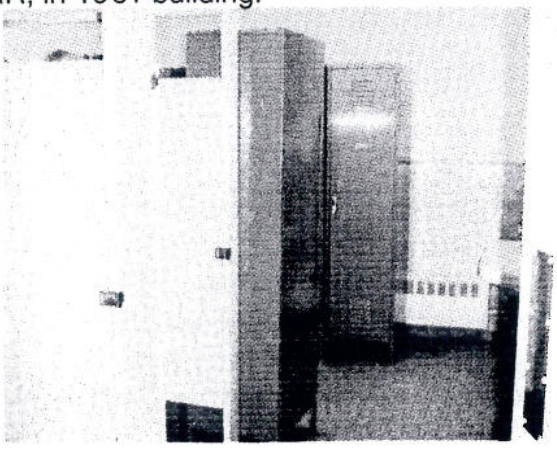
The large Men's RR, in 1975 addition:



The smaller Men's RR, in 1961 building:

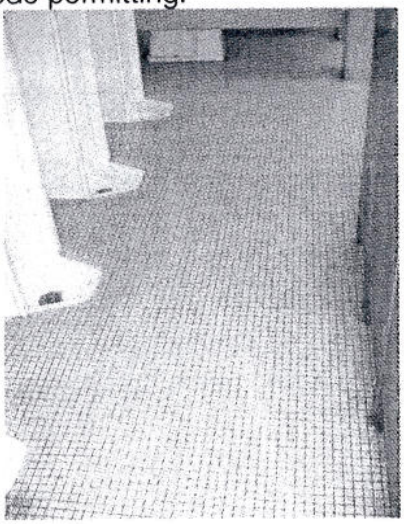


The Women's RR, in 1961 building:

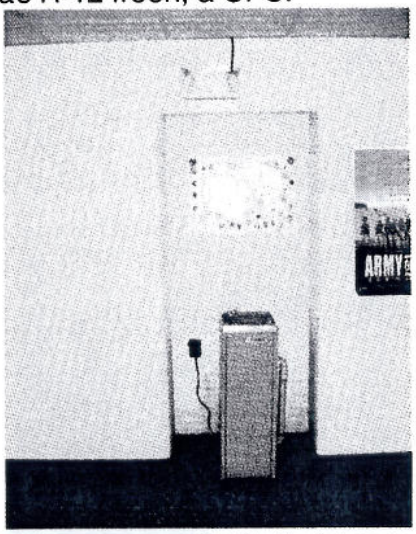


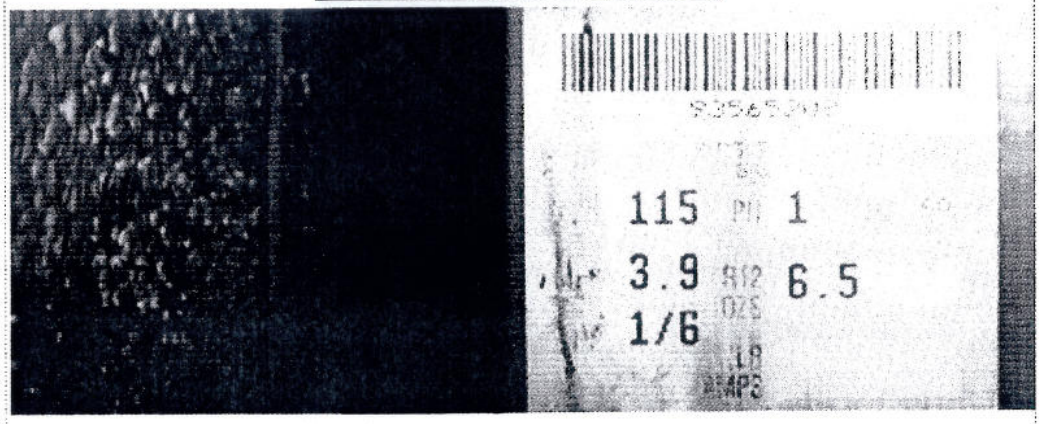
Restroom area plumbing revisions recommendations include revisions to accommodate revised water closet and lavatory for ADA compliance, and additional showers and other fixtures to meet the required fixture count.

It is further recommended that new fixtures and trim meeting current low water flow requirements be provided throughout. The floor-set urinals could possibly be retained, code permitting.

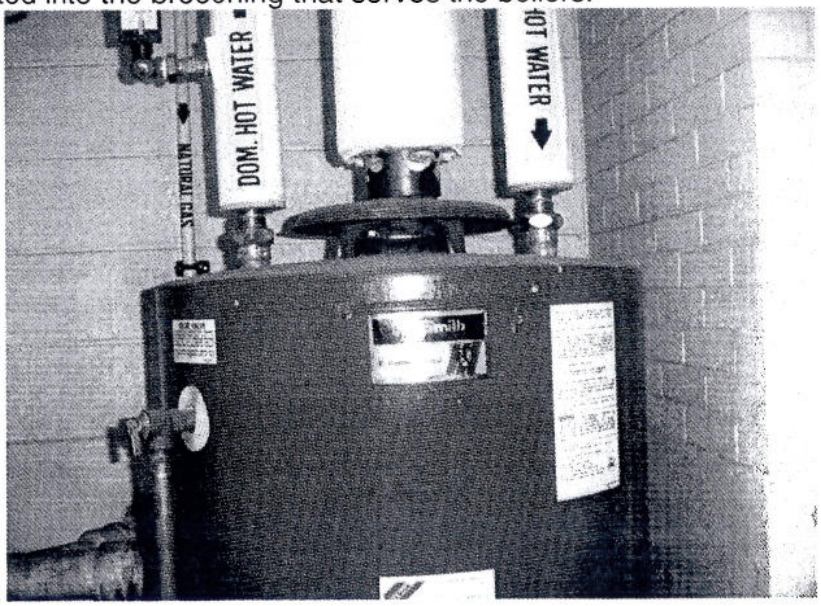


It is recommended to replace all water coolers with new units having environmentally friendly refrigerant, lead-free construction, and at selected locations equipped with hi-low bubblers to meet accessibility requirements. Existing water cooler has R-12 freon, a CFC.





Hot Water Heater	Existing water heater is a standard light-commercial 100 gallon gas fired natural draft AO Smith unit, Model BT-100-202 with 80,000 btuh input and approximately 4" vent connection. The water heater has a draft hood and is connected into the breeching that serves the boilers.



The water heater is operable, with no identified history of problems, and no reported capacity issues. We were told the soldiers do not run out of water while taking showers or during cooking. However, with the additional showers proposed we believe the small recovery rate provided due to the small burner capacity (only about twice-residential size) will prove inadequate.

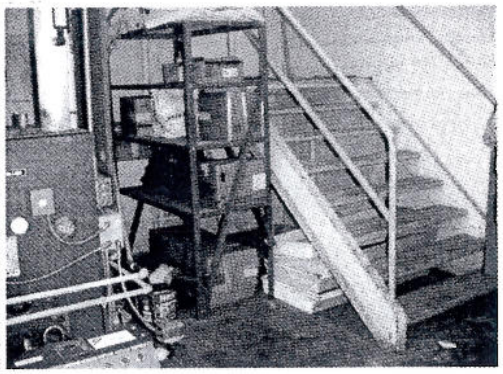
We recommend replacement of the domestic water heater, with a higher efficiency direct vent type, individually vented. An example is AO Smith Cyclone series. These and other direct vent water heaters have their combustion air piped in from outside and may be vented either through the sidewall or straight up through the roof. Unit should *not* be connected into the existing masonry stack. Designer should verify capacity and size accordingly using one or more such units. For estimating purposes we have selected size as Cyclone BTE-250 with 240,000 btuh input, 100 gallon tank and 94% efficiency.

Note: This water heater serves kitchen as well as rest of building. Existing kitchen equipment includes an electric booster heater on the dishwasher, and we will propose a booster heater to be added to the scullery sink. These will receive standard building hot water and boost to the desired kitchen-use temperature.

Waste and Vent Piping	Existing plumbing drain waste and vent (DWV) system is cast iron, generally in good shape with no unusual reports of stoppages. It is recommended that DWV system be generally retained and only replaced as necessary to accommodate planned restroom, kitchen and other revisions described elsewhere in this assessment report.

Mechanical room has floor drains that evidently lead to a sump pump under

the stairs. The drains and pump appear to be operable, and maintained. No changes recommended.

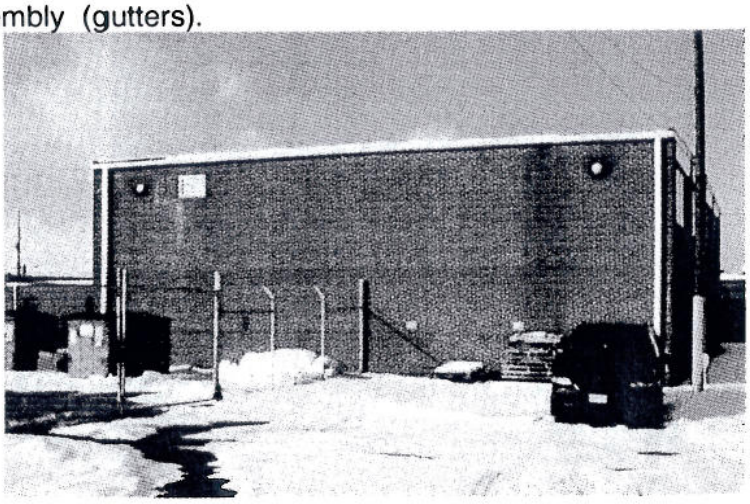


Interior Roof Drainage system:

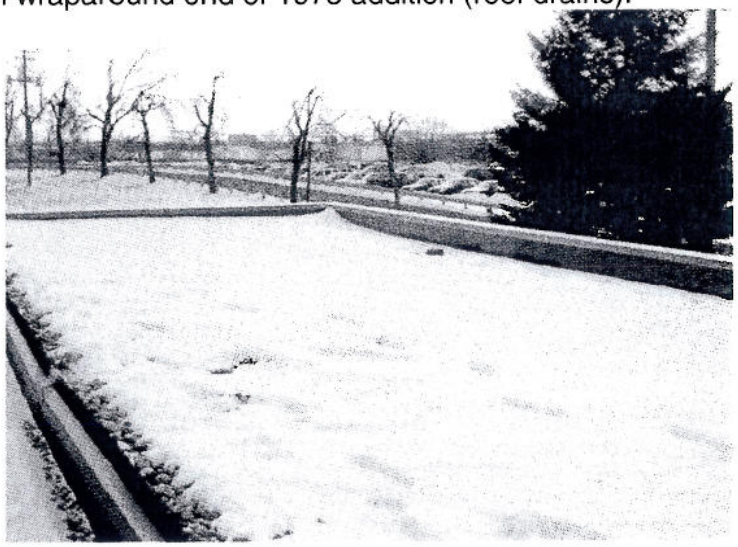
The building has a number of internal roof drains surrounded by parapets. This stemmed from the design of the 1975 building addition. There appear to now be several different drainage areas:

- Connector and east side of the original 1961 building (gutters).

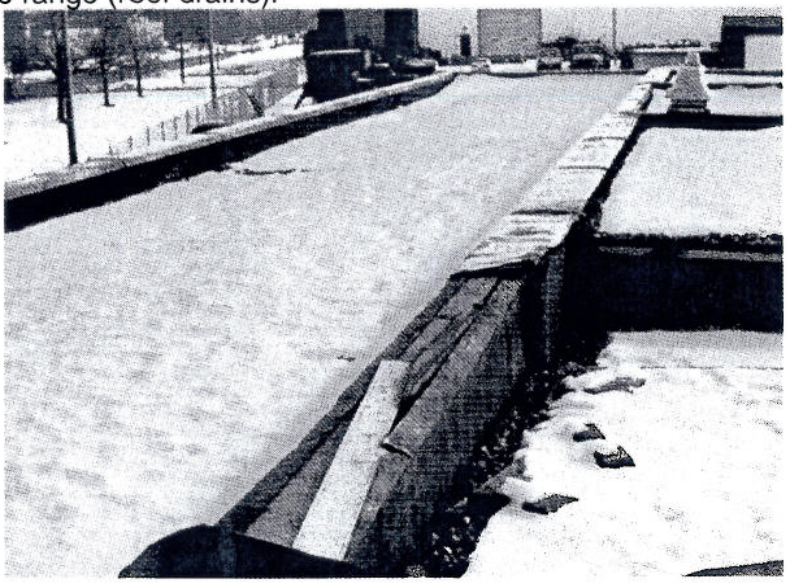
- Assembly (gutters).



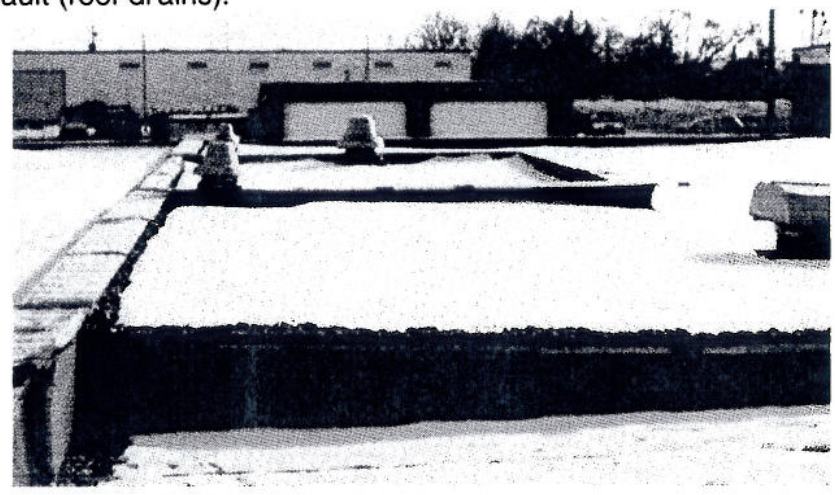
- South wraparound end of 1975 addition (roof drains).



- Rifle range (roof drains).



- Vault (roof drains).



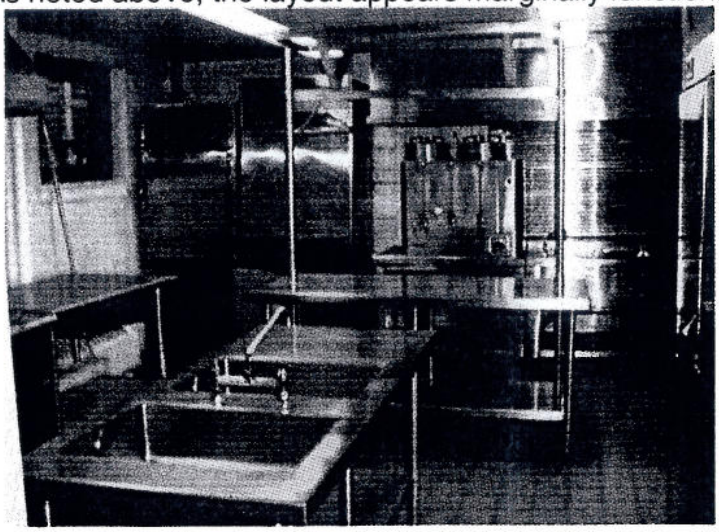
- West side of 1961 building plus the rest of 1975 addition, all of which drains into a depressed trough forming the roof over the long corridor separating 1961 and 1975 construction (roof drains).

The 2000 International Plumbing Code, section 1107.1 states: *"Secondary Drainage Required. Secondary (emergency) roof drains or scuppers shall be provided where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason."*
Section 1107.2 states: *"Separate Systems Required. Secondary roof drain systems shall have piping and point of discharge separate from primary system. Discharge shall be above grade in a location which would normally be observed by the building occupants or maintenance personnel."*

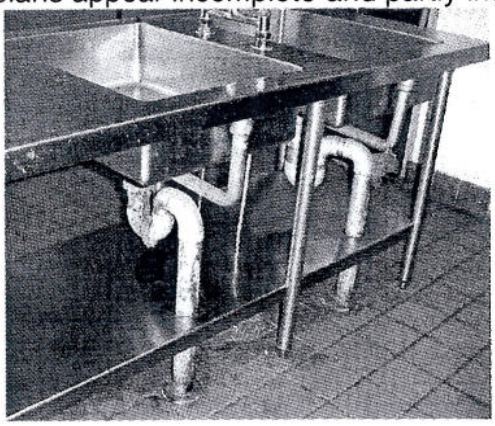
We recommend providing a secondary roof drain system in accordance with the requirements of the International Plumbing Code.

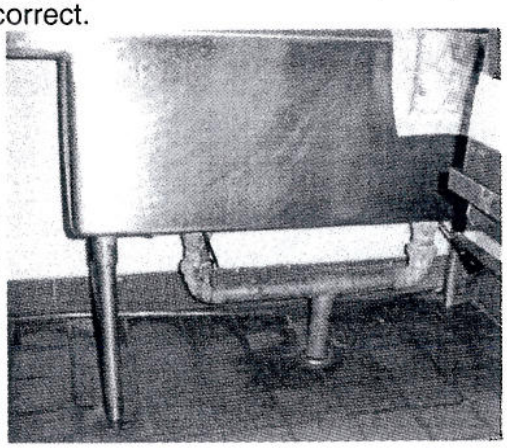
Shop Kitchen/Equipment

Kitchen and kitchen plumbing were installed in 1975, and are in average condition. As noted above, the layout appears marginally functional.



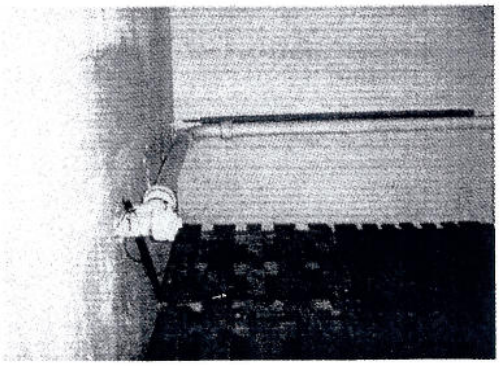
It appears however the existing kitchen plumbing system has substantial violations of most current plumbing codes, particularly in the way fixtures are trapped and vented. Further, plumbing installation does not match plans, and plans appear incomplete and partly incorrect.





Remediation of plumbing will require tearing out most of the floor and redoing the kitchen DWV system. Plumbing problems, plus a cramped layout, inadequate hood and makeup air, and possible need to change to gas instead of electric to release electrical capacity, effectively require an overall new kitchen. We therefore recommend changes to the kitchen plumbing system as necessary to accommodate equipment layout revisions, and to meet current Codes.

Kitchen waste is directed to a grease trap just outside the building near the coal bunker and mechanical room exterior stairs. Kitchen piping appears to pass through the coal bunker.



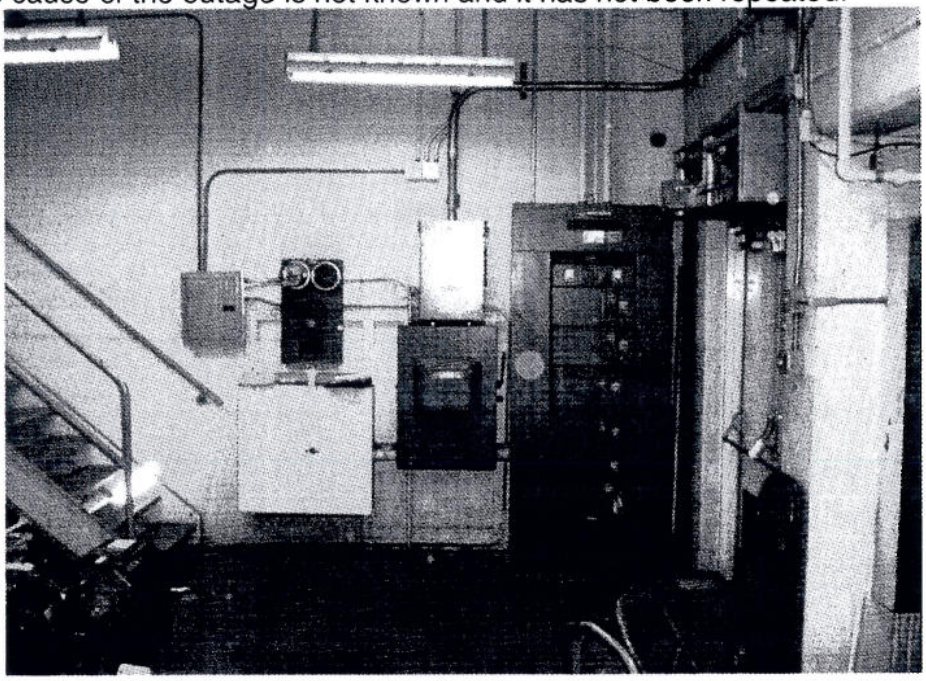
We have plans for the 1975 kitchen renovation/addition, and the grease trap, but since kitchen plumbing was not constructed per plans we cannot determine how kitchen and regular waste are separated in the piping system. There were no reported problems with the grease trap, but on the other hand no one recalled ever getting it cleaned out. Lack of problems may be due to only intermittent use (only some drill weekends) of the kitchen. We recommend the grease trap to be pumped down and inspected prior to future renovation, and if found serviceable, reused.

There is a no can wash area. Per present arrangement of the kitchen there is no outside kitchen door, and the only way to add a can wash would be outside the nearby exterior connector door – not a good location.

	  Recommend that future revitalization designer examine the kitchen layout with respect to providing a possible can wash location, and to address other general layout deficiencies.
Demolition	Selective plumbing demolition is recommended, to include kitchen rework, replacement with water-saving fixtures and associated piping where fixtures are to be changed out, and where fixtures are to be added, reworking of water heater and associated piping as described above, at water coolers, and at other similar local demolition elements.
Electrical	
General; Secondary Distribution	Metering for the entire facility is accomplished with a CT cabinet installed on the line side of the service disconnect. 400:5 CT's and the utility meter are installed in the boiler room. All power for the USARC enters the Training Building through a 400 amp fused service disconnect in the boiler room. This disconnect is original 1961 construction and is in fair condition. A 208Y/120 volt electrical service consisting of four 500 MCM copper RHW conductors in a 4" conduit is provided. The service entrance conduit is not bonded by an approved method per NEC 250.92 (B)). Condition and construction of the conduit is unknown. The load side of this disconnect feeds three loads: panel MDP, the chiller disconnect, and a fire alarm sub-panel. Panel MDP is a Main Lug panel fed by four 350 MCM copper RHW. This cable is not adequately sized for use with 400 amp fuses. There is visible damage to the outer cover of two cables. With the exception of the items listed below, all loads at the USARC are fed from MDP. The Chiller disconnect is a 200 amp fused switch fed by three #3/0 copper THHN and #4 egc. This installation complies with NEC 240.21 (B)(1) The fire alarm sub panel is a single phase Main Breaker panel fed by three #8 copper THHN and a #8 egc. This installation complies with NEC 240.21 (B)(1). Connection to the service grounding electrode for the facility is made by a #2/0 copper conductor extending into the slab in a 1" steel conduit. Sizing of

this conductor is adequate for the current service. Condition of the electrode and bonding is unknown. The neutral and ground are properly bonded in the service disconnect enclosure.

Capacity of the present service entrance is marginal for a facility is this size and usage. Available power density is less than 5 VA per square foot. The building manager reported that one of the main fuses had blown recently. The cause of the outage is not known and it has not been repeated.



Recommend replacement of the service disconnect and metering. The capacity of the service should be upgraded to 600 amps to accommodate new mechanical loads and future expansion.

Electrical panelboard feeders were installed as 3 phase, 4 wire without separate equipment grounding conductors. The feeder conduit is being utilized as the equipment-grounding conductor (egc). While this is permissible by NEC 250-118, the quality of the ground is dependant upon the secure connections of the conduit fittings. It is standard practice, especially for feeder conductors, to install a separate egc to reduce the risk of equipment enclosure electrical potential.

Recommend electrical feeders be replaced to incorporate a properly sized egc per NEC table 250-122.

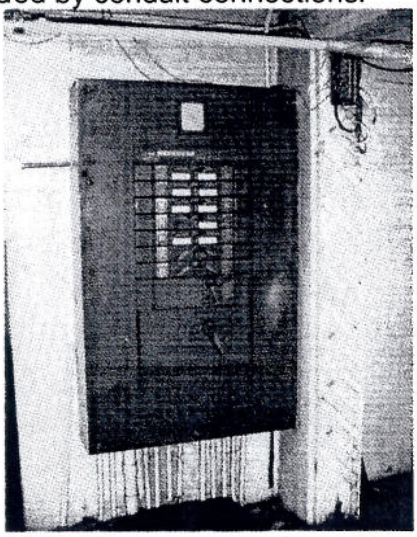
Distribution Panels

Panel MDP is a 400 amp Federal Pacific Main Lug fusible switchboard that supplies all branch panels. This switchboard was installed during the 1975 renovation but appears to reuse many of the original switches. The original branch panel feeder cable is spliced in the switchboard and extended to the reconfigured switches. One spare 200 amp switch is installed. The switchboard is in fair condition. Grounding of feeders and sub-panels is accomplished solely through conduit connection, no ground bus or cable installed. The switches are not labeled to indicate loads connected.

Recommend replacement of the MDP with a 600 amp panel and incorporation of equipment ground conductors throughout the system.

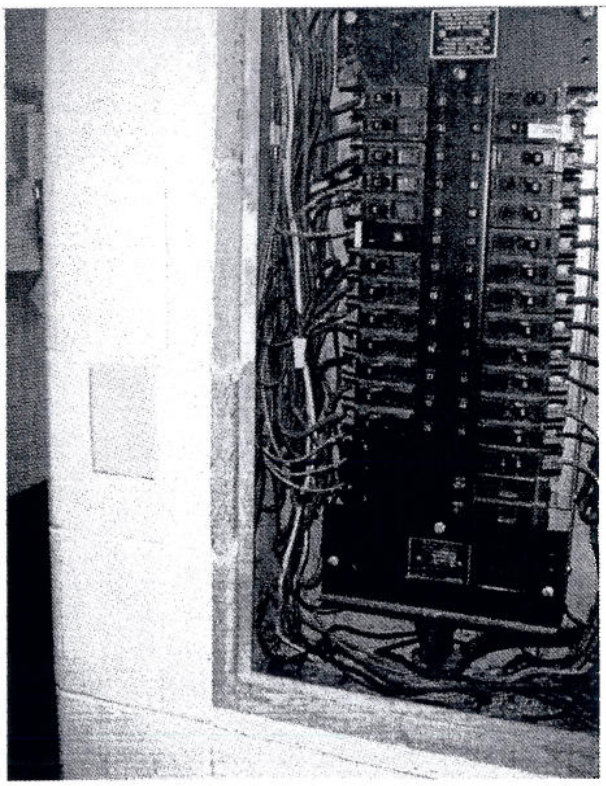
Lighting Panels

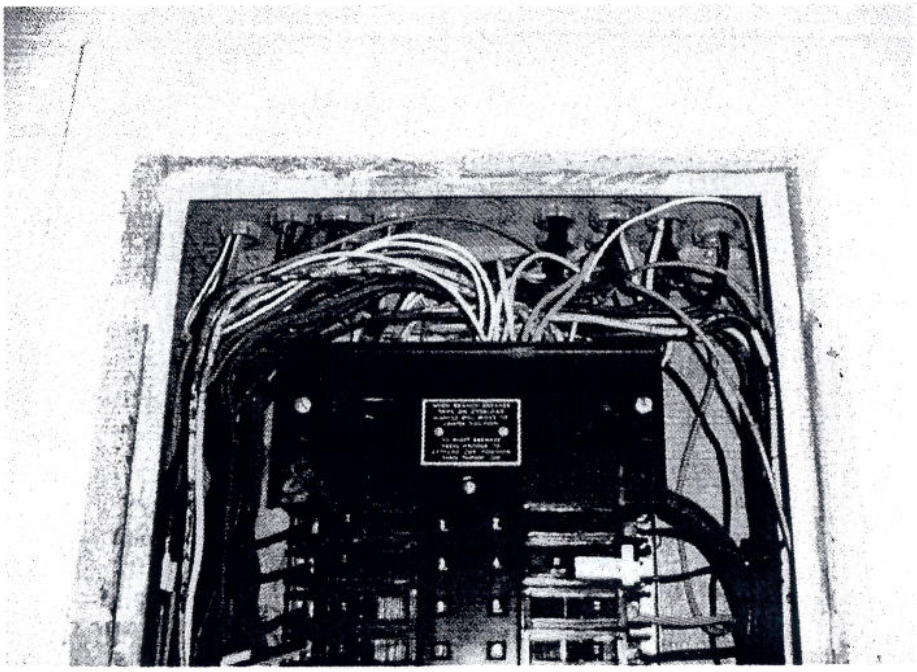
Panel P is a 225 amp Federal Pacific QMQB Main Lug switchboard installed in the boiler room in 1961. This switchboard supplies mechanical equipment in the boiler room. It has several spare 30 amp switches. Grounding for branch circuits is provided by conduit connections.



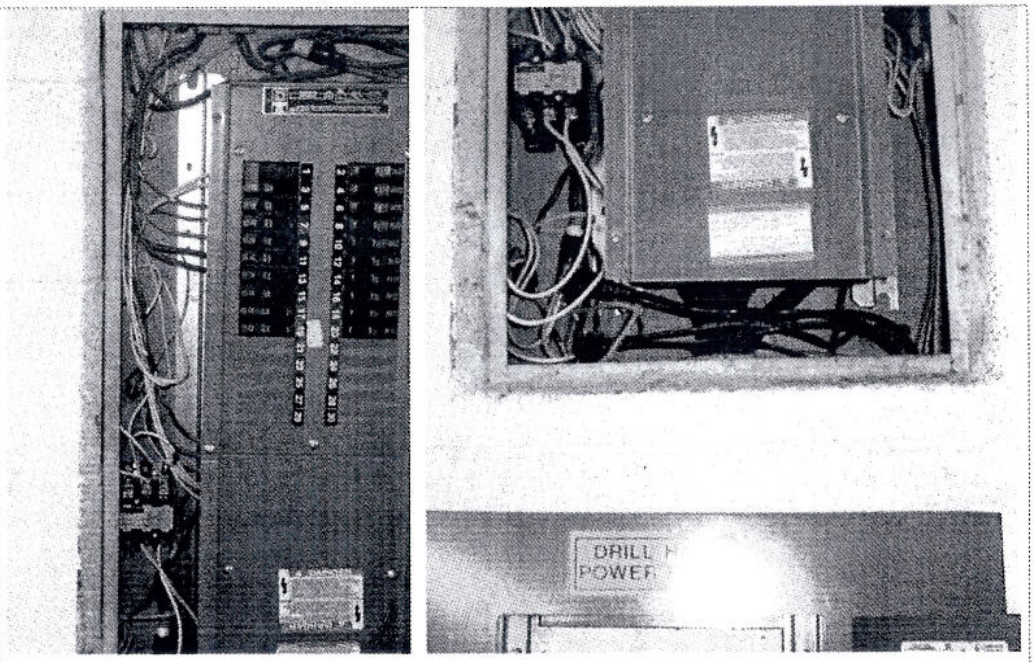
Recommend replacement of Panel P and its feeder due to advance age and lack of a reliable ground path.

Panel L2 is a 200 amp Federal Pacific MLAB Main Lug panelboard installed in the corridor. It is a 32-pole panel with 2 spaces and serves general receptacles and lighting in the original part of the building. The panel and feeder are original 1961 construction and in poor condition. Most of the branch wiring is original cloth-covered RHW and is not provided with a ground conductor. Additions to the panel have intermixed ground and neutral conductors on a common bus.

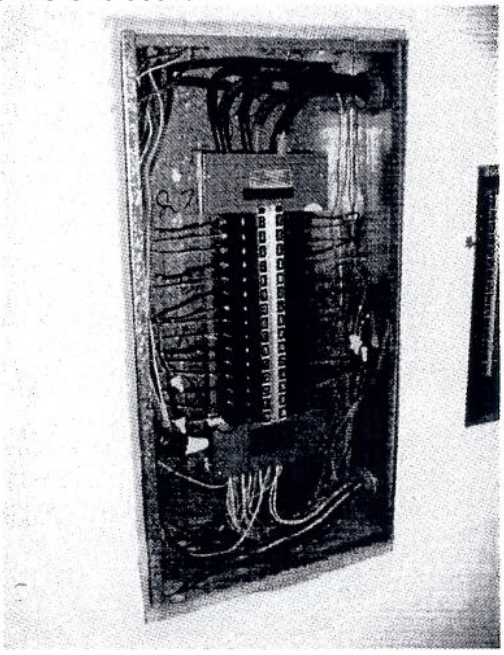




Panel L3 is a 225 amp Square D NQOD Main Lug panelboard installed in the assembly hall. It is a 30-pole panel with numerous spaces that has been recently installed to replace the original panel. Most of the wiring is original 1961 cloth covered RHW and is not provided with a ground conductor. White insulated wire is used for some power circuits in this panel. Ground and neutral conductors are intermixed on a common bus. A contactor for exterior lighting is installed in this panel.

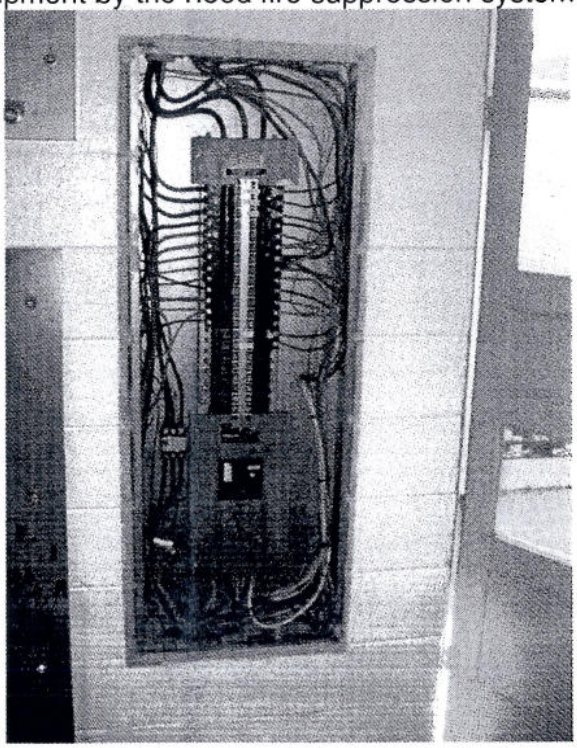


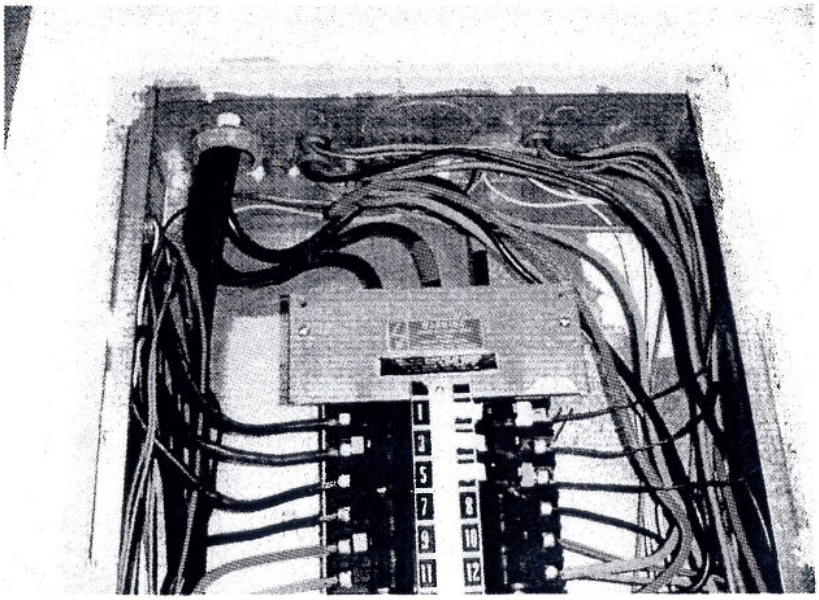
Panel L4 is a 225 amp Federal Pacific NBLP Main Lug panelboard installed in the corridor. It is a double section 60-pole panel with 6 spaces and serves general receptacles and lighting in the addition. The panel was installed in 1976 and is in good condition. Most of the branch wiring is not provided with a ground conductor. Grounds from circuit additions are grouped under a single lug bonded to the enclosure.



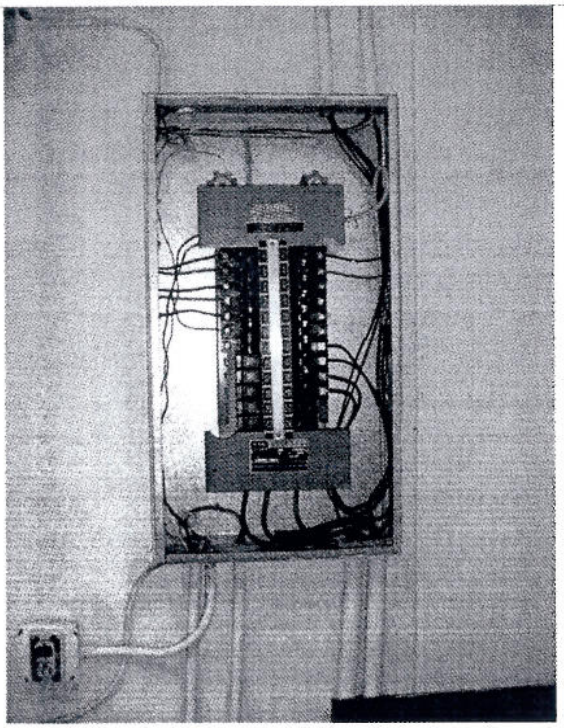
Panel K is a 225 amp Federal Pacific NBLP Main Lug panelboard installed in the kitchen. It is a 42-pole panel with 14 spaces and serves all kitchen equipment. The panel was installed in 1976 and is in fair condition. White insulated wire is used for some power circuits in this panel. Grounds for most circuits are grouped under a single lug bonded to the enclosure. A

shunt trip breaker for the fryer and a contactor for the range provide shutdown of equipment by the hood fire suppression system.





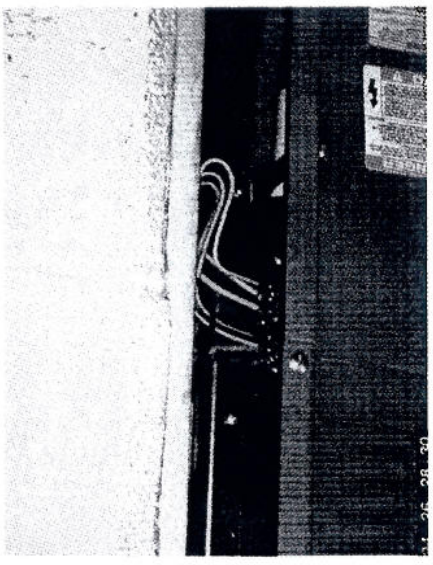
Panel R is a 100 amp Federal Pacific NBLP Main Lug panelboard installed in the range. It is a 24-pole panel that is nearly empty due to the removal of range equipment. The panel was installed in 1976 and is in good condition. A ground cable is run with the feeder and is terminated to a lug bonded to the enclosure.



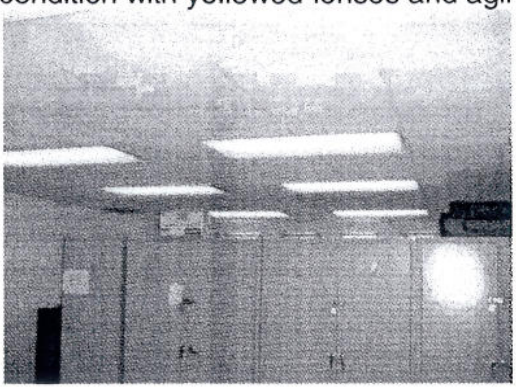
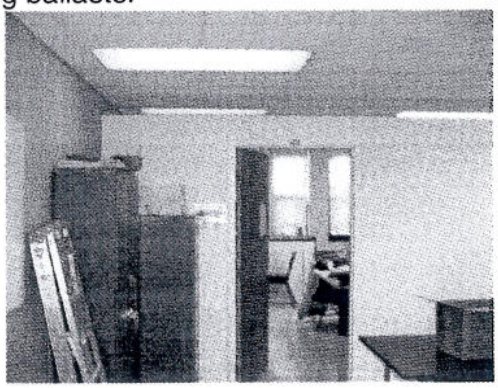
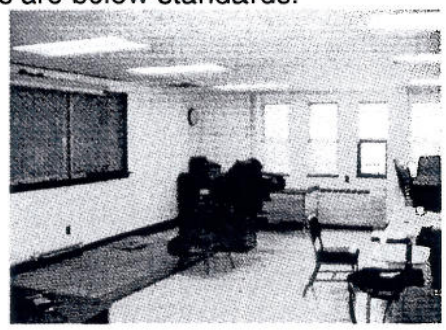
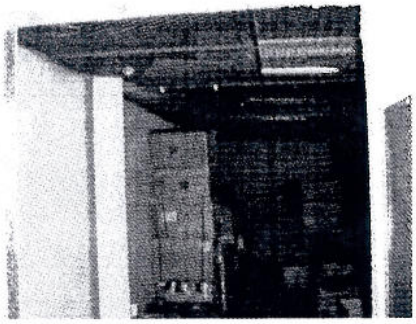
Recommend replacement of all panelboards and feeders due to age and the lack of an equipment grounding conductor. Most existing panels are at capacity and do not have adequate room for expansion.

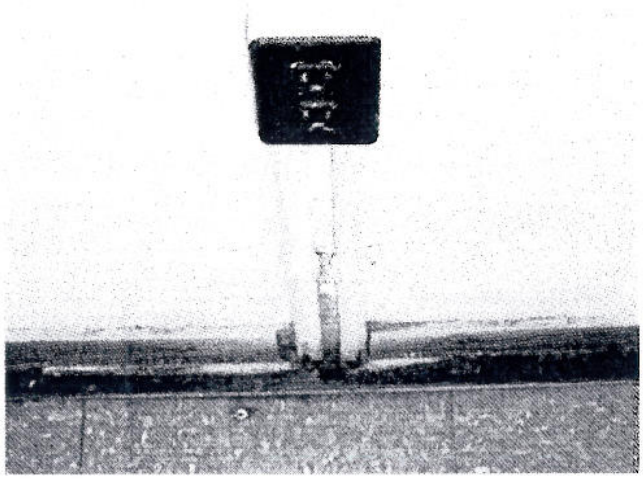
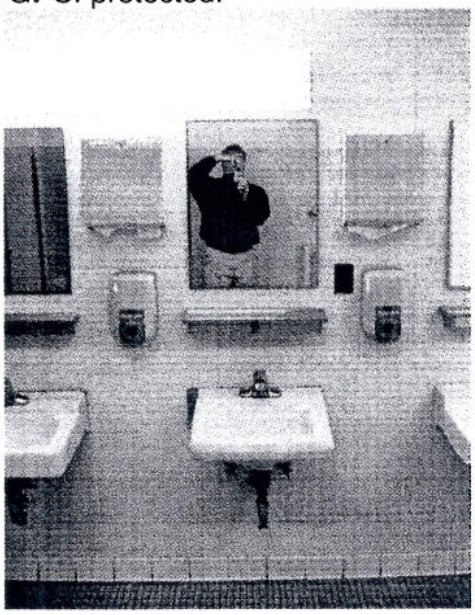
Electrical Wiring Network

The electrical wiring in the facility was primarily installed during the original 1961 construction and in the 1976 addition. Most of the branch wiring relies on conduit for a grounding means. Although it appeared to be in fair condition, the wiring in the original building has reached the end of its useful life. Wiring in the addition appears to be in good condition. New circuits have been added to office areas for computers and other equipment as needed.

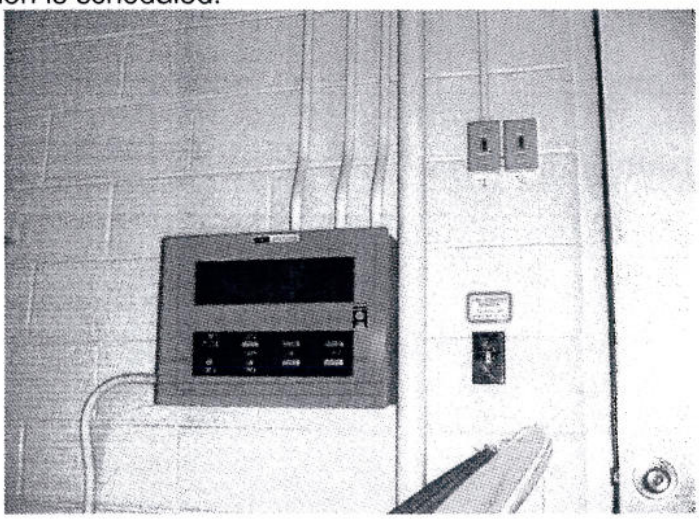


Recommend replacement of all branch wiring in the training building.

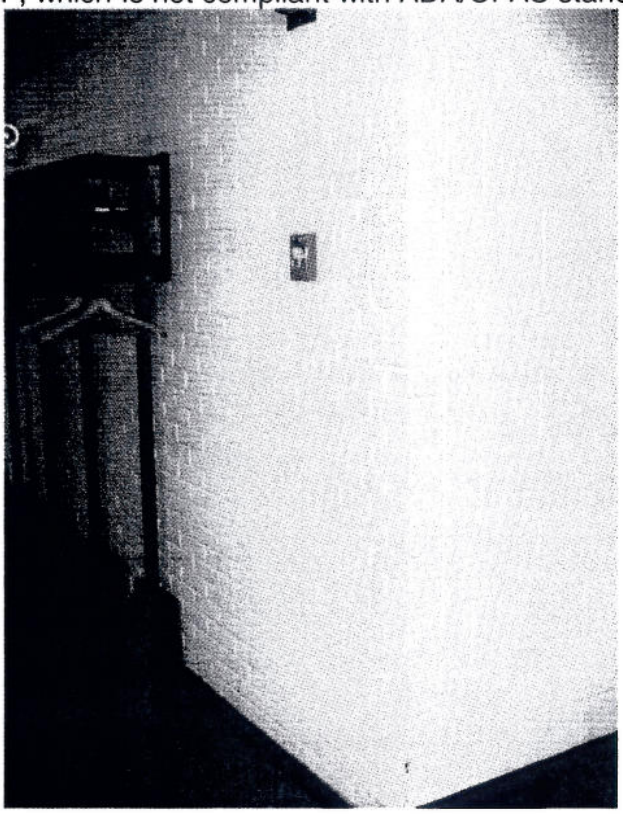
Lighting fixtures	Lighting in the training building varies in quality and age. Lights in corridors have been recently replaced and are in nearly new condition with good illumination levels. Lighting in the 1976 addition is generally in fair to poor condition with yellowed lenses and aging ballasts.   Lighting in most of the original part of the building was replaced in 1980 and is in similar condition to the addition. Selected areas have been upgraded with new lighting as the space function changed. Illumination levels in the office and classroom spaces are generally good. Levels in storage and other areas are below standards.   Due to the installation of a sprinkler system throughout the building, all ceilings will be replaced. <u>Recommend replacement of all lighting fixtures in the building with new energy efficient fluorescent units.</u>

Power Devices	All receptacles in the building are of the three prong grounding type. Most receptacles rely on the conduit as a grounding means. They are generally in fair condition. Receptacles and circuits have been added as needed for computers and other equipment. Distribution of receptacles is generally adequate.  No receptacles are provided in the original restrooms. The receptacle in the 1976 restroom is not GFCI protected.  <u>Recommend adding GFCI receptacles to all restrooms.</u>
Fire/Security Alarm Systems	Mechanical disconnects and controls are in good condition. The building is equipped with a single zone Simplex fire alarm system installed in 1976. The panel and a remote battery cabinet are installed in the boiler room. Voltage and current meters on the battery cabinet both read

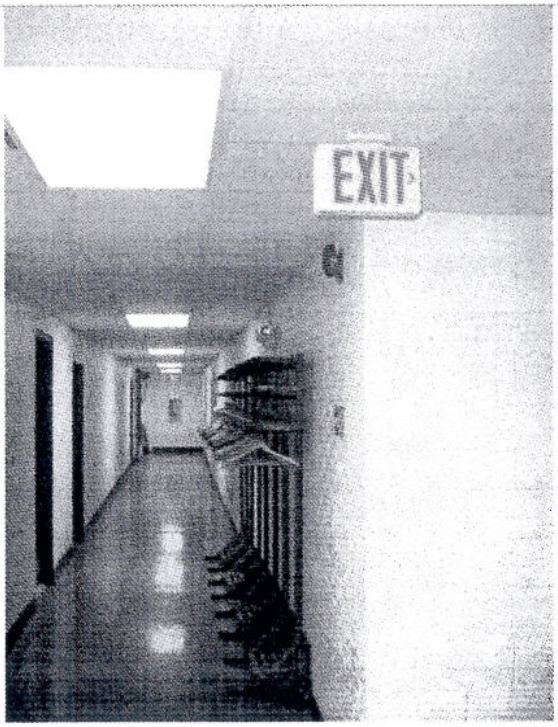
zero. The last recorded inspection of the system was in May 1991. The Facility Manager reports that the system is believed to be operational and a new inspection is scheduled.



The system is initiated by manual means only. Manual pull stations are located within the maximum travel distance limitations and adjacent to each exit door except for the assembly hall. These are typically mounted between 61" and 64" AFF, which is not compliant with ADA/UFAS standards.

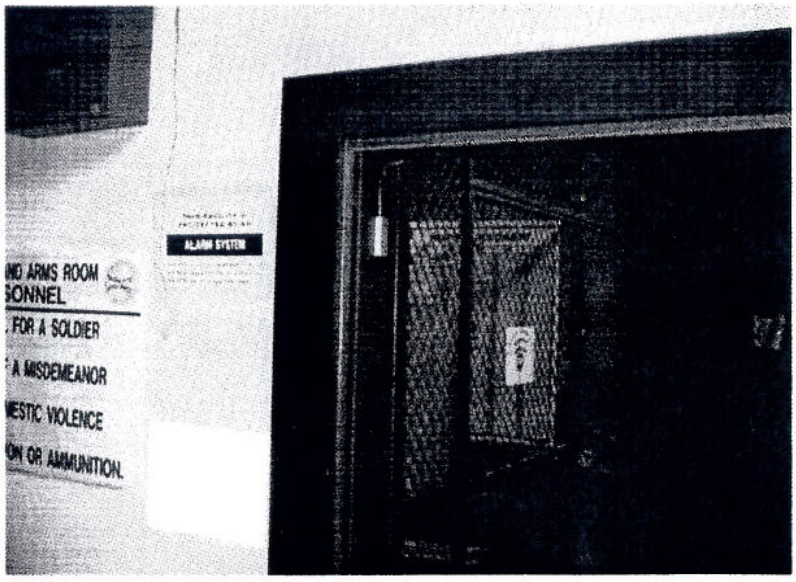


Fire alarm notification is by an electric bell located above each pull station. There is no coverage in the assembly hall. There are no visual alarm appliances as required by ADA/UFAS. No notification devices are installed in the classrooms.



Recommend replacement of the fire alarm with a new ADA compliant system including an annunciator panel and connection to the local fire department or monitoring service.

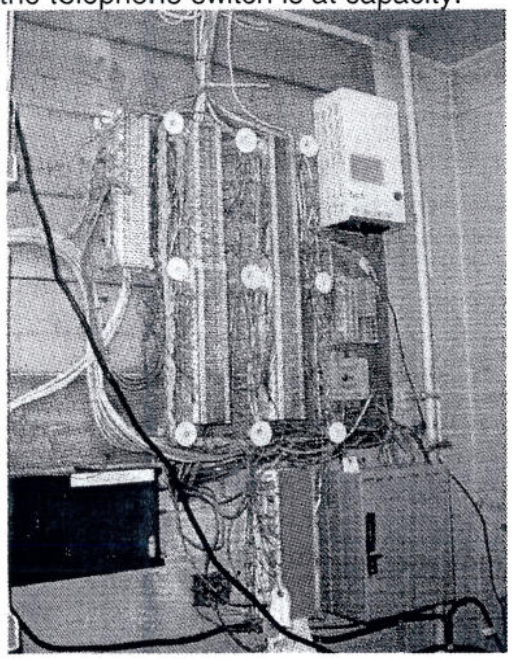
An ADT Intrusion Detection System protects the arms vault It is connected to a monitoring service. The system is operational and the vault is currently certified.



There is no building Intrusion Detection or access control system.

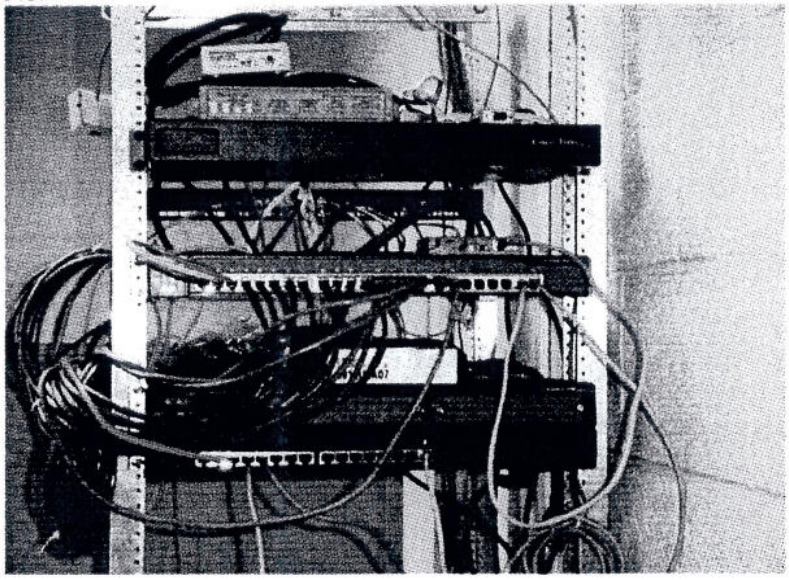
An AT/FP review should be conducted to determine the need for a security system.

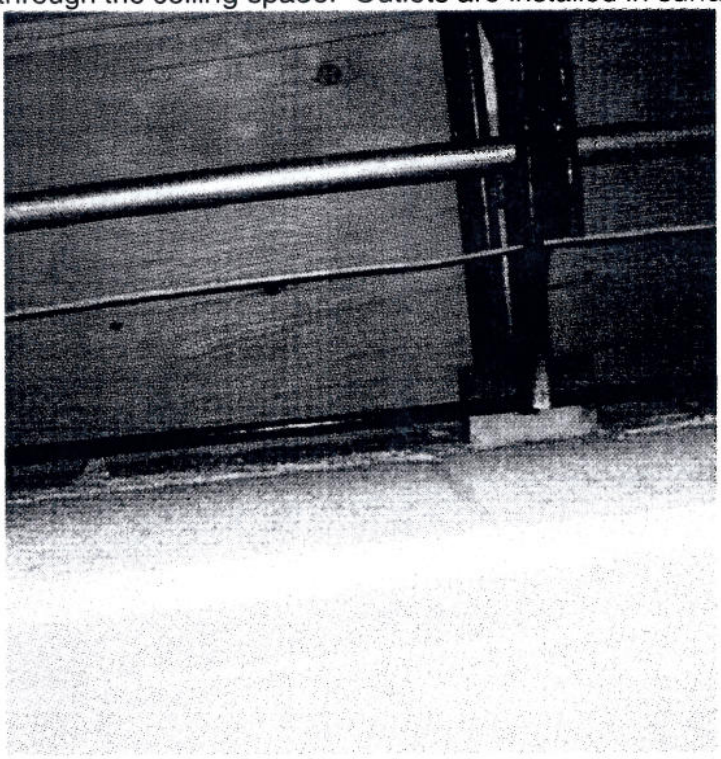
Phone/Data (Panel Locals Only)	Communication for the USARC enters underground via a 2" conduit. A splice case is installed in a corridor cabinet and service terminates on a protector in the phone/storage room. The facility has 7 outside voice lines and a T1 data line. A small telephone switch is used to integrate approximately 39 phone sets. A few phone outlets are directly connected to outside lines since the telephone switch is at capacity.

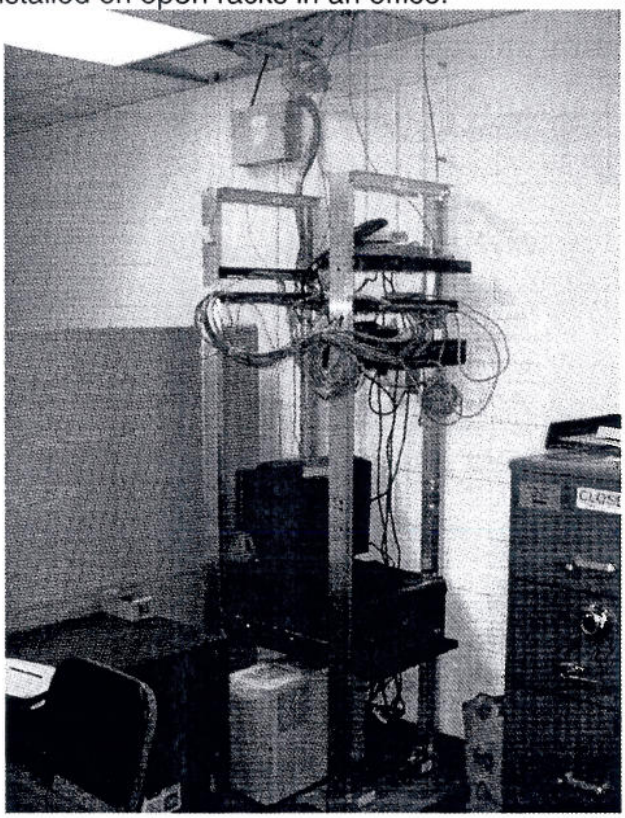


Recommend replacement of the telephone switch with a unit that will accommodate all of the facility's phone instruments. The new system should have paging capability and incorporate the OMS.

The T1 data line is routed to the RCAS server and switches located in an admin office. The data equipment is in good condition and is well maintained. A new switch has recently been added to accommodate new data outlets.

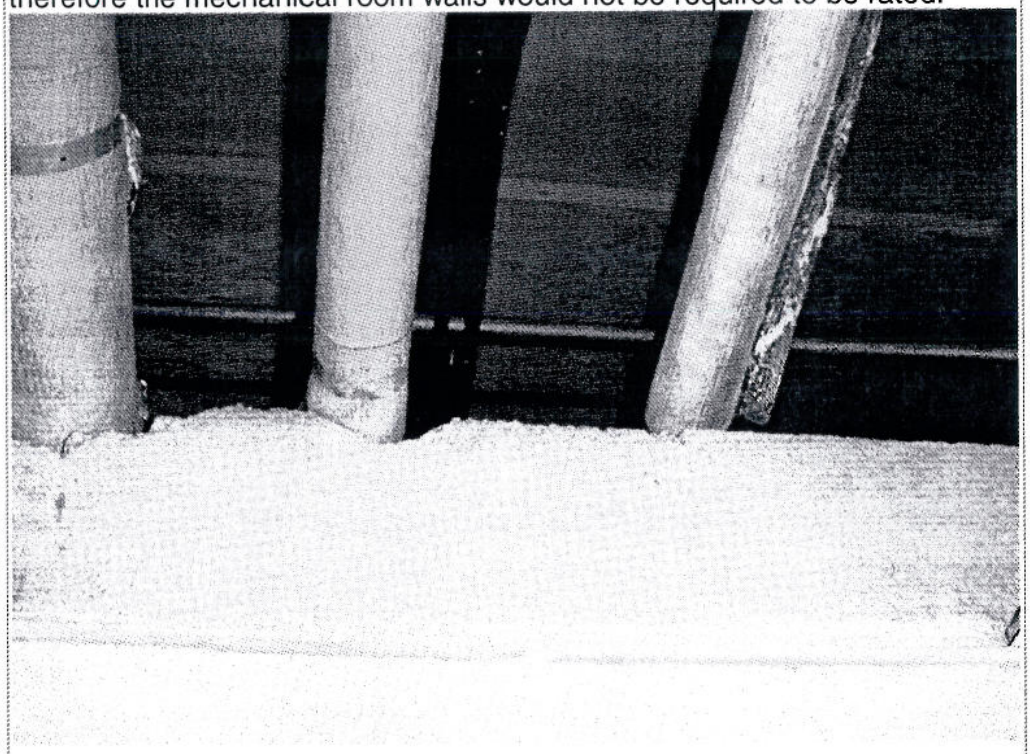


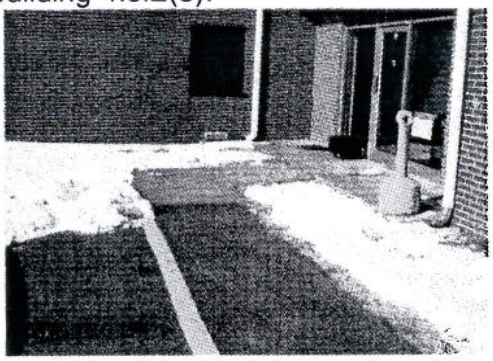
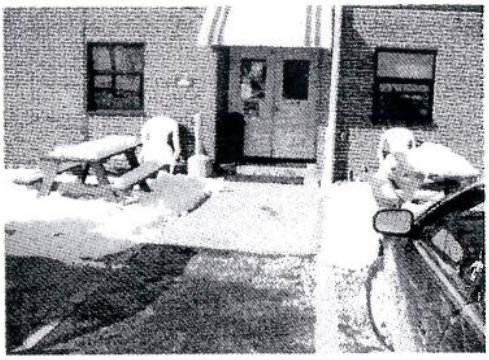
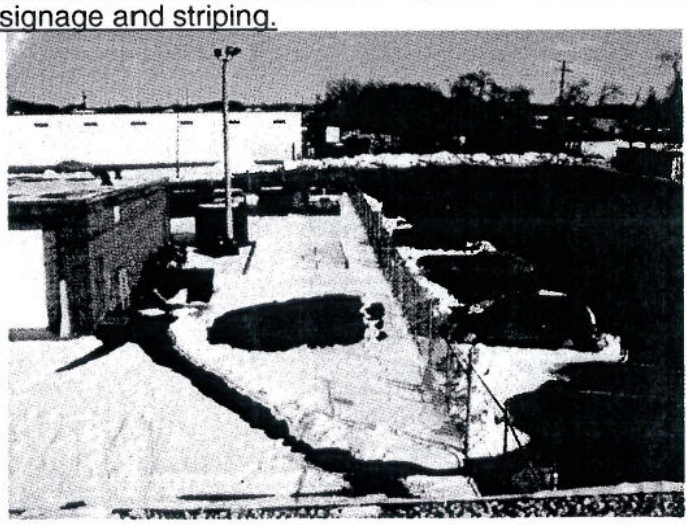
Paging System	The facility does not have an operable paging system. The previous system has been mostly removed. A few speakers and call buttons remain. The existing telephone system has an intercom feature which offers limited coverage. <u>Recommend installation of a building and site paging system to integrate with the new telephone system.</u>
Interior IT	Communications cabling in the training building is generally run unsupported through the ceiling space. Outlets are installed in surface mount raceway. 
Interior Transformers	N/A

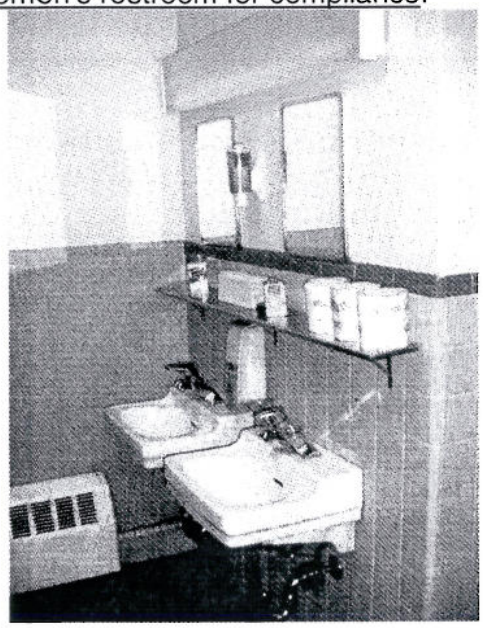
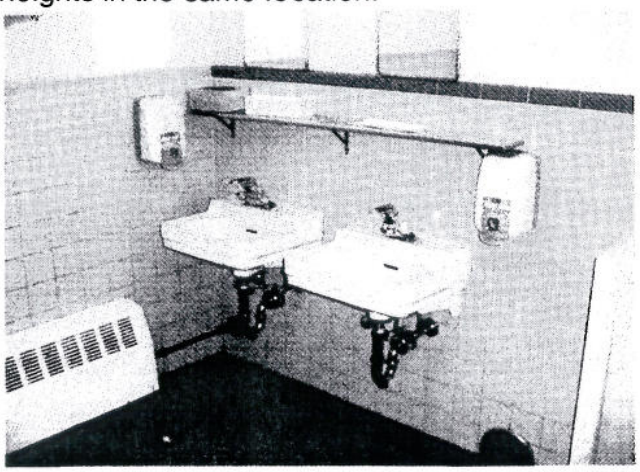
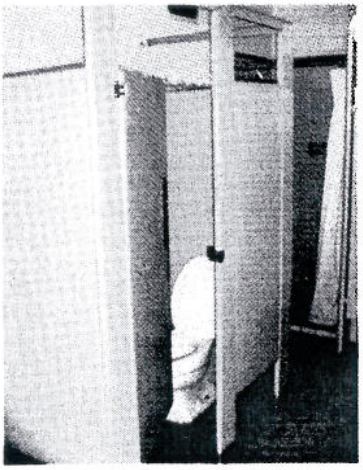
Elec/Tele Closets	Electrical distribution equipment is installed in the boiler room. Branch panelboards are installed in corridors or public spaces. Code required working clearance is maintained for all equipment. The existing telephone closet is marginally adequate for its use. Data equipment is installed on open racks in an office.  <u>Data equipment should be installed in a clean, secure room.</u>
Emergency Generator	N/A
Transport	
Elevators Material Handling Crane(s)	No elevator required in this facility. Existing building is single story. There are no material-handling cranes in this facility.

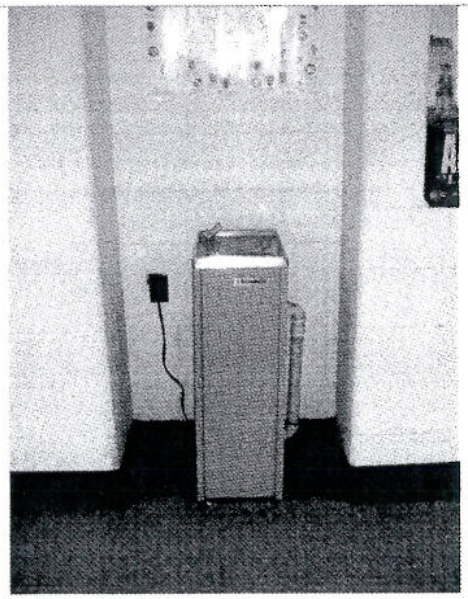
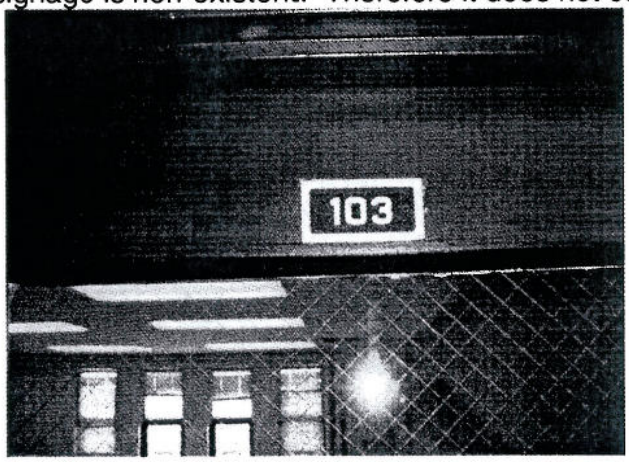
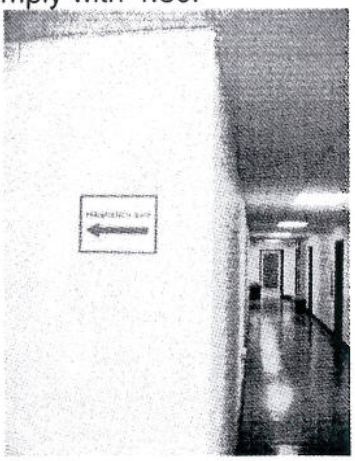
CODE COMPLIANCE	TRAINING BUILDING - CODE
Project Name:	**Full Facility Assessment**
Building Name:	**Wilson-Kramer USARC**
Project Location:	**2940 Airport Road**
	Bethlehem, PA 18017
Year Constructed:	**1961, w/ 1975 addition**

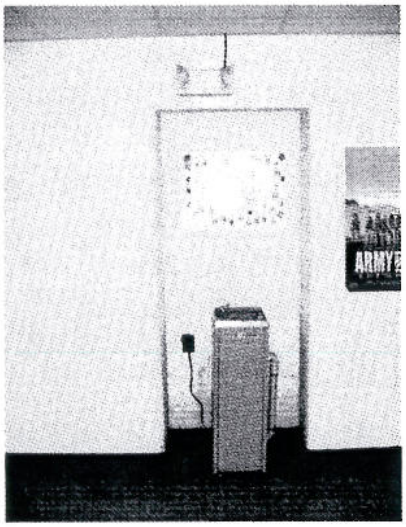
REQUIREMENTS	RECOMMENDATIONS/COMMENTS
Life Safety	
Means of Egress	
Means of Egress Components	Complies.
Capacity of Means of Egress	Complies.
Number of Exits	Complies.
Arrangement	Complies.
Travel Distance	Complies.
Discharge from Exits	Complies.
Marking Means of Egress	Complies.
Protection	
Protection of Vertical Openings	N/A. No vertical openings in this building.
Protection from Hazards	IBC Section 302.1.1 requires that Furnace rooms and boiler rooms have 1 hr rated separation walls ***or*** automatic fire-extinguishing systems (sprinklers) and storage rooms over 100 square feet shall have 1 hr rated separation walls (with no exception for sprinklers). The existing Training building does not currently have rated walls or a sprinkler system at the Mechanical room and it also does not have 1 hr rated walls at the storage rooms, therefore, it does not comply with this section.

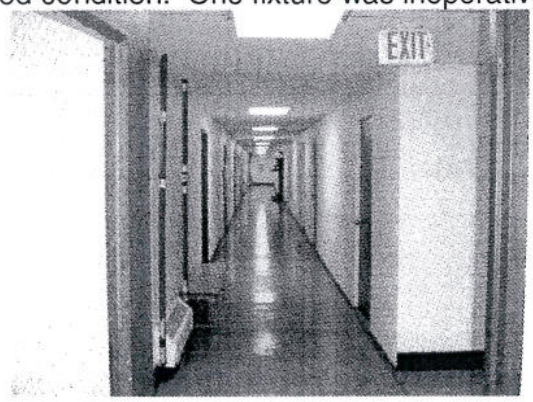
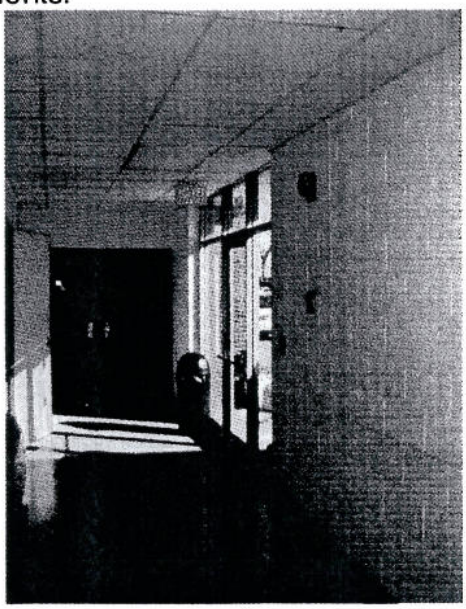
	In order to comply with this requirement, the A/E recommends that the existing walls around the maintenance/chair storage and kitchen storage be extended to the deck and sealed with approved firestopping such that these walls will maintain a 1-hr fire-resistance rating. The existing storage closets across the hall from the maintenance/chair storage are proposed, as part of this report, to become part of the women's restroom upgrades to meet handicap accessibility, therefore they would not need to be rated since they would no longer be storage rooms. Based on the assumption that the building and content valuation exceeds $5,000,000.00 a sprinkler system is required per MIL HDBK 1008C-6.1.2(g), therefore the mechanical room walls would not be required to be rated.  The requirement for a sprinkler system negates the requirement for 1 hr rated walls at the mechanical room.
Interior Finish	Complies.
Detection, Alarm, and Commo	Recommend installation of new fire alarm system to meet the requirements of NFPA 72.
Extinguishing systems	Fire extinguishers are located within 75'-0" of each other and are located inside semi-recessed cabinets throughout the Training building, therefore complies.
Corridors	Per IBC 1004.3.2.1 and table 1004.3.2.1 corridor walls in A, B and S occupancies are required to have a 1 Hr fire resistance rating unless equipped throughout with an approved automatic sprinkler system. The existing Training building falls into this category, however, if the building as renovated exceeds a $5,000,000.00 facility and content replacement value per MIL-HDBK 1008C-6.1.2(g), then sprinklers are required throughout the facility, which would negate the requirement for the 1-hr. rated corridor walls.

	Based on an expected valuation in excess of $5 Million, we do anticipate sprinklers, and accordingly corridor walls need not be rated.
Subdivision of Building Spaces	Complies.
Special Protection Features	N/A.
Special Provisions	N/A.
Building services	Complies.
UFAS/ADAAG Access	
Minimum Essential Features	
Parking	See Site-Accessibility.
Curb Ramps	See Site-Accessibility.
Entrance	Complies.
Accessible Routes	Does not comply with 4.3.2(2) and 4.3.2(3). These sections of UFAS require an accessible route between each building on the site-4.3.2(2), and an accessible route within the building to all accessible spaces inside the building-4.3.2(3).   The A/E recommends that required accessible parking spaces be provided within close proximity to the Training building entrance and be marked with appropriate signage and striping.  Also required is pavement striping marking the accessible route a handicapped pedestrian would take between the accessible building entrances.

Toilet Rooms	Existing fixture counts are adequate per DG 1110-3-107 (17June2002), however, existing toilet rooms are not handicap accessible. The A/E recommends making minor modifications in each of the small men's restroom and the women's restroom for compliance.  Women's restroom renovations would include removing the wall of the storage closets adjacent to the women's restroom and installing an additional handicap accessible water closet. Also required would be to remove the existing lavatories and provide a new countertop with ADA compliant drop-in type lavatories to accessible clearances and mounting heights in the same location.   For the men's room all that is required is to provide a new handicap accessible water closet and toilet partition in the same location as the existing and provide a new countertop with ADA compliant drop-in type lavatories to accessible clearances and mounting heights in the same location as the current wall mounted lavatories.
Drinking Fountains Accessibility	Currently, there is not an accessible drinking fountain in this facility.

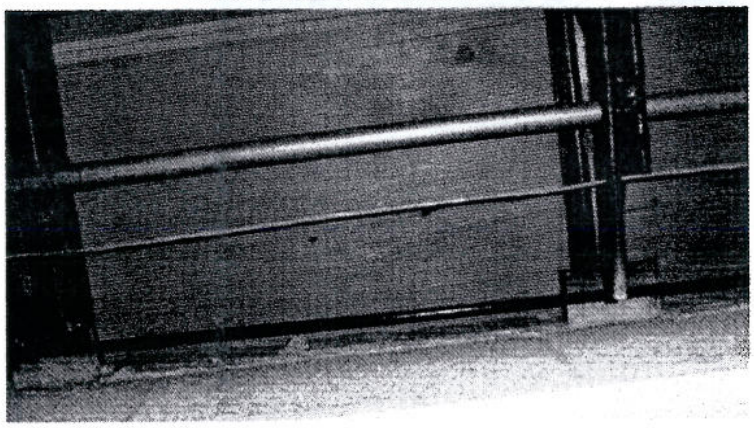
	 The A/E recommends installation of a new hi-low type accessible drinking fountain.
Accessibility Signs	Existing signage is engraved metal room numbers and in some cases signage is non-existent. Therefore it does not comply with 4.30.   The A/E recommends that all interior signage be replaced with new ADA compliant interior signage.
Public Use Space (when applies)	
Interior Assembly Spaces	Complies.
Business Occupancy Office Areas	Complies.
Shops and Storage Occupancies	N/A.
Total Facility Upgrade	
Accessible Building	Does not comply with ADAAG 4.1.3 and 4.1.6. These two sections spell out the requirements for new construction and alterations for ADA compliance

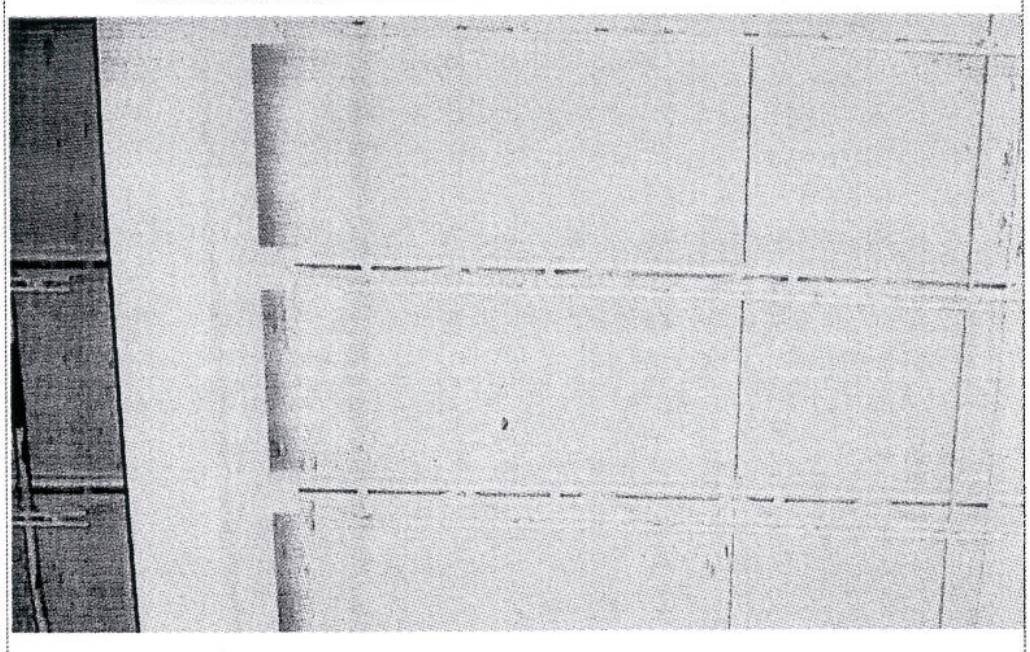
	and accessibility. Refer to the items mentioned above as recommendations to bring the building up to ADA compliance. Costs are included in individual items mentioned above.
NFPA 70, Electric Code	
Illumination of Means of Egress	General corridor lighting fulfills requirements of NFPA 101 Section 7.8.
Emergency Lighting	This building is equipped with several self-contained emergency lighting units of various ages and styles. Approximately half of the units did not operate when tested. Coverage of the egress paths is not adequate per NFPA 101 Section 7.9.  There is no emergency illumination of the exit discharge. There remain some old low voltage fixtures above the exit doors but these are abandoned. Recommend replacement of all emergency lighting units. Additional units shall be added as required to meet code requirements. Consideration should be given to emergency lighting in locker rooms, unit storage cages, and other areas for increased safety above code minimums.

Marking Means of Egress	Marking of means of egress is generally adequate to meet the requirements of NFPA 101 Section 7.10. Battery backup exit signage was replaced in 2000 and is in good condition. One fixture was inoperative when tested.  Existing fixtures should be reinstalled after ceiling work is complete. Additional fixtures should be installed in the locker room and other large areas where the exit is not readily apparent.
Remove Dangers to Human Life	The building has a single-zone manually initiated fire alarm system. Condition of the system battery is questionable. Manual stations are located in accordance with NFPA 72 Section 2-8 with one exception. No manual station is provided at the assembly hall personnel door. Mounting height exceeds the NFPA 72 Section 2-8.1 limit of 54" AFF. Smoke detection is not provided to protect the FACP. Sound level of the alarm system was not tested. The number of bells appears to be adequate, with the exception of the assembly hall. The system in not compliant with ADA/UFAS requirements.  Recommend replacing the fire alarm system with an ADA compliant installation.
Correct Existing Hazards	There are no imminent dangers to human life.

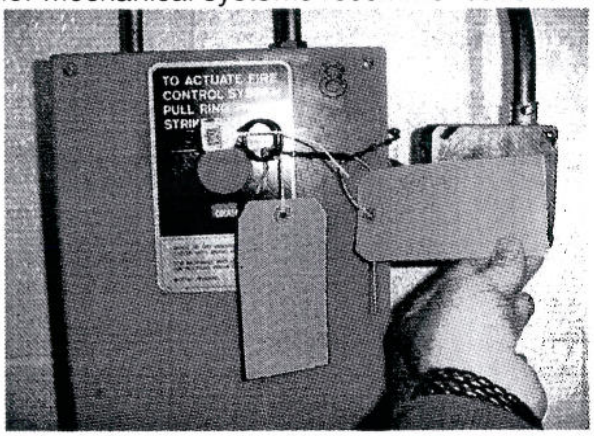
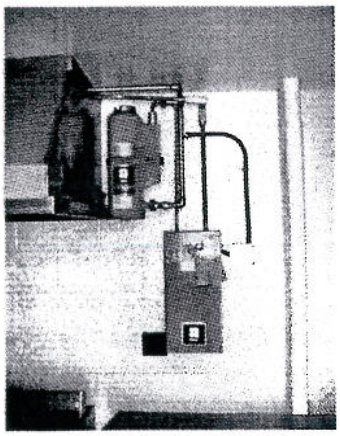
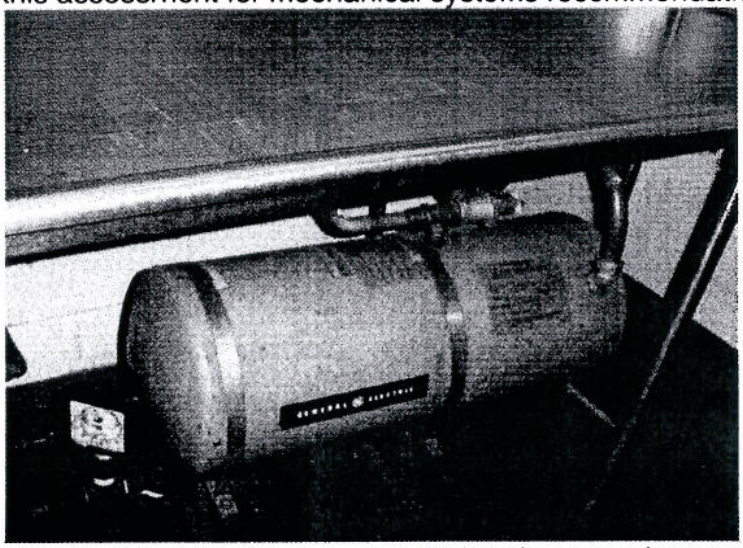
NFPA 13, Sprinklers	
Retroactivity (AHJ Reqmt's)	
Plan Changes Affecting Coverage	***NOTE: At this writing, MIL HBK 1008C is being revised. When reissued*** as *UFC 3-600-01, it is expected to have the required sprinklers threshold revised upward from $2.5, to $5.0 million.* *This Assessment assumes the* ***anticipated $5M threshold applies, and that*** *Mil Handbook 1008C / UFC 3-600-01 requires sprinkler systems in all buildings whose value including contents exceeds $5 million.* *In several instances in current Code guidance the designer is given a choice to provide a sprinkler system, or to take a number of specific alternative measures. The other measures may include use of fire rated assemblies to separate spaces such as mechanical rooms, and corridors etc; use of fire dampers where the fire-rated assemblies are penetrated by ducts; complete firestopping; a more stringent fire detection and alarm system; selection from a more constrained choice of building materials; more constrained limitations on building area, exit lengths, and other related requirements and limitations.* *Factors affecting the choice of whether to provide a sprinkler system may include owner preference, available space, adequacy of water supply, and cost of the sprinkler system versus cost of implementing the alternative measures.* Status for the Bethlehem USARC is: • Building has no fire sprinkler system at present. • It is believed this facility and contents will exceed the $5M threshold, therefore a sprinkler system is mandated. • City water is at the site, with a 12" main along Airport road, and presumably this water supply is adequate. • It is our understanding the Owner (when given a choice by UFC guidance documents and related applicable Codes) generally does not prefer a fire protection system in USARC renovations. • Existing building corridor walls do not go to deck, but are only about half an inch short of doing so, thus closure where required to meet Code appears economically practicable. • Although the effort required to effect separation of existing mechanical room for a one-hour separation appears not too large, and use and occupancy group separations appear practicable, and other additional required measures in lieu of a fire protection sprinkler system also appear for this building not to be cost-prohibitive, the requirement for sprinkling the building based on the $5 Million building value threshold is the controlling determination. Considering all the above, <u>it is the A/E's recommendation that a sprinkler system be provided for the facility as a part of revitalization.</u> ***Wood deck issues:*** A plywood roof deck is over all the original Training building including both office spaces and Assembly Hall. (The 1975

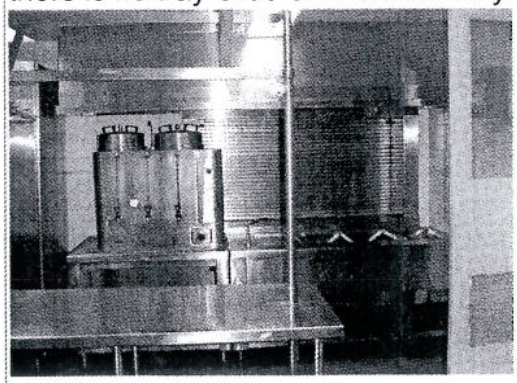
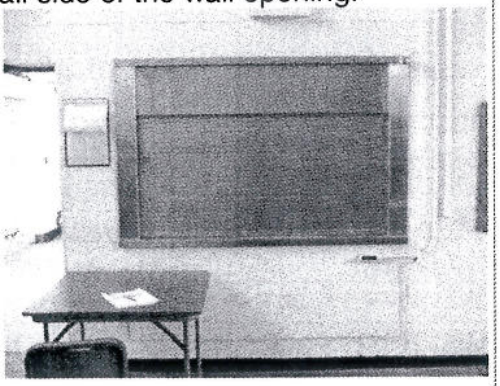
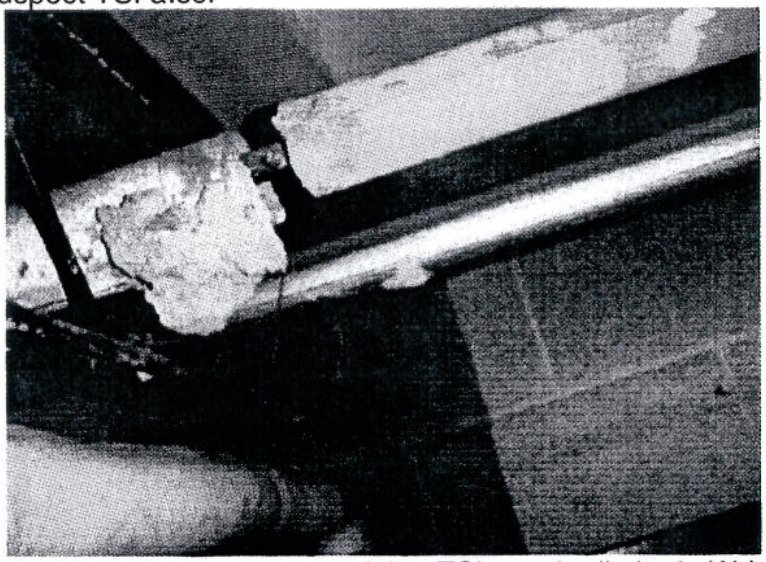
addition has metal deck.) The material is marked as wood sheathing on the original building plans, with no reference on the drawings indicating it is fire-retardant. Nor did we observe any markings indicating the material itself indicating it is fire retardant treated (FRT). Therefore we assume it is not treated. All the material appears original to the building's 1961 construction.

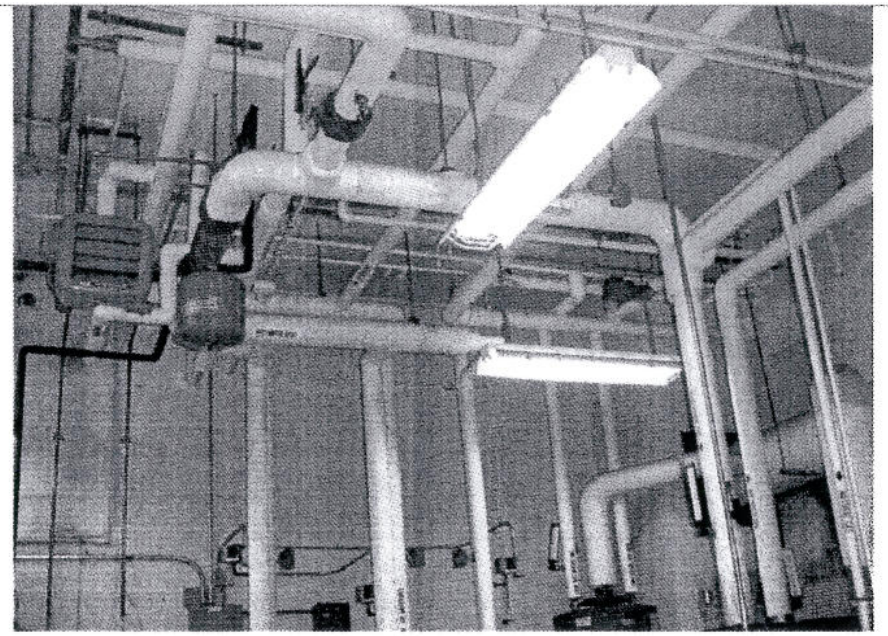




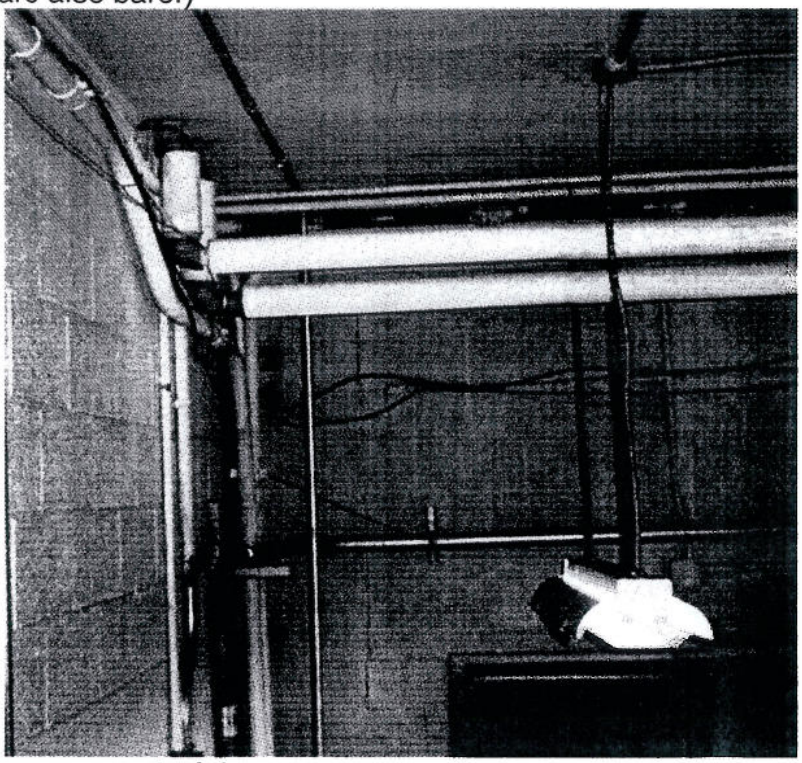
We cannot at this time fully determine whether fire protection sprinkling will be required above the ceiling because of the plywood deck. Mil Handbook 1008C offers some hope, especially in paragraphs 2.2.1, and also 2.9.2, 2.14.2. Our estimate presumes that the presence of wood deck will not

	trigger a requirement for sprinkling above the ceiling, but in light of ongoing code changes for military construction we recommend this issue be reexamined at the time of revitalization design.
Occupancy Hazard Change	See above.
Inspection, Testing, and Maintenance	See above.
Unsuccessful Performance	See above.
Other	
Halon Decommissioning/Removal	N/A; none present
Kitchen + Equipment	
Exhaust Hoods	Kitchen exhaust hood is currently equipped with a dry chemical fire suppression system. See Training Building section of this assessment for other mechanical systems recommendations.  
Water Heaters	Dishwasher is currently equipped with a hot water booster system believed to be satisfactory, but pot sink has no booster heater. See Training Building section of this assessment for mechanical systems recommendations. 
Sneeze Guards	None at present. When kitchen is renovated and new equipment provided, we recommend adding portable sneeze guards to the serving line opening in kitchen wall leading to Assembly area. The opening has a roll-up door that may make a permanent installation difficult. Also, it was noted that

	there is no tray-slide on the assembly hall side of the wall opening.   We recommend during FFR to study further how food is served and if improvement is needed.
Other	
Hazmat (Magnitude)	
Asbestos	Asbestos is present in this building per the April 1995 survey and subsequent September 1995 report by R.E. Wright Environmental. That report was a follow-up to a 1987 survey by Biospherics, Inc. Wright sampled tile, wall and ceiling materials, but did not resample TSI, instead relying on Biospherics' TSI report data. **TSI** **Friable asbestos-containing TSI** is reported in piping in corridors and in offices around Room 140. (Exact locations may be indicated on the floor plan in the Report; however our copy was folded in reproduction and unreadable.) Note that the picture shown below is above the Scullery, but appears to contain suspect TSI also.  (Note: The extent of asbestos-containing TSI may be limited. Wright reported the boiler room had been abated after the 1987 report, and appears clean. Our visual examination concurs with this observation.

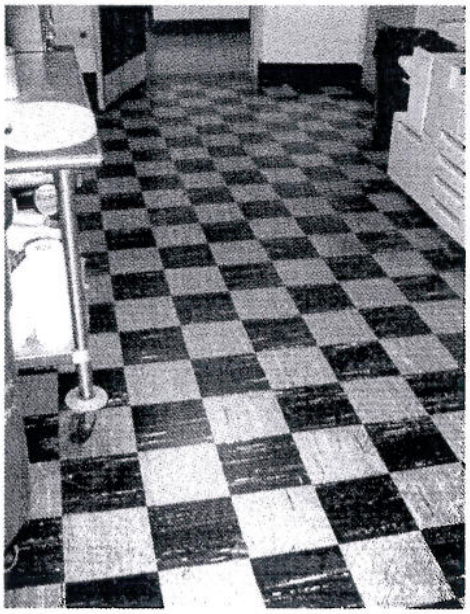


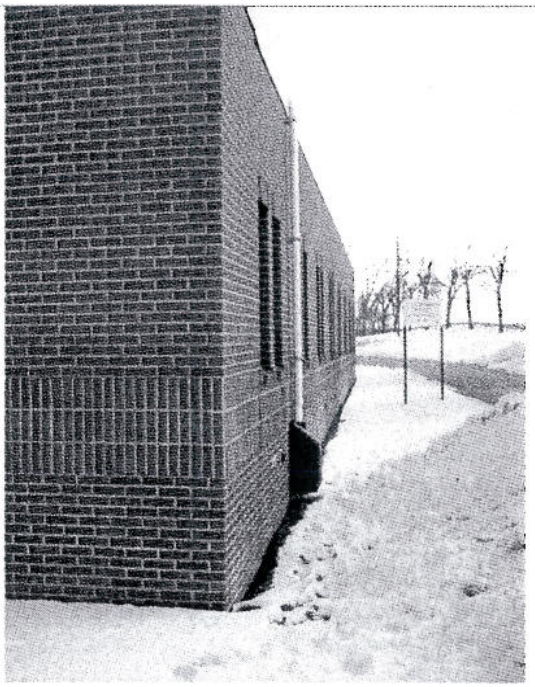
Only 490 lineal feet were identified in the Asbestos report; this total evidently including insulation for the steam and other piping in the mechanical room since removed. It appears most of the mechanical room has been reinsulated over the years, with fiberglass insulation, and soft fittings with PVC jackets. Some of the domestic water and other piping has been abated and the bare pipe encapsulated but not reinsulated. Some elbows are also bare.)

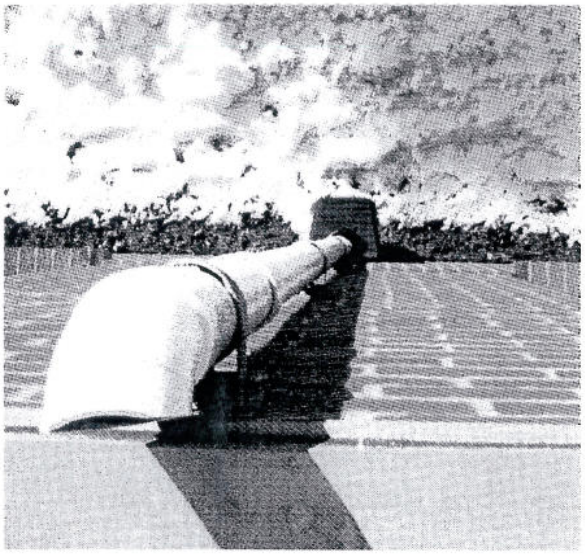


Miscellaneous material.

Positive (**ACM**) material, per R.E. Wright:

	• 9x9 black tiles and gray floor tiles laid in checkerboard pattern. • Black mastic under the above 9x9 tile and also under the blue 12x12 tile.  Negative (**non-ACM**) material, per R.E. Wright: • 12x12 Ceiling tile • 24x24 ceiling tile • Beige/brown 12x12 floor tile • Gray/white 12x12 floor tile • Blue/white 12x12 floor • Ceiling and wall plaster We recommend abating all asbestos containing materials, including the remaining TSI, and the remaining floor tile and mastic at the time of revitalization, as these materials will be disturbed or be in the way of the needed work at that time.
Lead Paint	No lead paint prior survey data was identified. We recommend a lead paint survey be conducted, and any lead paint found be abated in the course of, or before, revitalization design.
Other	A **radon screening** and testing was conducted in February and March 1989 with the result of finding high radon levels in one corner of the boiler room, and one moderately high but acceptable level elsewhere.\ A radon abatement fan system was installed in approximately September 1997, in a protective housing mounted on the exterior of the south end of the 1975 addition adjacent to Administrative room 101 (as numbered on the 1975 drawings). Fan was observed to be in operation at the time of our site visit.



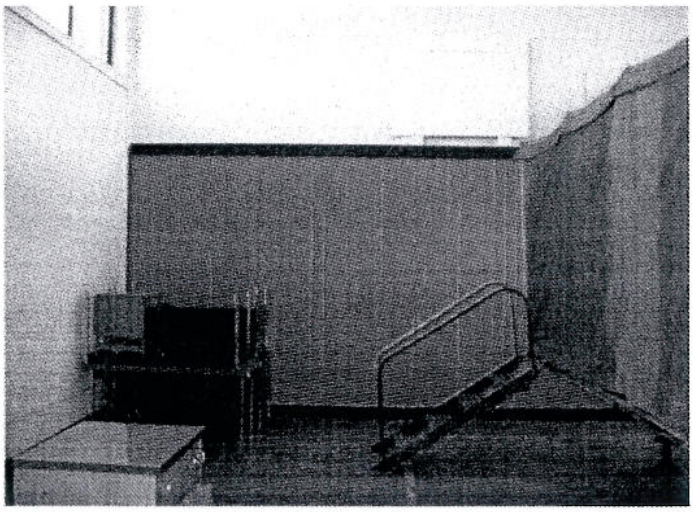


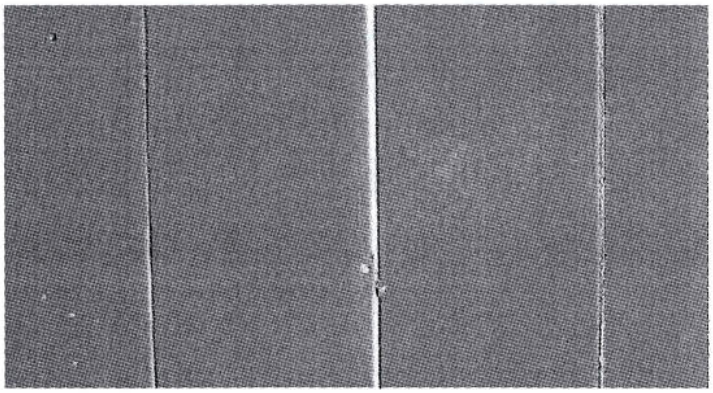
The **underground oil tank** for the former fuel oil heating boilers was removed in October 1996. Tank was disposed of, site was checked out, and a closure report form indicating no contamination on November 5, 1996. A copy of the UST closure report dated November 1996 is available and in the Appendix of this Assessment.

Firing Ranges:

- The rifle range installed as a part of the 1975 addition has been abated of lead and cleared.
- In the Assembly hall there was at one time a rifle range lane along the left side. All that remains is the layered wood/plywood backstop, and a few pockmarks high on the concrete wall from errant shots. The wood has a few scattered holes that look to be approximately .22" in diameter, and we suspect lead is imbedded in the wood. We found no information indicating there has been

any lead abatement or clearance on the wooden backstop. We recommend the former Assembly Hall Firing Range backstop be brought to the attention of the appropriate group within USARC that handles range cleanup, and if determined necessary, abated.





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PRESCRIBED LOAD LIST

For use of this form, see DA PAM 710-2-1; the proponent agency is ODCSLOG

1. DATE: 19 JAN 06

2. UNIT/ORGANIZATION: 130th CM Co & 744th MP BN

3. UNIT IDENTIFICATION CODE: WQZ1AA & WZDJAA

4. ITEM OF EQUIPMENT: POL

5. PUBLICATION DATA

STOCK NUMBER	ITEM DESCRIPTION	UNIT OF ISSUE	AUTHORIZED QUANTITY		REMARKS
			BASIC	OPERATIONAL	
5970-01-101-4147	Battery Terminal Protectors		1		
8010-01-229-7541	Coating Aliphatic Polyurthane		1		
9150-01-054-6453	CLP		11		
9150-00-935-6597	Weapons Oil Medium		1		
6850-00-880-7616	Silicone Grease		1		
8010-00-721-9742	Enamel Paint Brown		1		
9150-01-260-2534	Lubricant, Solid Film, Air Cured		2		
9150-00-273-2389	Lubricating Oil		1		
9150-01-053-6688	CLP		1		
9150-01-380-4470	Lubricant, Solid Film		1		
	Fuel		1		
	Brake Cleaner		2		
	Upside Down Marking Paint		1		
	10W-30		1		
	5W-30		2		
	Engine Starting Fluid		1		
	Propane		2		
	Antifreeze Coolant		1		
	Hydraulic & Jack Oil AW32		1		
	Flat Paint Black		1		
	Flat Paint White		1		
	Ultra-Flat Khaki		1		
	Banner Red Paint		1		
	Strating Fluid		3		
	401 Brake & Contact Cleaner		1		

DA FORM 2063-R, JAN 82 — EDITION OF APR 68 IS OBSOLETE

NOTE: Blocks 4 and 5 will not be used on Consolidated Prescribed Load List.

USAPPC V1.10

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PRESCRIBED LOAD LIST

For use of this form, see DA PAM 710-2-1; the proponent agency is ODCSLOG

1. DATE

2. UNIT/ORGANIZATION
130th CM Co & 744th MP BN

3. UNIT IDENTIFICATION CODE
WQZ1AA & WZDJAA

4. ITEM OF EQUIPMENT
POL

5. PUBLICATION DATA

STOCK NUMBER	ITEM DESCRIPTION	UNIT OF ISSUE	AUTHORIZED QUANTITY		REMARKS
			BASIC	OPERATIONAL	
	WD-40				

DA FORM 2063-R, JAN 82

EDITION OF APR 68 IS OBSOLETE

NOTE: Blocks 4 and 5 will not be used on Consolidated Prescribed Load List.

USAPPC V1.10

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PRESCRIBED LOAD LIST

For use of this form, see DA PAM 710-2-1; the proponent agency is ODCSLOG

1. DATE: [illegible]

2. UNIT/ORGANIZATION: 130th CM Co & 744th MP BN

3. UNIT IDENTIFICATION CODE: WQZ1AA & WZDJAA

4. ITEM OF EQUIPMENT: POL

5. PUBLICATION DATA

STOCK NUMBER	ITEM DESCRIPTION	UNIT OF ISSUE	AUTHORIZED QUANTITY BASIC	AUTHORIZED QUANTITY OPERATIONAL	REMARKS
9150-00-117-8791	Lube Oil, 2-Cycle Engine		19		
9150-01-102-9455	Brake Fluid, Silicon		5		
9150-01-197-7693	Grease Automotive & Artillery		5		
9150-01-438-6076	Lubricating Oil, Engine		96		
9150-01-353-4769	Hydraulic Fluid, Dexron III		1		
6850-00-926-2275	Cleaning Compound, Windshield		20		
6850-01-160-3868	Inhibitor, Corrosion		2		
	Detonized Water		3		
9150-01-152-4117	Lubricating Oil, Engine		20		
6850-01-383-4068	Antifreeze, Virgin Grade FMTV Only		2		
6801-00-597-3608	Methanol, Technical		6		
9150-00-657-4959	Dextron III		2		
6850-00-181-7929	Antifreeze		3		
9150-01-152-4118	15W/40		2		
9150-00-186-6668	10W		1		
9150-01-035-5393	80/90		1		
2910-00-646-9727	Cylinder, Engine		13		

DA FORM 2063-R, JAN 82 EDITION OF APR 68 IS OBSOLETE

NOTE: Blocks 4 and 5 will not be used on Consolidated Prescribed Load List.

USAPPC V1.10

Appendix E

Regulatory Database Search Reports

The EDR-City Directory
Abstract

Wilson-Kramer USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

Inquiry Number: 1714247.252

Monday, July 24, 2006

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

EDR City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening report designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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SUMMARY

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1961 through 2002. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

Date EDR Searched Historical Sources: July 24, 2006

Target Property:
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

Year	Uses	Source
1961	Street Not Listed in Research Source	Polk's City Directory
1966	Street Not Listed in Research Source	Polk's City Directory
1970	Street Not Listed in Research Source	Polk's City Directory
1975	Street Not Listed in Research Source	Polk's City Directory
1980	Address Not Listed in Research Source	Polk's City Directory
1985	Address Not Listed in Research Source	Polk's City Directory
1990	Address Not Listed in Research Source	City's City Directory
1995	Address Not Listed in Research Source	City's City Directory
1999	Address Not Listed in Research Source	City's City Directory
2002	Address Not Listed in Research Source	City's City Directory

Adjoining Properties

SURROUNDING

Multiple Addresses
BETHLEHEM, PA 18017

Year	Uses	Source
1961	Street Not Listed in Research Source	Polk's City Directory
1966	Street Not Listed in Research Source	Polk's City Directory
1970	Street Not Listed in Research Source	Polk's City Directory
1975	Street Not Listed in Research Source	Polk's City Directory
1980	Address Not Listed in Research Source	Polk's City Directory
1985	Address Not Listed in Research Source	Polk's City Directory

Year	***Uses***	***Source***
1990	Address Not Listed in Research Source	City's City Directory
1995	****Airport Road****	City's City Directory
	PA State Police Toop M Headquarters (2930)	City's City Directory
	1st Union (3070)	City's City Directory
	No other addresses in range	City's City Directory
1999	****Airport Road****	City's City Directory
	PA State Police Toop M Headquarters (2930)	City's City Directory
	1st Union (3070)	City's City Directory
	No other addresses in range	City's City Directory
2002	****Airport Road****	City's City Directory
	PA State Police Toop M Headquarters (2930)	City's City Directory
	1st Union (3070)	City's City Directory
	No other addresses in range	City's City Directory

The EDR Radius Map
with GeoCheck®

Wilson-Kramer USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

Inquiry Number: 01714247.248r

July 12, 2006

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

2940 AIRPORT ROAD
BETHLEHEM, PA 18017

COORDINATES

Latitude (North):	40.648100 - 40° 38' 53.2''
Longitude (West):	75.430300 - 75° 25' 49.1''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	463618.3
UTM Y (Meters):	4499571.5
Elevation:	378 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	40075-F4 CATASAUQUA, PA
Most Recent Revision:	2001

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL RECOVERY	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CORRACTS	Corrective Action Report
RCRA-TSDF	Resource Conservation and Recovery Act Information
RCRA-LQG	Resource Conservation and Recovery Act Information

EXECUTIVE SUMMARY

ERNS Emergency Response Notification System
HMIRS Hazardous Materials Information Reporting System
US ENG CONTROLS Engineering Controls Sites List
US INST CONTROL Sites with Institutional Controls
DOD Department of Defense Sites
FUDS Formerly Used Defense Sites
US BROWNFIELDS A Listing of Brownfields Sites
CONSENT Superfund (CERCLA) Consent Decrees
ROD Records Of Decision
UMTRA Uranium Mill Tailings Sites
ODI Open Dump Inventory
TRIS Toxic Chemical Release Inventory System
TSCA Toxic Substances Control Act
FTTS FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS Section 7 Tracking Systems
ICIS Integrated Compliance Information System
PADS PCB Activity Database System
MLTS Material Licensing Tracking System
MINES Mines Master Index File
FINDS Facility Index System/Facility Registry System
RAATS RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

SHWS Hazardous Sites Cleanup Act Site List
HSCA HSCA Remedial Sites Listing
SWF/LF Operating Facilities
HIST LF Abandoned Landfill Inventory
ARCHIVE UST Archived Underground Storage Tank Sites
LAST Storage Tank Release Sites
AST Listing of Pennsylvania Regulated Aboveground Storage Tanks
ARCHIVE AST Archived Aboveground Storage Tank Sites
ENG CONTROLS Engineering Controls Site Listing
INST CONTROL Institutional Controls Site Listing
DRYCLEANERS Drycleaner Facility Locations
BROWNFIELDS Brownfields Sites
AIRS Permit and Emissions Inventory Data

TRIBAL RECORDS

INDIAN RESERV Indian Reservations

EDR PROPRIETARY RECORDS

Manufactured Gas Plants EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations EDR Proprietary Historic Gas Stations
EDR Historical Cleaners EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL RECORDS

RCRAInfo: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System(RCRIS). The database includes selective information on sites which generate, transport, store , treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month Large quantity generators generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/09/2006 has revealed that there are 3 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PENNSYLVANIA STATE POLICE LAB	***2930 AIRPORT RD***	***0 - 1/8 S***	***1***	***6***
SERVICE TIRE TRUCK CTR INC	***2320 AVE A***	***1/8 - 1/4 ENE***	***4***	***10***
PURITAN PRODS INC	***2290 AVE A***	***1/8 - 1/4 ENE***	***5***	***10***

STATE AND LOCAL RECORDS

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Environmental Resources' List of Confirmed Releases.

A review of the LUST list, as provided by EDR, and dated 03/09/2006 has revealed that there are 4 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
AIRPORT GARAGE	***3220 AIRPORT RD***	***1/8 - 1/4 N***	***3***	***9***
Facility Status: Interim Remedial Actions Initiated or Completed				
NAVAL & MARINE RESERVE CTR	1400 POSTAL RD	1/4 - 1/2 SSW	6	12
Facility Status: Cleanup Completed				
LEHIGH VALLEY INTL AIRPORT AVI	***3311 AIRPORT RD***	***1/4 - 1/2 N***	***A7***	***12***
Facility Status: Interim Remedial Actions not Initiated				
Facility Status: Interim Remedial Actions not Initiated				
GETTY 69262	***2450 CATASAUQUA RD***	***1/4 - 1/2 SSE***	***9***	***17***
Facility Status: Interim Remedial Actions Initiated or Completed				
Facility Status: Cleanup Completed				

UNREG LTANKS: Leaking storage tank cases from unregulated storage tanks.

A review of the UNREG LTANKS list, as provided by EDR, and dated 04/12/2002 has revealed that there are 3 UNREG LTANKS sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
LEHIGH VALLEY INTL AIRPORT	3311 AIRPORT RD	1/4 - 1/2 N	A8	16

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
PENN LINEN & UNIFORM SVC	***2255 CITY LINE RD***	***1/4 - 1/2 NE***	***B10***	***19***
US POST OFC LEHIGH VALLEY	1000 POSTAL RD	1/4 - 1/2 WSW	12	21

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Resources' Regulated Underground Storage Tank Listing.

A review of the UST list, as provided by EDR, and dated 06/01/2006 has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
IKES AIRPORT SUNOCO	3200 AIRPORT RD	0 - 1/8 N	2	7
AIRPORT GARAGE	***3220 AIRPORT RD***	***1/8 - 1/4 N***	***3***	***9***

MANIFEST: Hazardous waste manifest information.

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 MANIFEST site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PURITAN PRODS INC	***2290 AVE A***	***1/8 - 1/4 ENE***	***5***	***10***

ACT 2-DEED: This listing pertains to sites where the Department has approved a cleanup requiring a deed acknowledgment under Act 2. This list includes sites remediated to a non-residential Statewide health standard (Section 303(g)); all sites demonstrating attainment of a Site-specific standard (Section 304(m)); and sites being remediated as a special industrial area (Section 305(g)). Persons who remediated a site to a standard that requires a deed acknowledgment shall comply with the requirements of the Solid Waste Management Act or the Hazardous Sites Cleanup Act, as referenced in Act 2. These statutes require a property description section in the deed concerning the hazardous substance disposal on the site. The location of disposed hazardous substances and a description of the type of hazardous substances disposed on the site shall be included in the deed acknowledgment. A deed acknowledgment is required at the time of conveyance of the property.

A review of the ACT 2-DEED list, as provided by EDR, and dated 06/20/2006 has revealed that there is 1 ACT 2-DEED site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PENN LINEN & UNIFORM SVC	***2255 CITY LINE RD***	***1/4 - 1/2 NE***	***B10***	***19***

VCP: Voluntary Cleanup Program Sites List.

A review of the VCP list, as provided by EDR, and dated 06/20/2006 has revealed that there are 2 VCP sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
PENN LINEN & UNIFORM SVC	***2255 CITY LINE RD***	***1/4 - 1/2 NE***	***B10***	***19***
CINTAS CORPORATION	2255 CITY LINE ROAD	1/4 - 1/2 NE	B11	20

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
HANOVER TWP SITE	CERC-NFRAP
PPL DIDIER DECOMMISSIONED SUBSTA	VCP
EAST PENN TRANSF STA	SWF/LF
VALLON GETTY 972250	LUST
AVIS RENT A CAR SYS	UST
FREEDOM HIGH SCHOOL	NY MANIFEST

OVERVIEW MAP - 01714247.248r

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- County Boundary
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Wilson-Kramer USARC	CLIENT: CH2M Hill
ADDRESS: 2940 AIRPORT ROAD BETHLEHEM PA 18017	CONTACT: Mary Beth Jacques INQUIRY #: 01714247.248r
LAT/LONG: 40.6481 / 75.4303	DATE: July 12, 2006

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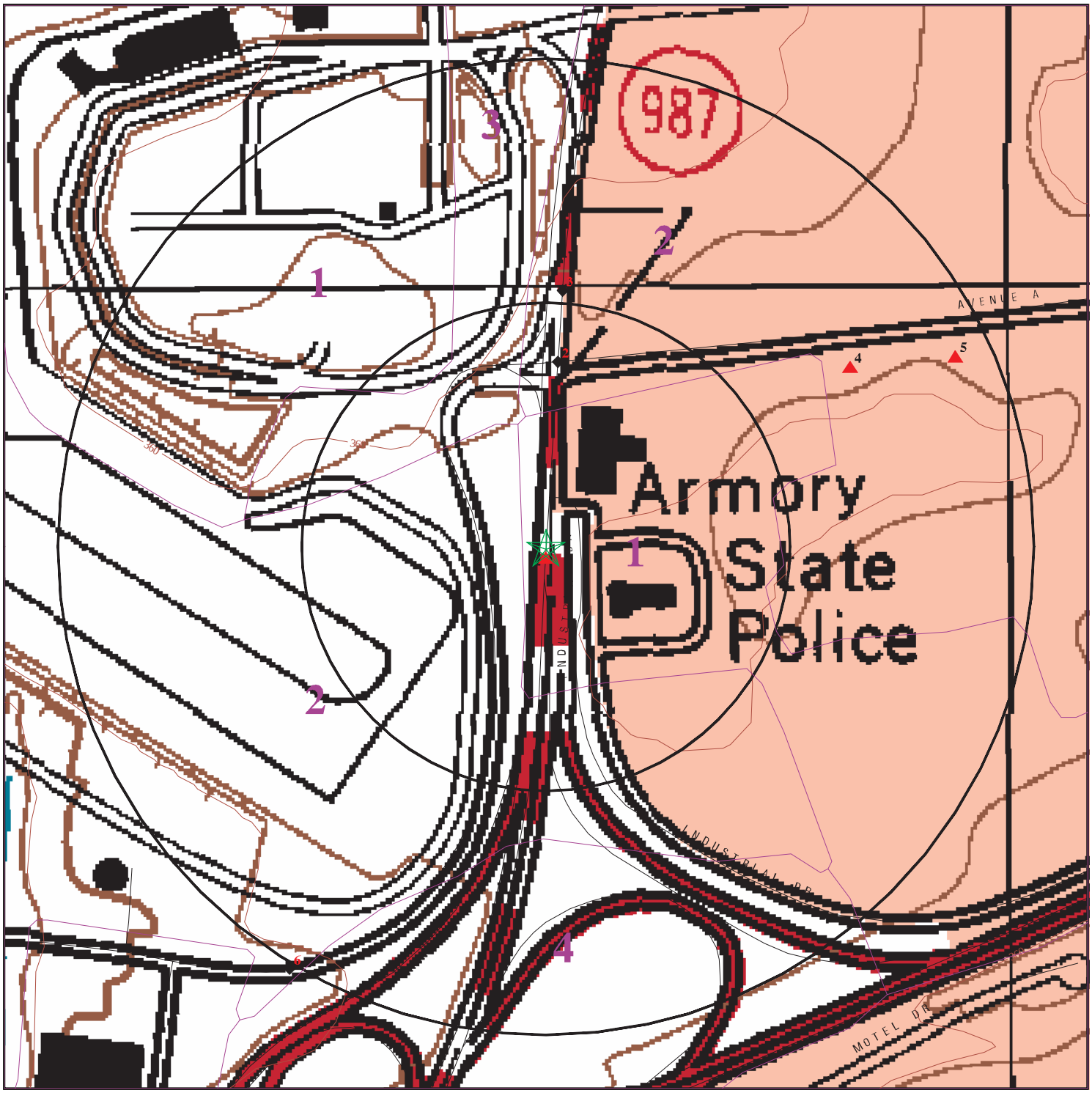
DETAIL MAP - 01714247.248r



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

0 1/16 1/8 1/4 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Wilson-Kramer USARC	CLIENT: CH2M Hill
ADDRESS: 2940 AIRPORT ROAD BETHLEHEM PA 18017	CONTACT: Mary Beth Jacques
LAT/LONG: 40.6481 / 75.4303	INQUIRY #: 01714247.248r DATE: July 12, 2006

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
NPL RECOVERY		TP	NR	NR	NR	NR	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA TSD		0.500	0	0	0	NR	NR	0
RCRA Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	1	2	NR	NR	NR	3
ERNS		TP	NR	NR	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
ODI		0.500	0	0	0	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
STATE AND LOCAL RECORDS								
State Haz. Waste		1.000	0	0	0	0	NR	0
HSCA		1.000	0	0	0	0	NR	0
SWF/LF		0.500	0	0	0	NR	NR	0
HIST LF		0.500	0	0	0	NR	NR	0
LUST		0.500	0	1	3	NR	NR	4
UNREG LTANKS		0.500	0	0	3	NR	NR	3
UST		0.250	1	1	NR	NR	NR	2
ARCHIVE UST		0.250	0	0	NR	NR	NR	0
LAST		0.500	0	0	0	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
ARCHIVE AST		TP	NR	NR	NR	NR	NR	0
MANIFEST		0.250	0	1	NR	NR	NR	1
ACT 2-DEED		0.500	0	0	1	NR	NR	1
ENG CONTROLS		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INST CONTROL		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	2	NR	NR	2
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.000	0	0	0	0	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0
EDR Historical Auto Stations		TP	NR	NR	NR	NR	NR	0
EDR Historical Cleaners		TP	NR	NR	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 South < 1/8 29 ft.

PENNSYLVANIA STATE POLICE LAB
2930 AIRPORT RD
LEHIGH VALLEY, PA 18001

RCRA-SQG 1004774203
FINDS PAD987328713
NY MANIFEST

Relative: Equal

Actual: 378 ft.

RCRAInfo:
Owner: COMMONWEALTH OF PENNSYLVANIA
(717) 783-5548
EPA ID: PAD987328713
Contact: HAROLD FREED
(717) 783-5548
Classification: Conditionally Exempt Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

NY MANIFEST:

Document ID:	NYA7332372
Manifest Status:	C
Trans1 State ID:	31047FNY
Trans2 State ID:	Not reported
Generator Ship Date:	931201
Trans1 Recv Date:	931201
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	931202
Part A Recv Date:	940311
Part B Recv Date:	931221
Generator EPA ID:	PAD987328713
Trans1 EPA ID:	NYD057770109
Trans2 EPA ID:	Not reported
TSDF ID:	NYD057770109
Waste Code:	D001 - NON-LISTED IGNITABLE WASTES
Quantity:	00118
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	B Incineration, heat recovery, burning.
Specific Gravity:	100
Waste Code:	Not reported
Quantity:	00258
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	B Incineration, heat recovery, burning.
Specific Gravity:	100
Waste Code:	Not reported
Quantity:	00200
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	B Incineration, heat recovery, burning.

PENNSYLVANIA STATE POLICE LAB (Continued) **1004774203**

Specific Gravity:	100
Waste Code:	Not reported
Quantity:	00240
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	B Incineration, heat recovery, burning.
Specific Gravity:	100
Year:	93
Facility Type:	Generator
EPA ID:	PAD987328713
Facility Name:	PENNSYLVANIA STATE POLICE
Facility Address:	2930 AIRPORT RD
Facility City:	BETHLEHEM
Facility Zip 4:	Not reported
Country:	Not reported
County:	Not reported
Mailing Name:	PENNSYLVANIA STATE POLICE
Mailing Contact:	THOMAS DURILLA
Mailing Address:	2930 AIRPORT RD
Mailing City:	BETHLEHEM
Mailing State:	PA
Mailing Zip:	18001
Mailing Zip4:	Not reported
Mailing Country:	Not reported
Mailing Phone:	215-821-6113

Click this hyperlink while viewing on your computer to access
2 additional NY MANIFEST: record(s) in the EDR Site Report.

---

2 **IKES AIRPORT SUNOCO** **UST** **U003918930**
North **3200 AIRPORT RD** **N/A**
< 1/8 **ALLENTOWN, PA 18109**
501 ft.

Relative:
Lower

Actual:
370 ft.

UST:

Site ID:	579716
Capacity:	12000
Date Installed:	1993-09-10
Tank Seq No:	005
Substance:	Gasoline
Tank Status:	Currently in Use
Municipality Name :	Allentown
Client Id Number :	130978
Mailing Name :	BAECO INC
Mailing Address:	3200 AIRPORT RD ALLENTOWN, PA 18109
Other Id :	39-06707
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2004-01-20 00:00:00
Region Code :	4200

Site ID:	579716
Capacity:	12000

IKES AIRPORT SUNOCO (Continued) **U003918930**

Date Installed:	1993-09-10
Tank Seq No:	006
Substance:	Gasoline
Tank Status:	Currently in Use
Municipality Name :	Allentown
Client Id Number :	130978
Mailing Name :	BAECO INC
Mailing Address:	3200 AIRPORT RD
	ALLENTOWN, PA 18109
Other Id :	39-06707
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2004-01-20 00:00:00
Region Code :	4200

Site ID:	579716
Capacity:	10000
Date Installed:	1993-09-10
Tank Seq No:	007
Substance:	Diesel Fuel
Tank Status:	Currently in Use
Municipality Name :	Allentown
Client Id Number :	130978
Mailing Name :	BAECO INC
Mailing Address:	3200 AIRPORT RD
	ALLENTOWN, PA 18109
Other Id :	39-06707
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2004-01-20 00:00:00
Region Code :	4200

Site ID:	579716
Capacity:	550
Date Installed:	1993-09-10
Tank Seq No:	008
Substance:	Used Oil
Tank Status:	Currently in Use
Municipality Name :	Allentown
Client Id Number :	130978
Mailing Name :	BAECO INC
Mailing Address:	3200 AIRPORT RD
	ALLENTOWN, PA 18109
Other Id :	39-06707
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2004-01-20 00:00:00
Region Code :	4200

3
North
1/8-1/4
694 ft.

AIRPORT GARAGE
3220 AIRPORT RD
ALLENTOWN, PA 18103

LUST
UST

U001448496
N/A

Relative:
Lower

Actual:
370 ft.

LUST:

Facility Id:	39-16854
Facility Type:	Undergroung Storage Tank Containing Petroleum
Facility Status:	**Interim Remedial Actions Initiated or Completed**
Status Date:	2005-07-20 00:00:00
Release Date:	1997-08-11 00:00:00
Region:	North East
Description:	CLOSURE TANK 002

UST:

Site ID:	579826
Capacity:	10000
Date Installed:	1998-11-07
Tank Seq No:	004
Substance:	Gasoline
Tank Status:	Currently in Use
Municipality Name :	Hanover
Client Id Number :	173454
Mailing Name :	LUTHER A BILHEIMER
Mailing Address:	3220 AIRPORT RD RR 4 BOX 411 ALLENTOWN, PA 18103
Other Id :	39-16854
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2005-07-14 00:00:00
Region Code :	4200

Site ID:	579826
Capacity:	5000
Date Installed:	1998-11-07
Tank Seq No:	005
Substance:	Gasoline
Tank Status:	Currently in Use
Municipality Name :	Hanover
Client Id Number :	173454
Mailing Name :	LUTHER A BILHEIMER
Mailing Address:	3220 AIRPORT RD RR 4 BOX 411 ALLENTOWN, PA 18103
Other Id :	39-16854
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2005-07-14 00:00:00
Region Code :	4200

Site ID:	579826
Capacity:	5000
Date Installed:	1998-11-07

AIRPORT GARAGE (Continued) **U001448496**

Tank Seq No:	006
Substance:	Diesel Fuel
Tank Status:	Currently in Use
Municipality Name :	Hanover
Client Id Number :	173454
Mailing Name :	LUTHER A BILHEIMER
Mailing Address:	3220 AIRPORT RD
	RR 4 BOX 411
	ALLENTOWN, PA 18103
Other Id :	39-16854
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2005-07-14 00:00:00
Region Code :	4200

---

4 **SERVICE TIRE TRUCK CTR INC** **RCRA-SQG** **1000913594**
ENE **2320 AVE A** **FINDS** **PA0000476804**
1/8-1/4 **BETHLEHEM, PA 18106**
956 ft.

Relative:
Equal

Actual:
378 ft.

RCRAInfo:

Owner:	SERVICE TIRE TRUCK CENTERS INC
	(215) 691-8473
EPA ID:	PA0000476804
Contact:	CHARLES A BUTKUS
	(215) 691-8473
Classification:	Small Quantity Generator
TSDF Activities:	Not reported

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

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5 **PURITAN PRODS INC** **RCRA-SQG** **1001225276**
ENE **2290 AVE A** **FINDS** **PAR000034934**
1/8-1/4 **BETHLEHEM, PA 18017** **MANIFEST**
1221 ft.

Relative:
Equal

Actual:
378 ft.

PURITAN PRODS INC (Continued) **1001225276**

RCRAInfo:
Owner: DIRENZO LOUIS V
(610) 923-6403
EPA ID: PAR000034934

Contact: THOMAS STARNER
(610) 866-4225

Classification: Small Quantity Generator
TSDF Activities: Not reported

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site:
AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

PA-EFACTS (Pennsylvania - Environmental Facility Application Compliance Tracking System) is a Department-wide database that provides a holistic view of clients and sites (including facilities) that DEP regulates.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

PA MANIFEST:
Manifest Number: PAH121516
Manifest Type: T
Generator Epa Id: PAR000034934
Generator Date: 02/18/2005
Mailing Address: 2290 AVE A
Mailing City,St,Zip: BETHLEHEM, PA 18017
Contact Name: THOMAS C STARNER
Contact Phone: 610-866-4225
TSD Epa Id: OHD001926740
TSD Date: 02/19/2005
TSD Facility Name: HUKILL CHEMICAL CORP
TSD Facility Address: 7013 KRICK RD
TSD Facility City: BEDFORD
TSD Facility State: OH
Page Number: 1.00000
Line Number: 1.00000
Waste Number: D001
Container Number: 2.00000
Container Type: DM
Waste Quantity: 110.00000
Unit: G

PURITAN PRODS INC (Continued) **1001225276**

Handling Code: Not reported
Tsp Epa Id: OHD001926740
Date Tsp Sig: 02/18/2005

Click this hyperlink while viewing on your computer to access
6 additional PA MANIFEST: record(s) in the EDR Site Report.

6
SSW
1/4-1/2
1336 ft.

NAVAL & MARINE RESERVE CTR **LUST** **S105800866**
1400 POSTAL RD **N/A**
LEHIGH VALLEY, PA

Relative:
Lower

Actual:
358 ft.

LUST:
Facility Id: 39-51161
Facility Type: Undergroung Storage Tank Containing Haz Substances
Facility Status: Cleanup Completed
Status Date: 1994-10-28 00:00:00
Release Date: 1989-08-05 00:00:00
Region: North East
Description: US NAVAL/MARINE CORPS RESERVE CTR

A7
North
1/4-1/2
1636 ft.

LEHIGH VALLEY INTL AIRPORT AVIATION FUEL FARM **LUST** **U003179719**
3311 AIRPORT RD **UST** **N/A**
ALLENTOWN, PA 18109 **ARCHIVE AST**
ARCHIVE UST

Site 1 of 2 in cluster A

Relative:
Lower

Actual:
354 ft.

LUST:
Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-18 00:00:00
Release Date: 1989-08-05 00:00:00
Region: North East
Description: INC 1 DYNAIR FUELING HANGER 6

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-18 00:00:00
Release Date: 1989-08-05 00:00:00
Region: North East
Description: INC 4 CLOSURE TANK 017 & UNREGULATED HTG OIL UST

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-18 00:00:00
Release Date: 1989-08-05 00:00:00
Region: North East
Description: INC 5 CLOSURE THREE 10,000-GALLON USTS

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Haz Substances
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-18 00:00:00

LEHIGH VALLEY INTL AIRPORT AVIATION FUEL FARM (Continued) **U003179719**

Release Date: 1989-08-05 00:00:00
Region: North East
Description: INC 2 DYNAIR FUELING HANGER 7 02/01/1992 - AKA ABE INTL AIRPORT 02/01/1992 - REC'D NOTIF OF SPILL 10

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-18 00:00:00
Release Date: 1989-08-05 00:00:00
Region: North East
Description: INC 6 CLOSURE TANKS 006 & 008 - 016 2/03/1997 - AKA ABE INTL AIRPORT 02/03/1997 - REC'D CLOS RPT/17 &

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Interim Remedial Actions not Initiated
Status Date: 2003-03-31 00:00:00
Release Date: 1992-11-30 00:00:00
Region: North East
Description: LEHIGH VALLEY INTL AIRPORT 1

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Interim Remedial Actions Initiated or Completed
Status Date: 2003-03-31 00:00:00
Release Date: 1997-02-25 00:00:00
Region: North East
Description: LEHIGH VALLEY INTL AIRPORT 3

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-18 00:00:00
Release Date: 2000-05-04 00:00:00
Region: North East
Description: LEHIGH VALLEY INTL AIRPORT 6

Facility Id: 39-18054
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Interim Remedial Actions Initiated or Completed
Status Date: 2003-03-31 00:00:00
Release Date: 1998-03-31 00:00:00
Region: North East
Description: LEHIGH VALLEY INTL AIRPORT 5

Facility Id: 39-18054
Facility Type: Not reported
Facility Status: Interim Remedial Actions not Initiated
Status Date: 2001-01-26 00:00:00
Release Date: 2001-01-26 00:00:00
Region: North East
Description: An operations inspection was being conducted. Tank 018-10,000 gal double wall Avgas. Interstitial monitor is activated

PA UST ARCHIVE:
Tank Id Number : 145847
Tank Sequence # 018
Capacity : 00010000
Status : CURRENTLY IN USE
Facility Id Number : 39-18054
Installation Date : 02/20/1998
Substance : AVIATION FUEL
Owner Id Number : 6151

LEHIGH VALLEY INTL AIRPORT AVIATION FUEL FARM (Continued) **U003179719**

Owner Name : LEHIGH NORTHAMPTON AIRPORT AUTH
Owner Address : 3311 AIRPORT RD
ALLENTOWN, PA 18109
Owner Phone : (610) 266-6001 County Code : 39
Municipality : Not reported Client Date : Not reported
Resp Party Name Not reported Region Code : Not reported
RP Address :
Other Id : Not reported Regn Code Name : Not reported
Reg Exp Date : Not reported Tank Code : Not reported
Inspection Code : Not reported Dt Last Inspection : Not reported
Status Code End Date : Not reported
Tank Substance End Dt : Not reported
Site ID : Not reported

PA AST ARCHIVE:
Tank Id Number : 145844 Facility Id Number : 39-18054
Tank Sequence # 001A Installation Date : 02/20/1998
Capacity : 00050000 Substance : AVIATION FUEL
Status : CURRENTLY IN USE Owner Id Number : 6151
Owner Name : LEHIGH NORTHAMPTON AIRPORT AUTH
Owner Address : 3311 AIRPORT RD
ALLENTOWN, PA 18109
Owner Phone : (610) 266-6001 County Code : 39
Municipality : Not reported Client Date : Not reported
Resp Party Name Not reported Region Code : Not reported
RP Address :
Other Id : Not reported Regn Code Name : Not reported
Reg Exp Date : Not reported Tank Code : Not reported
Inspection Code : Not reported Dt Last Inspection : Not reported
Status Code End Date : Not reported
Tank Substance End Dt : Not reported
Site ID : Not reported

Tank Id Number : 145845 Facility Id Number : 39-18054
Tank Sequence # 002A Installation Date : 02/20/1998
Capacity : 00050000 Substance : AVIATION FUEL
Status : CURRENTLY IN USE Owner Id Number : 6151
Owner Name : LEHIGH NORTHAMPTON AIRPORT AUTH
Owner Address : 3311 AIRPORT RD
ALLENTOWN, PA 18109
Owner Phone : (610) 266-6001 County Code : 39
Municipality : Not reported Client Date : Not reported
Resp Party Name Not reported Region Code : Not reported
RP Address :
Other Id : Not reported Regn Code Name : Not reported
Reg Exp Date : Not reported Tank Code : Not reported
Inspection Code : Not reported Dt Last Inspection : Not reported
Status Code End Date : Not reported
Tank Substance End Dt : Not reported
Site ID : Not reported

Tank Id Number : 145846 Facility Id Number : 39-18054
Tank Sequence # 003A Installation Date : 02/20/1998
Capacity : 00050000 Substance : AVIATION FUEL
Status : CURRENTLY IN USE Owner Id Number : 6151
Owner Name : LEHIGH NORTHAMPTON AIRPORT AUTH
Owner Address : 3311 AIRPORT RD
ALLENTOWN, PA 18109

LEHIGH VALLEY INTL AIRPORT AVIATION FUEL FARM (Continued) **U003179719**

Owner Phone : (610) 266-6001
Municipality : Not reported
Resp Party Name Not reported
RP Address :
Other Id : Not reported
Reg Exp Date : Not reported
Inspection Code : Not reported
Status Code End Date : Not reported
Tank Substance End Dt : Not reported
Site ID : Not reported
County Code : 39
Client Date : Not reported
Region Code : Not reported
Regn Code Name : Not reported
Tank Code : Not reported
Dt Last Inspection : Not reported

UST:
Site ID: 579843
Capacity: 6000
Date Installed: 1998-02-20
Tank Seq No: 019
Substance: Used Oil
Tank Status: Currently in Use
Municipality Name : Hanover
Client Id Number : 125981
Mailing Name : LEHIGH NORTHAMPTON AIRPORT AUTH
Mailing Address: LEHIGH VALLEY INTL AIRPORT
987 POSTAL RD
ALLENTOWN, PA 18109
Other Id : 39-18054
Secondary Facility Address Not reported
Region Code Name : EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt: 2007-04-04 00:00:00
Tank Code : UST
Inspection Code : Facility Operation Inspection
Tank Last Dt Inspected : 2005-05-23 00:00:00
Region Code : 4200

Site ID: 579843
Capacity: 15000
Date Installed: 1998-02-20
Tank Seq No: 020
Substance: Aviation Gasoline
Tank Status: Currently in Use
Municipality Name : Hanover
Client Id Number : 125981
Mailing Name : LEHIGH NORTHAMPTON AIRPORT AUTH
Mailing Address: LEHIGH VALLEY INTL AIRPORT
987 POSTAL RD
ALLENTOWN, PA 18109
Other Id : 39-18054
Secondary Facility Address Not reported
Region Code Name : EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt: 2007-04-04 00:00:00
Tank Code : UST
Inspection Code : Facility Operation Inspection
Tank Last Dt Inspected : 2005-05-23 00:00:00
Region Code : 4200

Site ID: 579843
Capacity: 20000
Date Installed: 1998-03-25
Tank Seq No: 021
Substance: Diesel Fuel

LEHIGH VALLEY INTL AIRPORT AVIATION FUEL FARM (Continued) **U003179719**

Tank Status:	Currently in Use
Municipality Name :	Hanover
Client Id Number :	125981
Mailing Name :	LEHIGH NORTHAMPTON AIRPORT AUTH
Mailing Address:	LEHIGH VALLEY INTL AIRPORT 987 POSTAL RD ALLENTOWN, PA 18109
Other Id :	39-18054
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2005-05-23 00:00:00
Region Code :	4200

Site ID:	579843
Capacity:	10000
Date Installed:	1998-03-25
Tank Seq No:	022
Substance:	Gasoline
Tank Status:	Currently in Use
Municipality Name :	Hanover
Client Id Number :	125981
Mailing Name :	LEHIGH NORTHAMPTON AIRPORT AUTH
Mailing Address:	LEHIGH VALLEY INTL AIRPORT 987 POSTAL RD ALLENTOWN, PA 18109
Other Id :	39-18054
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	2005-05-23 00:00:00
Region Code :	4200

A8 **LEHIGH VALLEY INTL AIRPORT** **UNREG LTANKS** **S105919961**
North **3311 AIRPORT RD** **N/A**
1/4-1/2 **HANOVER TWP., PA**
1636 ft.

Site 2 of 2 in cluster A

Relative:
Lower

UNREG LTANKS:

Region :	North East
Class :	Cleanup of Tanks using authorities other than Act 32
Closed :	**Not reported**
Contaminant :	FUEL OIL #4

Actual:
354 ft.

9
SSE
1/4-1/2
1827 ft.

GETTY 69262
2450 CATASAUQUA RD
BETHLEHEM, PA 18018

LUST **U001459563**
UST **N/A**

Relative:
Lower

Actual:
362 ft.

LUST:

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-17 00:00:00
Release Date: 1991-06-18 00:00:00
Region: North East
Description: DISPENSER AND LINE REMOVAL / REPLACEMENT 06/18/91

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Interim Remedial Actions Initiated or Completed
Status Date: 2004-01-14 00:00:00
Release Date: 2003-11-21 00:00:00
Region: North East
Description: SOIL BORING BEING DONE, EQUIPMENT THAT WAS USED PUNCTURED TOP OF TANK.

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-17 00:00:00
Release Date: 1989-12-12 00:00:00
Region: North East
Description: TOSCO MOBIL 2635153 USED MOTOR OIL HEATING OIL TANK REMOVALAFTER FAILED TIGHTNESS TEST

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-19 00:00:00
Release Date: 2003-01-21 00:00:00
Region: North East
Description: LEAKING BALL VALVE OBSERVED (STAINED PEA GRAVEL) IN SUBMERSIBLE PUMP SUMP.

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-17 00:00:00
Release Date: 1991-01-23 00:00:00
Region: North East
Description: CHETS ABE MOBIL STATION CONTAMINATION AS RESULT OF PHASE 1 REPORTED 1/23/1991.

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Petroleum
Facility Status: Cleanup Completed
Status Date: 1991-06-03 00:00:00
Release Date: 1991-05-02 00:00:00
Region: North East
Description: SUPER UNLEADED ACCIDENTAL RELEASE AUTOMOBILE PULLED AWAY FROM DISPENSER

Facility Id: 39-27986
Facility Type: Undergroung Storage Tank Containing Haz Substances
Facility Status: Administrative Close Out (ACO)
Status Date: 2005-08-17 00:00:00
Release Date: 1991-12-11 00:00:00

GETTY 69262 (Continued) **U001459563**

Region: North East
Description: LIFT REPLACEMENT

UST:
Site ID: 579998
Capacity: 10000
Date Installed: 1976-06-01
Tank Seq No: 002
Substance: Gasoline
Tank Status: Currently in Use
Municipality Name : Bethlehem
Client Id Number : 186021
Mailing Name : GETTY PETRO MKT INC
Mailing Address: 1500 HEMPSTEAD TPKE
EAST MEADOW, NY 11554
Other Id : 39-27986
Secondary Facility Address Not reported
Region Code Name : EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt: 2007-04-04 00:00:00
Tank Code : UST
Inspection Code : Facility Operation Inspection
Tank Last Dt Inspected : Not reported
Region Code : 4200

Site ID: 579998
Capacity: 12000
Date Installed: 1976-06-01
Tank Seq No: 003
Substance: Gasoline
Tank Status: Currently in Use
Municipality Name : Bethlehem
Client Id Number : 186021
Mailing Name : GETTY PETRO MKT INC
Mailing Address: 1500 HEMPSTEAD TPKE
EAST MEADOW, NY 11554
Other Id : 39-27986
Secondary Facility Address Not reported
Region Code Name : EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt: 2007-04-04 00:00:00
Tank Code : UST
Inspection Code : Facility Operation Inspection
Tank Last Dt Inspected : Not reported
Region Code : 4200

Site ID: 579998
Capacity: 10000
Date Installed: 1990-02-01
Tank Seq No: 004
Substance: Gasoline
Tank Status: Currently in Use
Municipality Name : Bethlehem
Client Id Number : 186021
Mailing Name : GETTY PETRO MKT INC
Mailing Address: 1500 HEMPSTEAD TPKE
EAST MEADOW, NY 11554
Other Id : 39-27986
Secondary Facility Address Not reported
Region Code Name : EP NE Rgnl Off Wilkes Barre

GETTY 69262 (Continued) **U001459563**

Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	Not reported
Region Code :	4200
Site ID:	579998
Capacity:	1000
Date Installed:	1989-12-01
Tank Seq No:	005
Substance:	Used Oil
Tank Status:	Currently in Use
Municipality Name :	Bethlehem
Client Id Number :	186021
Mailing Name :	GETTY PETRO MKT INC
Mailing Address:	1500 HEMPSTEAD TPKE EAST MEADOW, NY 11554
Other Id :	39-27986
Secondary Facility Address	Not reported
Region Code Name :	EP NE Rgnl Off Wilkes Barre
Regulated Expiration Dt:	2007-04-04 00:00:00
Tank Code :	UST
Inspection Code :	Facility Operation Inspection
Tank Last Dt Inspected :	Not reported
Region Code :	4200

B10 **PENN LINEN & UNIFORM SVC** **VCP** **S103576677**
NE **2255 CITY LINE RD** **UNREG LTANKS** **N/A**
1/4-1/2 **BETHLEHEM, PA** **ACT 2-DEED**
1980 ft.

Site 1 of 2 in cluster B

Relative: Lower

Actual: 369 ft.

UNREG LTANKS:

Region :	North East
Class :	Cleanup of Tanks using authorities other than Act 32
Closed :	**Not reported**
Contaminant :	FUEL OIL NO. 2

PA ACT 2 DEED:

Region :	Northeast
Record ID :	59
Response Date :	8/24/2001
Site Size :	Not reported
Cleanup Indicator :	Not reported
Land Designation Code :	Not reported
Category Description :	Chlorinated Solvents
Cleanup Standard :	Statewide Health
Region :	Northeast
Record ID :	60
Response Date :	3/21/2005
Site Size :	Not reported
Cleanup Indicator :	Not reported
Land Designation Code :	Not reported
Category Description :	Chlorinated Solvents
Cleanup Standard :	Statewide Health
Region :	Northeast
Record ID :	61
Response Date :	3/21/2005

PENN LINEN & UNIFORM SVC (Continued) **S103576677**

Site Size : Not reported
Cleanup Indicator : Not reported
Land Designation Code : Not reported
Category Description : Chlorinated Solvents
Cleanup Standard : Statewide Health

VCP:

Rec ID: 260
Activity ID: Not reported
Municipality: Bethlehem
Region: Northeast
Cleanup: Statewide Health
Response Date : 8/24/2001
Site Size : Not reported
Cleanup Indicator : Not reported
Land Designation : Not reported
Category Desc : Chlorinated Solvents

Rec ID: 261
Activity ID: Not reported
Municipality: Bethlehem
Region: Northeast
Cleanup: Statewide Health
Response Date : 3/21/2005
Site Size : Not reported
Cleanup Indicator : Not reported
Land Designation : Not reported
Category Desc : Chlorinated Solvents

Rec ID: 262
Activity ID: Not reported
Municipality: Bethlehem
Region: Northeast
Cleanup: Statewide Health
Response Date : 3/21/2005
Site Size : Not reported
Cleanup Indicator : Not reported
Land Designation : Not reported
Category Desc : Chlorinated Solvents

B11
NE
1/4-1/2
1980 ft.

Relative:
Lower

Actual:
369 ft.

CINTAS CORPORATION **VCP** **S107417588**
2255 CITY LINE ROAD **N/A**
BETHLEHEM, PA

Site 2 of 2 in cluster B

VCP:

Rec ID: Not reported
Activity ID: 34869
Municipality: Bethlehem
Region: Northeast
Cleanup: Not reported
Response Date : Not reported
Site Size : Not reported
Cleanup Indicator : Not reported
Land Designation : Not reported
Category Desc : Not reported

12
WSW
1/4-1/2
2392 ft.

US POST OFC LEHIGH VALLEY
1000 POSTAL RD
HANOVER TWP., PA

UNREG LTANKS

S105919994
N/A

Relative:
Lower

Actual:
349 ft.

UNREG LTANKS:
Region : North East
Class : Cleanup of Tanks using authorities other than Act 32
Closed : Not reported
Contaminant : FUEL OIL NO. 2

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ALLENTOWN	U003919155	AVIS RENT A CAR SYS	HANGER 1 ROUTE 22 & AIRPORT RD	18109	UST
BETHLEHEM	S105801085	VALLON GETTY 972250	RTE 378 / BLACK RIVER RD		LUST
BETHLEHEM	S106662148	PPL DIDIER DECOMMISSIONED SUBSTA	ROUTE 412 / COKEWORKS RD		VCP
BETHLEHEM	1009246151	FREEDOM HIGH SCHOOL	3149 CHESTER AVENUE	18017	NY MANIFEST
BETHLEHEM	S106452496	EAST PENN TRANSF STA	4687 HANOVERVILLE RD T 437	18017	SWF/LF
HANOVER TWP	1003865258	HANOVER TWP SITE	AIRPORT RD	18017	CERC-NFRAP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/19/2006
Date Data Arrived at EDR: 05/05/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 04/19/2006
Date Data Arrived at EDR: 05/05/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/19/2006
Date Data Arrived at EDR: 05/05/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 17

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 05/23/2006
Next Scheduled EDR Contact: 08/21/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 06/22/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 06/23/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/21/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/09/2006
Date Data Arrived at EDR: 04/27/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 33

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/28/2006
Next Scheduled EDR Contact: 08/21/2006
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/14/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 07/03/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/21/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 07/03/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 05/12/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 01/19/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 33

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 07/03/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 04/26/2006
Date Data Arrived at EDR: 04/27/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 33

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/12/2006
Next Scheduled EDR Contact: 09/11/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/13/2006
Date Data Arrived at EDR: 04/28/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 32

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 07/06/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 06/21/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 07/13/2005
Date Made Active in Reports: 08/17/2005
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 06/22/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/29/2006
Date Data Arrived at EDR: 04/26/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 34

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 03/31/2006
Date Data Arrived at EDR: 04/26/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 05/11/2006
Date Made Active in Reports: 05/22/2006
Number of Days to Update: 11

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/13/2006
Date Data Arrived at EDR: 04/21/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/27/2005
Date Data Arrived at EDR: 02/08/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 19

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 06/28/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/12/2006
Date Data Arrived at EDR: 04/26/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 34

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/03/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/09/2006
Date Data Arrived at EDR: 03/29/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 62

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/28/2006
Next Scheduled EDR Contact: 09/25/2006
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/27/2006
Date Data Arrived at EDR: 05/02/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 28

Source: EPA
Telephone: N/A
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/05/2006
Next Scheduled EDR Contact: 09/04/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/30/2006
Next Scheduled EDR Contact: 09/11/2006
Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

SHWS: Hazardous Sites Cleanup Act Site List

The Hazardous Sites Cleanup Act Site List includes sites listed on PA Priority List, sites delisted from PA Priority List, Interim Response Completed sites, and Sites Being Studied or Response Being Planned.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 03/15/2006
Number of Days to Update: 26

Source: Department Environmental Protection
Telephone: 717-783-7816
Last EDR Contact: 06/16/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Semi-Annually

HSCA: HSCA Remedial Sites Listing

A list of remedial sites on the PA Priority List. This is the PA state equivalent of the federal NPL superfund list.

Date of Government Version: 05/05/2004
Date Data Arrived at EDR: 05/26/2004
Date Made Active in Reports: 06/24/2004
Number of Days to Update: 29

Source: Department of Environmental Protection
Telephone: 717-783-7816
Last EDR Contact: 02/17/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Varies

SWF/LF: Operating Facilities

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/31/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 717-787-7564
Last EDR Contact: 06/22/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Semi-Annually

HIST LF: Abandoned Landfill Inventory

The report provides facility information recorded in the Pennsylvania Department of Environmental Protection ALI database. Some of this information has been abstracted from old records and may not accurately reflect the current conditions and status at these facilities

Date of Government Version: 01/04/2005
Date Data Arrived at EDR: 01/04/2005
Date Made Active in Reports: 02/04/2005
Number of Days to Update: 31

Source: Department of Environmental Protection
Telephone: 717-787-7564
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Varies

HIST LF INACTIVE: Inactive Facilities List

A listing of inactive non-hazardous facilities (10000 & 300000 series). This listing is no longer updated or maintained by the Department of Environmental Protection. At the time the listing was available, the DEP?s name was the Department of Environmental Resources.

Date of Government Version: 12/20/1994
Date Data Arrived at EDR: 07/12/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 06/21/2005
Next Scheduled EDR Contact: 12/19/2005
Data Release Frequency: No Update Planned

HIST LF INVENTORY: Facility Inventory

A listing of solid waste facilities. This listing is no longer updated or maintained by the Department of Environmental Protection. At the time the listing was available, the DEP?s name was the Department of Environmental Resources.

Date of Government Version: 06/02/1999
Date Data Arrived at EDR: 07/12/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 30

Source: Department of Environmental Protection
Telephone: 717-787-7381
Last EDR Contact: 09/19/2005
Next Scheduled EDR Contact: 12/19/2005
Data Release Frequency: No Update Planned

LUST: Storage Tank Release Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/09/2006
Date Data Arrived at EDR: 04/11/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 07/12/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Semi-Annually

UNREG LTANKS: Unregulated Tank Cases

Leaking storage tank cases from unregulated storage tanks.

Date of Government Version: 04/12/2002
Date Data Arrived at EDR: 08/14/2003
Date Made Active in Reports: 08/29/2003
Number of Days to Update: 15

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 08/14/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST: Listing of Pennsylvania Regulated Underground Storage Tanks

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 06/07/2006
Date Made Active in Reports: 06/30/2006
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 07/11/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Varies

ARCHIVE UST: Archived Underground Storage Tank Sites

The list includes tanks storing highly hazardous substances that were removed from the DEP's Storage Tank Information database because of the Department's policy on sensitive information. The list also may include tanks that are removed or permanently closed.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 06/07/2006
Date Made Active in Reports: 07/12/2006
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 07/11/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Varies

LAST: Storage Tank Release Sites

Leaking Aboveground Storage Tank Incident Reports.

Date of Government Version: 03/09/2006
Date Data Arrived at EDR: 04/11/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 07/12/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Semi-Annually

AST: Listing of Pennsylvania Regulated Aboveground Storage Tanks

Registered Aboveground Storage Tanks.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 06/07/2006
Date Made Active in Reports: 06/30/2006
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 07/11/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Varies

ARCHIVE AST: Archived Aboveground Storage Tank Sites

The list includes aboveground tanks with a capacity greater than 21,000 gallons that were removed from the DEP's Storage Tank Information database because of the Department's policy on sensitive information. The list also may include tanks that are removed or permanently closed.

Date of Government Version: 06/01/2006
Date Data Arrived at EDR: 06/07/2006
Date Made Active in Reports: 07/12/2006
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-772-5599
Last EDR Contact: 07/11/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Varies

MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 05/04/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/12/2006
Next Scheduled EDR Contact: 09/11/2006
Data Release Frequency: Annually

ACT 2-DEED: Act 2-Deed Acknowledgment Sites

This listing pertains to sites where the Department has approved a cleanup requiring a deed acknowledgment under Act 2. This list includes sites remediated to a non-residential Statewide health standard (Section 303(g)); all sites demonstrating attainment of a Site-specific standard (Section 304(m)); and sites being remediated as a special industrial area (Section 305(g)). Persons who remediated a site to a standard that requires a deed acknowledgment shall comply with the requirements of the Solid Waste Management Act or the Hazardous Sites Cleanup Act, as referenced in Act 2. These statutes require a property description section in the deed concerning the hazardous substance disposal on the site. The location of disposed hazardous substances and a description of the type of hazardous substances disposed on the site shall be included in the deed acknowledgment. A deed acknowledgment is required at the time of conveyance of the property.

Date of Government Version: 06/20/2006
Date Data Arrived at EDR: 06/21/2006
Date Made Active in Reports: 07/12/2006
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 717-783-9470
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Varies

ENG CONTROLS: Engineering Controls Site Listing

Under the Land Recycling Act (Act 2) persons who perform a site cleanup using the site-specific standard or the special industrial area standard may use engineering or institutional controls as part of the response action. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 03/08/2006
Date Data Arrived at EDR: 05/16/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 717-783-9470
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Varies

INST CONTROL: Institutional Controls Site Listing

Under the Land Recycling Act (Act 2) persons who perform a site cleanup using the site-specific standard or the special industrial area standard may use engineering or institutional controls as part of the response action. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 03/08/2006
Date Data Arrived at EDR: 05/16/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 717-783-9470
Last EDR Contact: 05/16/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites
Sites involved in the Voluntary Cleanup Program

Date of Government Version: 06/20/2006
Date Data Arrived at EDR: 06/21/2006
Date Made Active in Reports: 07/12/2006
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 717-783-2388
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaner Facility Locations
A listing of drycleaner facility locations.

Date of Government Version: 05/01/2006
Date Data Arrived at EDR: 05/01/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: 717-787-9702
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Varies

BROWNFIELDS: Brownfields Sites

Date of Government Version: 06/20/2006
Date Data Arrived at EDR: 06/21/2006
Date Made Active in Reports: 07/12/2006
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 717-783-7509
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Varies

AIRS: Permit and Emissions Inventory Data
Permit and emissions inventory data.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 05/03/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 717-787-9702
Last EDR Contact: 04/07/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Annually

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 05/12/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Semi-Annually

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 06/14/2006
Next Scheduled EDR Contact: 09/11/2006
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 04/24/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 8

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/05/2006
Next Scheduled EDR Contact: 10/02/2006
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/02/2006
Date Data Arrived at EDR: 05/31/2006
Date Made Active in Reports: 06/27/2006
Number of Days to Update: 27

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/31/2006
Next Scheduled EDR Contact: 08/28/2006
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 09/30/2005
Date Data Arrived at EDR: 05/09/2006
Date Made Active in Reports: 05/24/2006
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 06/19/2006
Next Scheduled EDR Contact: 09/18/2006
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/17/2006
Number of Days to Update: 61

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 05/15/2006
Next Scheduled EDR Contact: 08/14/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 07/11/2006
Next Scheduled EDR Contact: 10/09/2006
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List
Source: Department of Public Welfare
Telephone: 717-783-3856

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

WILSON-KRAMER USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

TARGET PROPERTY COORDINATES

Latitude (North):	40.64810 - 40° 38' 53.2''
Longitude (West):	75.4303 - 75° 25' 49.1''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	463618.3
UTM Y (Meters):	4499571.5
Elevation:	378 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	40075-F4 CATASAUQUA, PA
Most Recent Revision:	2001

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

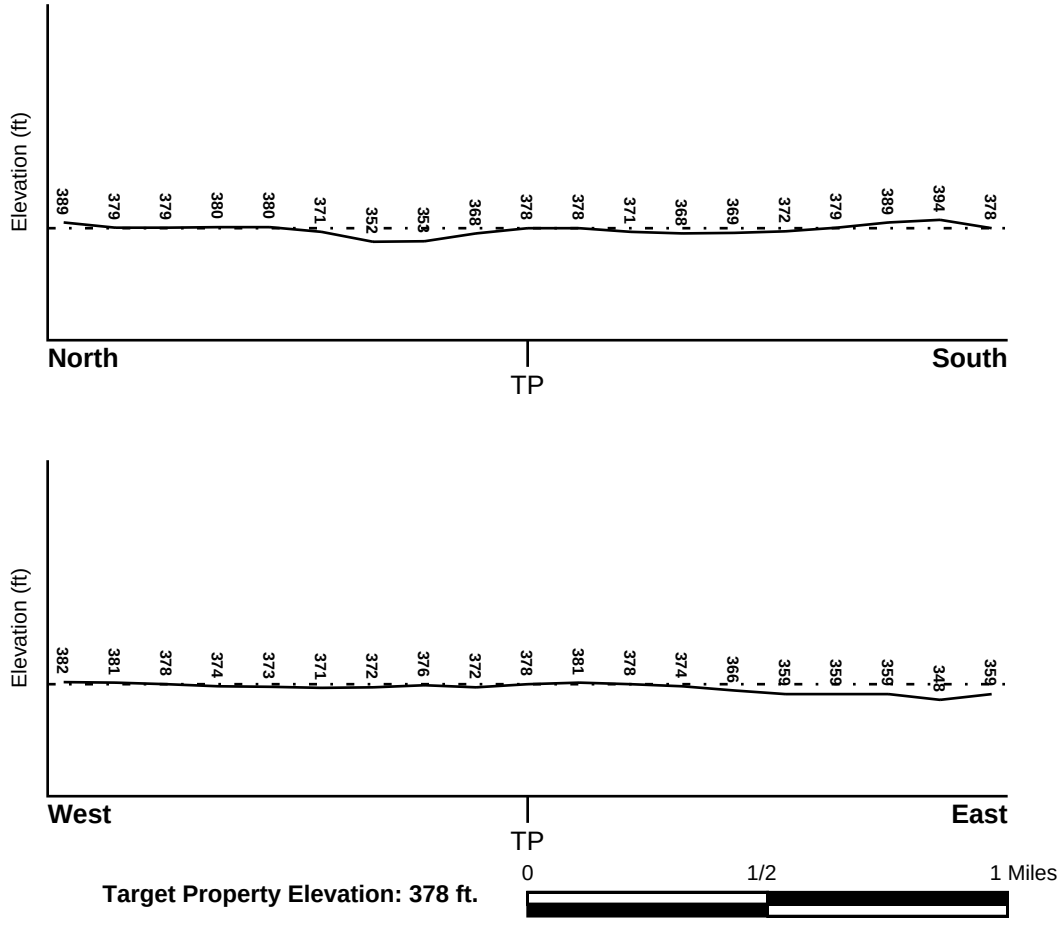
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 378 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
LEHIGH, PA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	4222610001A
Additional Panels in search area:	4207220001A 4207180005B 4205850010B

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CATASAUQUA	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

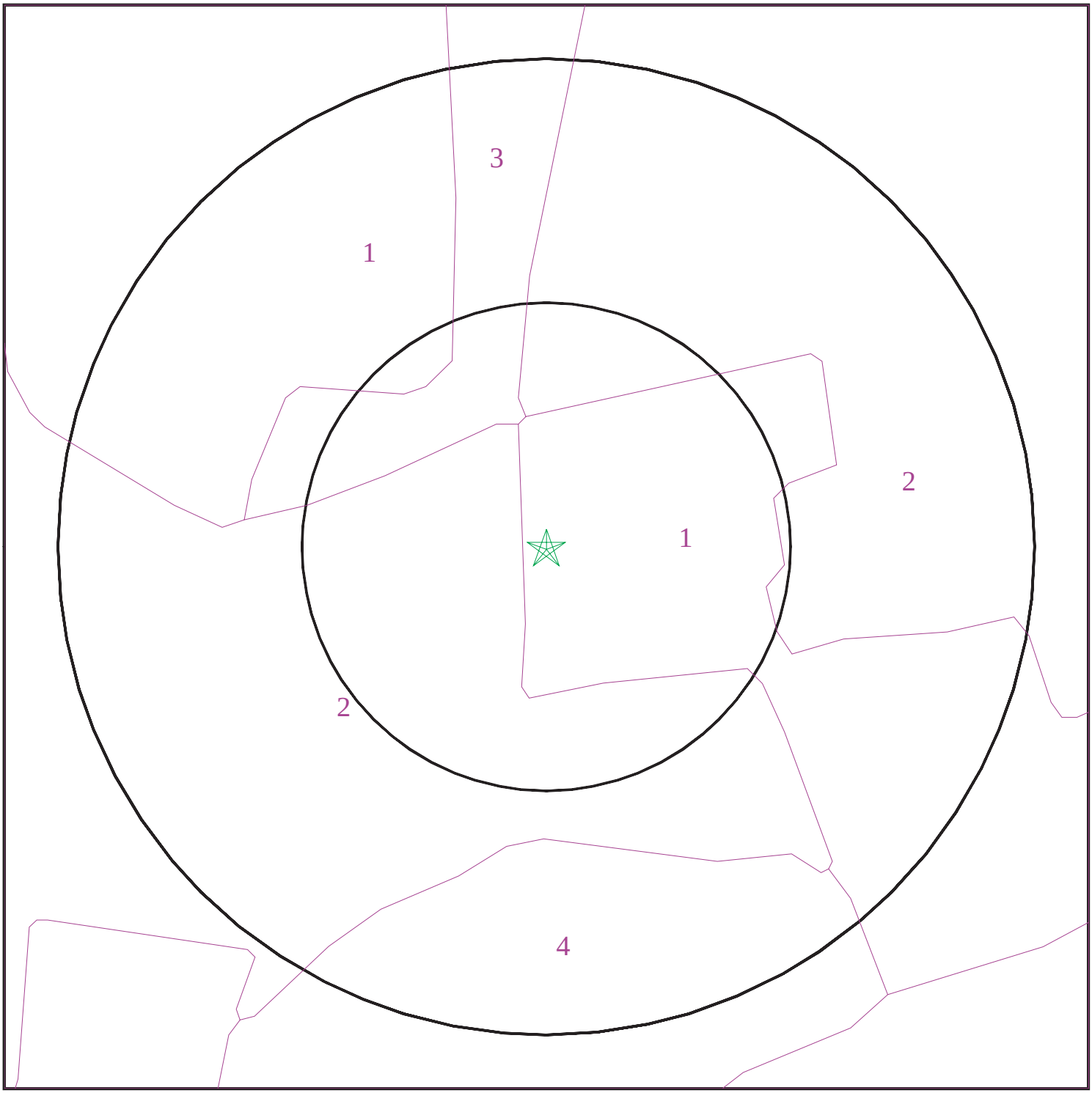
Era:	Paleozoic
System:	Ordovician
Series:	Lower Ordovician (Canadian)
Code:	O1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 01714247.248r



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Wilson-Kramer USARC	CLIENT:	CH2M Hill
ADDRESS:	2940 AIRPORT ROAD BETHLEHEM PA 18017	CONTACT:	Mary Beth Jacques
LAT/LONG:	40.6481 / 75.4303	INQUIRY #:	01714247.248r
		DATE:	July 12, 2006

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

Soil Map ID: 2

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

Soil Map ID: 3

Soil Component Name: WASHINGTON

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.60
2	9 inches	42 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.60

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
3	42 inches	61 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 6.00 Min: 0.60	Max: 7.30 Min: 5.60
4	61 inches	71 inches	weathered bedrock	Not reported	Not reported	Max: 20.00 Min: 0.06	Max: 0.00 Min: 0.00

Soil Map ID: 4

Soil Component Name: UDORTHENTS

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 40 inches

Depth to Bedrock Max: > 40 inches

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	3 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 0.60 Min: 0.06	Max: 6.50 Min: 5.10

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
2	3 inches	40 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 0.20 Min: 0.06	Max: 6.50 Min: 5.10
3	40 inches	60 inches	weathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
C6	USGS2159929	1/2 - 1 Mile NE
D7	USGS2160044	1/2 - 1 Mile SSW
F11	USGS2159952	1/2 - 1 Mile North
J32	USGS2159972	1/2 - 1 Mile NNE
L37	USGS2159797	1/2 - 1 Mile North
N43	USGS2159977	1/2 - 1 Mile NNW
L51	USGS2159800	1/2 - 1 Mile North
N54	USGS2159979	1/2 - 1 Mile NNW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
17	PA3390358	1/2 - 1 Mile SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

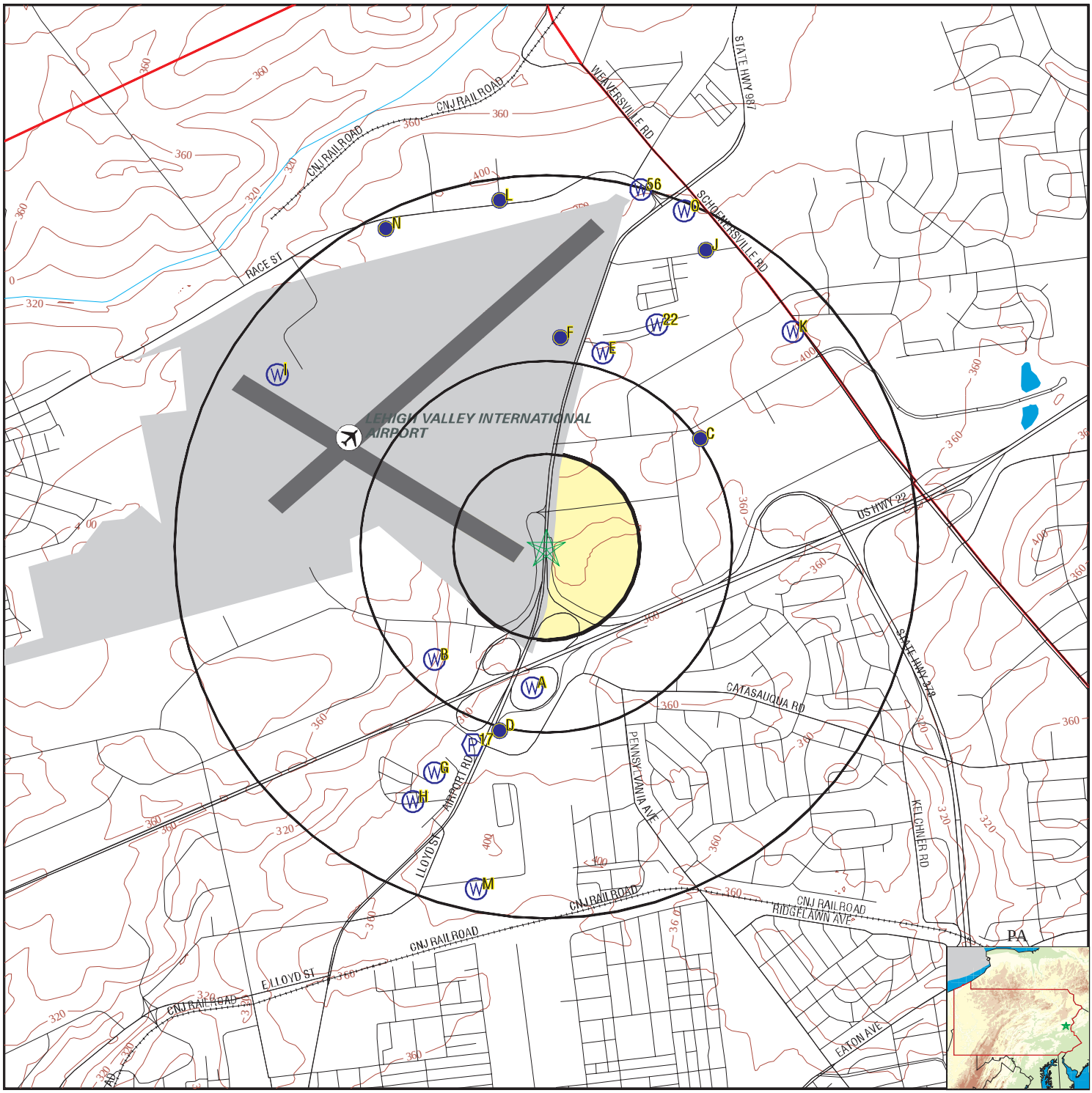
MAP ID	WELL ID	LOCATION FROM TP
A1	PA1000000106995	1/4 - 1/2 Mile South
A2	SPAW0136452	1/4 - 1/2 Mile South
B3	PA1000000107077	1/4 - 1/2 Mile SW
B4	SPAW0136458	1/4 - 1/2 Mile SW
C5	PA1000000107672	1/2 - 1 Mile NE
D8	PA1000000106894	1/2 - 1 Mile SSW
E9	PA1000000107872	1/2 - 1 Mile NNE
F10	PA1000000107890	1/2 - 1 Mile North
E12	PA1000000107873	1/2 - 1 Mile NNE
F13	SPAW0136449	1/2 - 1 Mile North
F14	PA1000000107900	1/2 - 1 Mile North
F15	SPAW0136446	1/2 - 1 Mile North
F16	PA1000000107901	1/2 - 1 Mile North
F18	PA1000000107913	1/2 - 1 Mile North
F19	SPAW0136448	1/2 - 1 Mile North
F20	PA1000000107914	1/2 - 1 Mile North
F21	SPAW0136447	1/2 - 1 Mile North
22	PA1000000107925	1/2 - 1 Mile NNE
G23	SPAW0136457	1/2 - 1 Mile SSW
G24	PA1000000106777	1/2 - 1 Mile SSW
H25	PA1000000106677	1/2 - 1 Mile SSW
H26	PA1000000106678	1/2 - 1 Mile SSW
I27	PA1000000107837	1/2 - 1 Mile WNW
I28	PA1000000107838	1/2 - 1 Mile WNW
I29	PA1000000107840	1/2 - 1 Mile WNW
I30	PA1000000107841	1/2 - 1 Mile WNW
I31	PA1000000107839	1/2 - 1 Mile WNW
J33	PA1000000108087	1/2 - 1 Mile NNE
K34	PA1000000107915	1/2 - 1 Mile NE
K35	SPAW0136442	1/2 - 1 Mile NE
L36	PA1000000108219	1/2 - 1 Mile North
M38	PA1000000106406	1/2 - 1 Mile SSW
M39	PA1000000106405	1/2 - 1 Mile SSW
M40	SPAW0136450	1/2 - 1 Mile SSW
M41	SPAW0136444	1/2 - 1 Mile SSW
M42	PA1000000106404	1/2 - 1 Mile SSW
N44	PA1000000108155	1/2 - 1 Mile NNW
M45	SPAW0136445	1/2 - 1 Mile SSW
J46	PA1000000108144	1/2 - 1 Mile NNE
J47	SPAW0136430	1/2 - 1 Mile NNE
M48	SPAW0136443	1/2 - 1 Mile SSW
M49	PA1000000106384	1/2 - 1 Mile South
L50	PA1000000108266	1/2 - 1 Mile North
O52	SPAW0136441	1/2 - 1 Mile NNE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
O53	PA1000000108220	1/2 - 1 Mile NNE
N55	PA1000000108175	1/2 - 1 Mile NNW
56	PA1000000108267	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 01714247.248r



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location

SITE NAME:	Wilson-Kramer USARC	CLIENT:	CH2M Hill
ADDRESS:	2940 AIRPORT ROAD BETHLEHEM PA 18017	CONTACT:	Mary Beth Jacques
LAT/LONG:	40.6481 / 75.4303	INQUIRY #:	01714247.248r
		DATE:	July 12, 2006

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
South
1/4 - 1/2 Mile
Lower | **PA WELLS** | **PA1000000106995**

WELLID:	Not Reported	LOCALWELLN:	2069N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	200		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.6425		
LONGITUDED:	-75.43139		
DEPTHTOBED:	74		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180974		

Construction Information:

Construction Date:	02/07/1993 00:00:00		
Driller:	1170		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	80	Casing Diameter:	Not Reported
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	DOMESTIC

Owner Information:

Owner:	WILLIAMS PAUL
Date Ownership:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A2
South
1/4 - 1/2 Mile
Lower

PA WELLS **SPAW0136452**

Well ID:	2069N		
Owner's Name:	WILLIAMS PAUL	County	LEHIGH
Latitude:	403833	Longitude:	752553
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	DOMESTIC	Site Usage:	WITHDRAWAL
Well Depth:	200	Finish:	OPEN HOLE
Casing 1:	80	Casing1 Diameter(inches):	Not Reported
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Not Reported	Date Drilled:	2-7-93
Static Water Level:	55	Production WL:	120
Yield (gpm):	40	Yield Measurement Method:	V
Drawdown:	65	Test Time:	1
Bedrock:	74	Driller:	1170
Water Bearing Zone 1:	172	Water Bearing Zone 2:	194
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

B3
SW
1/4 - 1/2 Mile
Lower

PA WELLS **PA1000000107077**

WELLID:	Not Reported	LOCALWELLN:	X 0808
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	250		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.64361		
LONGITUDED:	-75.43639		
DEPTHTOBED:	13		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180980		

Construction Information:

Construction Date:	Not Reported
Driller:	0275
Source Cons Data:	DRILLER'S RECORD
Method Cons:	Not Reported
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	42	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	INDUSTRIAL

Owner Information:

Owner:	PHOENIX CLOTHES
Date Ownership:	Not Reported

B4
SW
1/4 - 1/2 Mile
Lower

PA WELLS **SPAW0136458**

Well ID:	X 0808		
Owner's Name:	PHOENIX CLOTHES	County	LEHIGH
Latitude:	403837	Longitude:	752611
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	Not Reported	Topographic Setting:	HILLSIDE
Water Usage:	INDUSTRIAL	Site Usage:	WITHDRAWAL
Well Depth:	250	Finish:	OPEN HOLE
Casing 1:	42	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Not Reported	Date Drilled:	00-00-00
Static Water Level:	Not Reported	Production WL:	Not Reported
Yield (gpm):	30	Yield Measurement Method:	1
Drawdown:	Not Reported	Test Time:	Not Reported
Bedrock:	13	Driller:	0275
Water Bearing Zone 1:	200	Water Bearing Zone 2:	Not Reported
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	1342
Aquifer:	EPLER FORMATION		

C5
NE
1/2 - 1 Mile
Higher

PA WELLS **PA1000000107672**

WELLID:	403908075252201	LOCALWELLN:	LE 13
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	170		
ELEVATION:	380		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	BETHLEHEM		
LATITUDEDD:	40.65222		
LONGITUDED:	-75.42278		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24690		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1911 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	11	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	DESTROYED
Water Use:	UNUSED

Owner Information:

Owner:	UNITED GAS IMPROVEME
Date Ownership:	01/01/1911 00:00:00

C6
NE
1/2 - 1 Mile
Higher

FED USGS **USGS2159929**

Agency cd:	USGS	Site no:	403908075252201
Site name:	LE 13		
Latitude:	403908		
Longitude:	0752522	Dec lat:	40.65231965
Dec lon:	-75.42240379	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	380	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	1911
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	170	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1972-00-00	Ground water data end date:	1972-00-00
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1972	40	

D7
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS2160044**

Agency cd:	USGS	Site no:	403827075255901
Site name:	LE 660		
Latitude:	403827		
Longitude:	0752559	Dec lat:	40.64093079
Dec lon:	-75.43268181	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	370	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	1957
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	135	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1957-08-01	Ground water data end date:	1957-08-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1957-08-01	88.00	

D8
SSW **PA WELLS** **PA1000000106894**
1/2 - 1 Mile
Lower

WELLID:	403827075255901	LOCALWELLN:	LE 660
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	135		
ELEVATION:	370		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.64083		
LONGITUDED:	-75.43306		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24633		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1957 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	39	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	COMMERCIAL

Owner Information:

Owner:	GULF OIL CORP
Date Ownership:	01/01/1957 00:00:00

E9
NNE **PA WELLS** **PA1000000107872**
1/2 - 1 Mile
Lower

WELLID:	403920075254201	LOCALWELLN:	LE 11
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	152		
ELEVATION:	360		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65556		
LONGITUDED:	-75.42833		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24707		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1948 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	35	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	PUBLIC SUPPLY

Owner Information:

Owner:	SAYLOR'S TRAILER PARK
Date Ownership:	01/01/1948 00:00:00

F10
North **PA WELLS** **PA1000000107890**
1/2 - 1 Mile
Higher

WELLID:	403921075254901	LOCALWELLN:	LE 10
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	166		
ELEVATION:	380		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65583		
LONGITUDED:	-75.43028		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24708		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1940 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	Not Reported	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	OBSERVATION
Water Use:	UNUSED

Owner Information:

Owner:	LE-NP AIRPORT AUTH
Date Ownership:	01/01/1940 00:00:00

F11
North
1/2 - 1 Mile
Higher

FED USGS **USGS2159952**

Agency cd:	USGS	Site no:	403921075254901
Site name:	LE 10		
Latitude:	403921		
Longitude:	0752549	Dec lat:	40.65593065
Dec lon:	-75.42990399	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	380	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	1940
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	166	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1952-04-08	Ground water data end date:	1952-04-08
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1952-04-08	88.00	

E12
NNE **PA WELLS** **PA1000000107873**
1/2 - 1 Mile
Lower

WELLID:	403920075253801	LOCALWELLN:	LE 12
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	165		
ELEVATION:	360		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65556		
LONGITUDED:	-75.42722		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24706		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1950 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	50	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	PUBLIC SUPPLY

Owner Information:

Owner:	SAYLOR'S TRAILER PAR
Date Ownership:	01/01/1950 00:00:00

F13
North
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136449**

Well ID:	2066N		
Owner's Name:	A B E AIRPORT	County	LEHIGH
Latitude:	403922	Longitude:	752548
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	Not Reported	Site Usage:	MONITORING
Well Depth:	117	Finish:	PERFORATED OR SLOTTED
Casing 1:	20	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Yes	Date Drilled:	8-90
Static Water Level:	107	Production WL:	117
Yield (gpm):	1	Yield Measurement Method:	V
Drawdown:	10	Test Time:	0.5
Bedrock:	14	Driller:	188
Water Bearing Zone 1:	107	Water Bearing Zone 2:	Not Reported
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

F14
North
1/2 - 1 Mile
Higher

PA WELLS **PA1000000107900**

WELLID:	Not Reported	LOCALWELLN:	2066N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	117		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65611		
LONGITUDED:	-75.43		

DEPTHTOBED: 14
DATEDRILLE: Not Reported
PAGWIS ID: 180971

Construction Information:
Construction Date: 08/01/1990 00:00:00
Driller: 188
Source Cons Data: DRILLER'S RECORD
Method Cons: Not Reported
Finish: PERFORATED OR SLOTTED

Casing Information:
Top Of Casing: 0
Bottom Of Casing: 20
Casing: Not Reported
Casing Wall Thickness: Not Reported
Casing Diameter: 6

Geohydrologic Information:
A A P G: 367EPLR
Lithology: LS
Contributing Unit: PRIMARY
Top Of Interval: Not Reported
Bottom Of Interval: Not Reported

Water Use Information:
Site Use: MINE
Water Use: Not Reported

Owner Information:
Owner: A B E AIRPORT
Date Ownership: Not Reported

F15
North
1/2 - 1 Mile
Lower

PA WELLS **SPAW0136446**

Well ID: 2063N
Owner's Name: A B E AIRPORT
Latitude: 403922
Quadrangle: CATASAUQUA
Hydrologic Unit: 02040106
Water Usage: Not Reported
Well Depth: 90
Casing 1: 32
Casing2: Not Reported
Grouted: Yes
Static Water Level: 80
Yield (gpm): 1
Drawdown: 10
Bedrock: 26
Water Bearing Zone 1: 80
Water Bearing Zone 3: Not Reported
Municipality: HANOVER TOWNSHIP
Aquifer: EPLER FORMATION
County LEHIGH
Longitude: 752547
Lat/Long Accuracy: ACCURATE TO +1 MINUTE
Topographic Setting: HILLSIDE
Site Usage: MONITORING
Finish: PERFORATED OR SLOTTED
Casing1 Diameter(inches): 6
Casing2 Diameter(inches): Not Reported
Date Drilled: 8-90
Production WL: 90
Yield Measurement Method: V
Test Time: 0.5
Driller: 188
Water Bearing Zone 2: Not Reported
Lithology: LIMESTONE
Remark: Not Reported

Map ID Direction Distance Elevation		Database	EDR ID Number
F16 **North** **1/2 - 1 Mile** **Lower**		**PA WELLS**	**PA1000000107901**

WELLID:	Not Reported	LOCALWELLN:	2063N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	90		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65611		
LONGITUDED:	-75.42972		
DEPTHTOBED:	26		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180968		

Construction Information:

Construction Date:	08/01/1990 00:00:00		
Driller:	188		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	PERFORATED OR SLOTTED		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	32	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	MINE
Water Use:	Not Reported

Owner Information:

Owner:	A B E AIRPORT
Date Ownership:	Not Reported

Map ID / Direction / Distance / Elevation		Database	EDR ID Number
17 **SSW** **1/2 - 1 Mile** **Lower**		**FRDS PWS**	**PA3390358**

PWS ID:	PA3390358	PWS Status:	Active
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	TOMS DEN 1801 AIRPORT ROAD ALLENTOWN, PA 18103		
Addressee / Facility:	Mailing TOMS DEN 1801 AIRPORT ROAD ALLENTOWN, PA 18103		
Facility Latitude:	40 38 25	Facility Longitude:	075 26 04
City Served:	Not Reported		
Treatment Class:	Untreated	Population:	00000030

PWS currently has or had major violation(s) or enforcement: No

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F18 **North** **1/2 - 1 Mile** **Higher**		**PA WELLS**	**PA1000000107913**

WELLID:	Not Reported	LOCALWELLN:	2065N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	96		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65639		
LONGITUDED:	-75.43		
DEPTHTOBED:	10		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180970		

Construction Information:

Construction Date:	08/01/1990 00:00:00
Driller:	188
Source Cons Data:	DRILLER'S RECORD
Method Cons:	Not Reported
Finish:	PERFORATED OR SLOTTED

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	21	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	MINE
Water Use:	Not Reported

Owner Information:

Owner:	A B E AIRPORT
Date Ownership:	Not Reported

F19
North
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136448**

Well ID:	2065N		
Owner's Name:	A B E AIRPORT	County	LEHIGH
Latitude:	403923	Longitude:	752548
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	Not Reported	Site Usage:	MONITORING
Well Depth:	96	Finish:	PERFORATED OR SLOTTED
Casing 1:	21	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Yes	Date Drilled:	8-90
Static Water Level:	77	Production WL:	96
Yield (gpm):	1	Yield Measurement Method:	V
Drawdown:	19	Test Time:	0.5
Bedrock:	10	Driller:	188
Water Bearing Zone 1:	80	Water Bearing Zone 2:	Not Reported
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

F20
North
1/2 - 1 Mile
Lower

PA WELLS **PA1000000107914**

WELLID:	Not Reported	LOCALWELLN:	2064N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	100		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		

LATLONGACCURACY: ACCURATE TO +1 MINUTE
QUAD: CATASAUQUA
TYPEOFSITE: WELL
DATECREATE: Not Reported DATEUPDATE: Not Reported
DATARELIABILITY: LOCATION MAY NOT BE ACCURATE (WWI paper)
SOURCE DEPTH DATA: DRILLER'S RECORD
MUNICIPALITY: HANOVER TWP.
LATITUDEDD: 40.65639
LONGITUDED: -75.42972
DEPTHTOBED: 22
DATEDRILLE: Not Reported
PAGWIS ID: 180969

Construction Information:
Construction Date: 08/01/1990 00:00:00
Driller: 188
Source Cons Data: DRILLER'S RECORD
Method Cons: Not Reported
Finish: PERFORATED OR SLOTTED

Casing Information:
Top Of Casing: 0 Casing Wall Thickness: Not Reported
Bottom Of Casing: 26 Casing Diameter: 6
Casing: Not Reported

Geohydrologic Information:
A A P G: 367EPLR
Lithology: LS
Contributing Unit: PRIMARY
Top Of Interval: Not Reported Bottom Of Interval: Not Reported

Water Use Information:
Site Use: MINE
Water Use: Not Reported

Owner Information:
Owner: A B E AIRPORT
Date Ownership: Not Reported

F21
North
1/2 - 1 Mile
Lower

PA WELLS **SPAW0136447**

Well ID: 2064N
Owner's Name: A B E AIRPORT County LEHIGH
Latitude: 403923 Longitude: 752547
Quadrangle: CATASAUQUA Lat/Long Accuracy: ACCURATE TO +1 MINUTE
Hydrologic Unit: 02040106 Topographic Setting: HILLSIDE
Water Usage: Not Reported Site Usage: MONITORING
Well Depth: 100 Finish: PERFORATED OR SLOTTED
Casing 1: 26 Casing1 Diameter(inches): 6
Casing2: Not Reported Casing2 Diameter(inches): Not Reported

Grouted:	Yes	Date Drilled:	8-90
Static Water Level:	83	Production WL:	100
Yield (gpm):	2	Yield Measurement Method:	V
Drawdown:	17	Test Time:	0.5
Bedrock:	22	Driller:	188
Water Bearing Zone 1:	90	Water Bearing Zone 2:	Not Reported
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

22
NNE **PA WELLS** **PA1000000107925**
1/2 - 1 Mile
Lower

WELLID:	403924075253001	LOCALWELLN:	LE 583
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	205		
ELEVATION:	365		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65667		
LONGITUDED:	-75.425		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24713		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	Not Reported
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	30	Casing Diameter:	6
Casing:	STEEL		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	PUBLIC SUPPLY

Owner Information:

Owner:	SAYLORS TRAILER COUR
Date Ownership:	01/01/1967 00:00:00

G23
SSW **PA WELLS** **SPAW0136457**
1/2 - 1 Mile
Lower

Well ID:	X 0807		
Owner's Name:	WITKO J	County	LEHIGH
Latitude:	403821	Longitude:	752611
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	Not Reported	Topographic Setting:	HILLSIDE
Water Usage:	DOMESTIC	Site Usage:	WITHDRAWAL
Well Depth:	100	Finish:	OPEN HOLE
Casing 1:	53	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Not Reported	Date Drilled:	00-00-00
Static Water Level:	Not Reported	Production WL:	Not Reported
Yield (gpm):	30	Yield Measurement Method:	1
Drawdown:	Not Reported	Test Time:	Not Reported
Bedrock:	43	Driller:	0275
Water Bearing Zone 1:	70	Water Bearing Zone 2:	90
Water Bearing Zone 3:	Not Reported	Lithology:	Not Reported
Municipality:	HANOVER TOWNSHIP	Remark:	1342
Aquifer:	BEEKMANTOWN GROUP		

G24
SSW **PA WELLS** **PA1000000106777**
1/2 - 1 Mile
Lower

WELLID:	Not Reported	LOCALWELLN:	X 0807
COUNTY:	LEHIGH		
AAPG:	364BKMN		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	100		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		

LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.63917		
LONGITUDED:	-75.43639		
DEPTHTOBED:	43		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180979		

Construction Information:

Construction Date:	Not Reported		
Driller:	0275		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	53	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	364BKMN		
Lithology:	Not Reported		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	DOMESTIC

Owner Information:

Owner:	WITKO J
Date Ownership:	Not Reported

H25
SSW **PA WELLS** **PA1000000106677**
1/2 - 1 Mile
Lower

WELLID:	403817075261501	LOCALWELLN:	LE 595
COUNTY:	LEHIGH		
AAPG:	367RCKB		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	250		
ELEVATION:	365		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		

LATLONGACCURACY: ACCURATE TO +1 SECOND
QUAD: CATASAUQUA
TYPEOFSITE: WELL
DATECREATE: Not Reported DATEUPDATE: Not Reported
DATARELIABILITY: FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)
SOURCE DEPTH DATA: OTHER/UNKNOWN/UNSPECIFIED
MUNICIPALITY: HANOVER TWP.
LATITUDEDD: 40.63806
LONGITUDED: -75.4375
DEPTHTOBED: 0
DATEDRILLE: Not Reported
PAGWIS ID: 24613

Agency Use Section:
Agency Use of Site: OBSERVATION
Agency Use Date: Not Reported

Construction Information:
Construction Date: 01/01/1962 00:00:00
Driller: 1
Source Cons Data: OTHER/UNKNOWN/UNSPECIFIED
Method Cons: AIR ROTARY
Finish: OPEN HOLE

Casing Information:
Top Of Casing: 0 Casing Wall Thickness: Not Reported
Bottom Of Casing: 42 Casing Diameter: 6
Casing: STEEL

Geohydrologic Information:
A A P G: 367RCKB
Lithology: LIMESTONE
Contributing Unit: PRIMARY
Top Of Interval: Not Reported Bottom Of Interval: Not Reported

Water Use Information:
Site Use: WITHDRAWAL
Water Use: PUBLIC SUPPLY

Owner Information:
Owner: WITKO TRAILER COURT
Date Ownership: 01/01/1962 00:00:00

H26
SSW **PA WELLS** **PA1000000106678**
1/2 - 1 Mile
Lower

WELLID: 403817075261502 LOCALWELLN: LE 597
COUNTY: LEHIGH
AAPG: 367RCKB
TOPOGRAPHY: UNDULATING
WELLDEPTH: 120
ELEVATION: 365
ELEVMETHOD: INTERPOLATED FROM TOPOGRAPHIC MAP
ACCURACYOF: 5
HYDROLOGIC: 02040106

LATLONGACCURACY: ACCURATE TO +1 SECOND
QUAD: CATASAUQUA
TYPEOFSITE: WELL
DATECREATE: Not Reported DATEUPDATE: Not Reported
DATARELIABILITY: FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)
SOURCE DEPTH DATA: OTHER/UNKNOWN/UNSPECIFIED
MUNICIPALITY: HANOVER TWP.
LATITUDEDD: 40.63806
LONGITUDED: -75.4375
DEPTHTOBED: 0
DATEDRILLE: Not Reported
PAGWIS ID: 24614

Agency Use Section:
Agency Use of Site: OBSERVATION
Agency Use Date: Not Reported

Construction Information:
Construction Date: 01/01/1961 00:00:00
Driller: 1
Source Cons Data: OTHER/UNKNOWN/UNSPECIFIED
Method Cons: AIR ROTARY
Finish: OPEN HOLE

Casing Information:
Top Of Casing: 0 Casing Wall Thickness: Not Reported
Bottom Of Casing: 26 Casing Diameter: 6
Casing: STEEL

Geohydrologic Information:
A A P G: 367RCKB
Lithology: LIMESTONE
Contributing Unit: PRIMARY
Top Of Interval: Not Reported Bottom Of Interval: Not Reported

Water Use Information:
Site Use: WITHDRAWAL
Water Use: PUBLIC SUPPLY

Owner Information:
Owner: WITKO TRAILER COURT
Date Ownership: 01/01/1961 00:00:00

I27
WNW **PA WELLS** **PA1000000107837**
1/2 - 1 Mile
Higher

WELLID: Not Reported LOCALWELLN: Not Reported
COUNTY: LEHIGH
AAPG: Not Reported
TOPOGRAPHY: Not Reported
WELLDEPTH: 123
ELEVATION: 0
ELEVMETHOD: Not Reported
ACCURACYOF: Not Reported
HYDROLOGIC: Not Reported

LATLONGACCURACY:	Not Reported		
QUAD:	0		
TYPEOFSITE:	Not Reported		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	Not Reported		
SOURCE DEPTH DATA:	Not Reported		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65472		
LONGITUDED:	-75.44444		
DEPTHTOBED:	19		
DATEDRILLE:	Not Reported		
PAGWIS ID:	0		

Construction Information:

Construction Date:	11/18/1998 00:00:00		
Driller:	9998		
Source Cons Data:	Not Reported		
Method Cons:	AIR ROTARY		
Finish:	SCREEN		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	60	Casing Diameter:	4
Casing:	PVC OR OTHER PLASTIC		

Hole Information:

Top Of Hole:	0		
Bottom Of Hole:	123	Hole Diameter:	8

Driller Log Information:

Top Of Interval:	0	Bottom Of Interval:	19
Description:	clay ovbn		
Top Of Interval:	19	Bottom Of Interval:	54
Description:	limestone		
Top Of Interval:	54	Bottom Of Interval:	57
Description:	void		
Top Of Interval:	57	Bottom Of Interval:	94
Description:	limestone		
Top Of Interval:	94	Bottom Of Interval:	123
Description:	broken weath. limestone		

Water Use Information:

Site Use:	Not Reported
Water Use:	OTHER

Owner Information:

Owner:	LVI Airport
Date Ownership:	Not Reported

Remarks Information:

Remark:	MW-10
Remark Date:	Not Reported

Map ID Direction Distance Elevation			Database	EDR ID Number
I28 WNW 1/2 - 1 Mile Higher			**PA WELLS**	**PA1000000107838**

WELLID:	Not Reported	LOCALWELLN:	Not Reported
COUNTY:	LEHIGH		
AAPG:	Not Reported		
TOPOGRAPHY:	Not Reported		
WELLDEPTH:	123		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		
LATLONGACCURACY:	Not Reported		
QUAD:	0		
TYPEOFSITE:	Not Reported		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	Not Reported		
SOURCE DEPTH DATA:	Not Reported		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65472		
LONGITUDED:	-75.44444		
DEPTHTOBED:	3		
DATEDRILLE:	Not Reported		
PAGWIS ID:	0		

Construction Information:

Construction Date:	11/16/1998 00:00:00		
Driller:	9998		
Source Cons Data:	Not Reported		
Method Cons:	AIR ROTARY		
Finish:	SCREEN		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	62	Casing Diameter:	4
Casing:	PVC OR OTHER PLASTIC		

Hole Information:

Top Of Hole:	0		
Bottom Of Hole:	123	Hole Diameter:	8

Driller Log Information:

Top Of Interval:	0	Bottom Of Interval:	3
Description:	fill & ovbn		
Top Of Interval:	3	Bottom Of Interval:	6
Description:	clay ovbn		
Top Of Interval:	6	Bottom Of Interval:	114
Description:	blue gray limestone		

Top Of Interval:	114	Bottom Of Interval:	115
Description:	fracture		
Top Of Interval:	115	Bottom Of Interval:	123
Description:	limestone		

Water Use Information:

Site Use:	Not Reported
Water Use:	OTHER

Owner Information:

Owner:	LVI Airport
Date Ownership:	Not Reported

Remarks Information:

Remark:	MW-7
Remark Date:	Not Reported

I29
WNW
1/2 - 1 Mile
Higher

PA WELLS **PA1000000107840**

WELLID:	Not Reported	LOCALWELLN:	Not Reported
COUNTY:	LEHIGH		
AAPG:	Not Reported		
TOPOGRAPHY:	Not Reported		
WELLDEPTH:	123		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		
LATLONGACCURACY:	Not Reported		
QUAD:	0		
TYPEOFSITE:	Not Reported		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	Not Reported		
SOURCE DEPTH DATA:	Not Reported		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65472		
LONGITUDED:	-75.44444		
DEPTHTOBED:	38		
DATEDRILLE:	Not Reported		
PAGWIS ID:	0		

Construction Information:

Construction Date:	11/17/1998 00:00:00
Driller:	9998
Source Cons Data:	Not Reported
Method Cons:	AIR ROTARY
Finish:	SCREEN

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	62	Casing Diameter:	4
Casing:	PVC OR OTHER PLASTIC		

Hole Information:

Top Of Hole:	0		
Bottom Of Hole:	123	Hole Diameter:	8

Driller Log Information:

Top Of Interval:	0	Bottom Of Interval:	38
Description:	clay ovbn		
Top Of Interval:	38	Bottom Of Interval:	112
Description:	limestone		
Top Of Interval:	112	Bottom Of Interval:	113
Description:	fracture		
Top Of Interval:	113	Bottom Of Interval:	123
Description:	limestone		

Water Use Information:

Site Use:	Not Reported
Water Use:	OTHER

Owner Information:

Owner:	LVI Airport
Date Ownership:	Not Reported

Remarks Information:

Remark:	MW9
Remark Date:	Not Reported

I30
WNW
1/2 - 1 Mile
Higher

PA WELLS **PA1000000107841**

WELLID:	Not Reported	LOCALWELLN:	Not Reported
COUNTY:	LEHIGH		
AAPG:	Not Reported		
TOPOGRAPHY:	Not Reported		
WELLDEPTH:	121		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		
LATLONGACCURACY:	Not Reported		
QUAD:	0		
TYPEOFSITE:	Not Reported		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	Not Reported		
SOURCE DEPTH DATA:	Not Reported		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65472		
LONGITUDED:	-75.44444		
DEPTHTOBED:	41		
DATEDRILLE:	Not Reported		
PAGWIS ID:	0		

Construction Information:

Construction Date:	11/18/1998 00:00:00
Driller:	9998
Source Cons Data:	Not Reported
Method Cons:	AIR ROTARY
Finish:	SCREEN

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	70	Casing Diameter:	6
Casing:	PVC OR OTHER PLASTIC		

Hole Information:

Top Of Hole:	0		
Bottom Of Hole:	121	Hole Diameter:	10

Driller Log Information:

Top Of Interval:	0	Bottom Of Interval:	41
Description:	clay fill ovbn		
Top Of Interval:	41	Bottom Of Interval:	107
Description:	blue gray limestone		
Top Of Interval:	107	Bottom Of Interval:	109
Description:	fracture		
Top Of Interval:	109	Bottom Of Interval:	121
Description:	limestone		

Water Use Information:

Site Use:	Not Reported
Water Use:	OTHER

Owner Information:

Owner:	LVI Airport
Date Ownership:	Not Reported

Remarks Information:

Remark:	EW1
Remark Date:	Not Reported

I31
WNW
1/2 - 1 Mile
Higher

PA WELLS **PA1000000107839**

WELLID:	Not Reported	LOCALWELLN:	Not Reported
COUNTY:	LEHIGH		
AAPG:	Not Reported		
TOPOGRAPHY:	Not Reported		
WELLDEPTH:	123		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		

LATLONGACCURACY:	Not Reported		
QUAD:	0		
TYPEOFSITE:	Not Reported		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	Not Reported		
SOURCE DEPTH DATA:	Not Reported		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.65472		
LONGITUDED:	-75.44444		
DEPTHTOBED:	10		
DATEDRILLE:	Not Reported		
PAGWIS ID:	0		

Construction Information:

Construction Date:	11/17/1998 00:00:00		
Driller:	9998		
Source Cons Data:	Not Reported		
Method Cons:	AIR ROTARY		
Finish:	SCREEN		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	62	Casing Diameter:	4
Casing:	PVC OR OTHER PLASTIC		

Hole Information:

Top Of Hole:	0		
Bottom Of Hole:	123	Hole Diameter:	8

Driller Log Information:

Top Of Interval:	0	Bottom Of Interval:	10
Description:	clay ovbn		
Top Of Interval:	10	Bottom Of Interval:	21
Description:	blue gray limestone		
Top Of Interval:	21	Bottom Of Interval:	22
Description:	weathered limestone		
Top Of Interval:	22	Bottom Of Interval:	118
Description:	limestone		
Top Of Interval:	118	Bottom Of Interval:	119
Description:	fracture		
Top Of Interval:	119	Bottom Of Interval:	123
Description:	limestone		

Water Use Information:

Site Use:	Not Reported
Water Use:	OTHER

Owner Information:

Owner:	LVI Airport
Date Ownership:	Not Reported

Remarks Information:

Remark:	MW-8
Remark Date:	Not Reported

J32
NNE **FED USGS** **USGS2159972**
1/2 - 1 Mile
Lower

Agency cd:	USGS	Site no:	403933075252201
Site name:	LE 753		
Latitude:	403933		
Longitude:	0752522	Dec lat:	40.65926401
Dec lon:	-75.42240381	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	370	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	1967
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	123	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1967-04-01	Ground water data end date:	1967-04-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1967-04-01	88.00	

J33
NNE **PA WELLS** **PA1000000108087**
1/2 - 1 Mile
Lower

WELLID:	403933075252201	LOCALWELLN:	LE 753
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	123		
ELEVATION:	370		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		

LATLONGACCURACY: ACCURATE TO +5 SECONDS
QUAD: CATASAUQUA
TYPEOFSITE: WELL
DATECREATE: Not Reported DATEUPDATE: Not Reported
DATARELIABILITY: FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)
SOURCE DEPTH DATA: OTHER/UNKNOWN/UNSPECIFIED
MUNICIPALITY: HANOVER TWP.
LATITUDEDD: 40.65917
LONGITUDED: -75.42278
DEPTHTOBED: 0
DATEDRILLE: Not Reported
PAGWIS ID: 24724

Agency Use Section:
Agency Use of Site: OBSERVATION
Agency Use Date: Not Reported

Construction Information:
Construction Date: 01/01/1967 00:00:00
Driller: 1
Source Cons Data: OTHER/UNKNOWN/UNSPECIFIED
Method Cons: AIR ROTARY
Finish: OPEN HOLE

Casing Information:
Top Of Casing: 0 Casing Wall Thickness: Not Reported
Bottom Of Casing: 32 Casing Diameter: 6
Casing: STEEL

Geohydrologic Information:
A A P G: 367EPLR
Lithology: LIMESTONE
Contributing Unit: PRIMARY
Top Of Interval: Not Reported Bottom Of Interval: Not Reported

Water Use Information:
Site Use: WITHDRAWAL
Water Use: INSTITUTIONAL

Owner Information:
Owner: CHRIST LUTHERAN CHUR
Date Ownership: 01/01/1967 00:00:00

K34
NE **PA WELLS** **PA1000000107915**
1/2 - 1 Mile
Higher

WELLID: Not Reported LOCALWELLN: 2059N
COUNTY: LEHIGH
AAPG: 367EPLR
TOPOGRAPHY: HILLSIDE
WELLDEPTH: 250
ELEVATION: 0
ELEVMETHOD: Not Reported
ACCURACYOF: Not Reported
HYDROLOGIC: 02040106

LATLONGACCURACY: ACCURATE TO +1 MINUTE
QUAD: CATASAUQUA
TYPEOFSITE: WELL
DATECREATE: Not Reported DATEUPDATE: Not Reported
DATARELIABILITY: LOCATION MAY NOT BE ACCURATE (WWI paper)
SOURCE DEPTH DATA: DRILLER'S RECORD
MUNICIPALITY: HANOVER TWP.
LATITUDEDD: 40.65639
LONGITUDED: -75.41806
DEPTHTOBED: 212
DATEDRILLE: Not Reported
PAGWIS ID: 180964

Construction Information:
Construction Date: 08/01/1991 00:00:00
Driller: 1170
Source Cons Data: DRILLER'S RECORD
Method Cons: Not Reported
Finish: OPEN HOLE

Casing Information:
Top Of Casing: 0 Casing Wall Thickness: Not Reported
Bottom Of Casing: 220 Casing Diameter: 6
Casing: Not Reported

Geohydrologic Information:
A A P G: 367EPLR
Lithology: LS
Contributing Unit: PRIMARY
Top Of Interval: Not Reported Bottom Of Interval: Not Reported

Water Use Information:
Site Use: WITHDRAWAL
Water Use: DOMESTIC

Owner Information:
Owner: LONGS WATER TECH
Date Ownership: Not Reported

K35
NE
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136442**

Well ID: 2059N
Owner's Name: LONGS WATER TECH County LEHIGH
Latitude: 403923 Longitude: 752505
Quadrangle: CATASAUQUA Lat/Long Accuracy: ACCURATE TO +1 MINUTE
Hydrologic Unit: 02040106 Topographic Setting: HILLSIDE
Water Usage: DOMESTIC Site Usage: WITHDRAWAL
Well Depth: 250 Finish: OPEN HOLE
Casing 1: 220 Casing1 Diameter(inches): 6
Casing2: Not Reported Casing2 Diameter(inches): Not Reported

Grouted:	Yes	Date Drilled:	8-1-91
Static Water Level:	85	Production WL:	130
Yield (gpm):	40	Yield Measurement Method:	V
Drawdown:	45	Test Time:	1
Bedrock:	212	Driller:	1170
Water Bearing Zone 1:	228	Water Bearing Zone 2:	247
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

L36
North
1/2 - 1 Mile
Higher

PA WELLS **PA1000000108219**

WELLID:	403940075260001	LOCALWELLN:	LE 640
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	950		
ELEVATION:	390		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66111		
LONGITUDED:	-75.43333		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24736		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1958 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	71	Casing Diameter:	10
Casing:	STEEL		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	COMMERCIAL

Owner Information:

Owner:	LE-NP AIRPORT A
Date Ownership:	01/01/1958 00:00:00

L37
North
1/2 - 1 Mile
Higher

FED USGS **USGS2159797**

Agency cd:	USGS	Site no:	403940075260001
Site name:	LE 640		
Latitude:	403940		
Longitude:	0752600	Dec lat:	40.66120833
Dec lon:	-75.43295963	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	390	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	1958
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	950	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1958-12-01	Ground water data end date:	1958-12-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-12-01	106.00	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M38
SSW
1/2 - 1 Mile
Higher | **PA WELLS** | **PA1000000106406**

WELLID:	Not Reported	LOCALWELLN:	2067N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	250		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.63472		
LONGITUDED:	-75.43417		
DEPTHTOBED:	176		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180972		

Construction Information:

Construction Date:	08/01/1991 00:00:00		
Driller:	1170		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	180	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	DOMESTIC

Owner Information:

Owner:	LONGS WATER TECH
Date Ownership:	Not Reported

Map ID Direction Distance Elevation		Database	EDR ID Number
M39 SSW 1/2 - 1 Mile Higher		**PA WELLS**	**PA1000000106405**

WELLID:	Not Reported	LOCALWELLN:	2061N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	108		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.63472		
LONGITUDED:	-75.43417		
DEPTHTOBED:	31		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180966		

Construction Information:

Construction Date:	03/01/1991 00:00:00		
Driller:	188		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	SCREEN		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	30	Casing Diameter:	Not Reported
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	MINE
Water Use:	Not Reported

Owner Information:

Owner:	MONARCH ALLENTOWN
Date Ownership:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M40
SSW
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136450**

Well ID:	2067N		
Owner's Name:	LONGS WATER TECH	County	LEHIGH
Latitude:	403805	Longitude:	752603
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	DOMESTIC	Site Usage:	WITHDRAWAL
Well Depth:	250	Finish:	OPEN HOLE
Casing 1:	180	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Yes	Date Drilled:	8-91
Static Water Level:	70	Production WL:	200
Yield (gpm):	12	Yield Measurement Method:	V
Drawdown:	130	Test Time:	1
Bedrock:	176	Driller:	1170
Water Bearing Zone 1:	228	Water Bearing Zone 2:	246
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

M41
SSW
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136444**

Well ID:	2061N		
Owner's Name:	MONARCH ALLENTOWN	County	LEHIGH
Latitude:	403805	Longitude:	752603
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	Not Reported	Site Usage:	MONITORING
Well Depth:	108	Finish:	SCREEN
Casing 1:	30	Casing1 Diameter(inches):	Not Reported
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Yes	Date Drilled:	3-91
Static Water Level:	Not Reported	Production WL:	108
Yield (gpm):	5	Yield Measurement Method:	V
Drawdown:	Not Reported	Test Time:	0.5
Bedrock:	31	Driller:	188
Water Bearing Zone 1:	95	Water Bearing Zone 2:	102
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

M42
SSW
1/2 - 1 Mile
Higher

PA WELLS **PA1000000106404**

WELLID:	Not Reported	LOCALWELLN:	2062N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	94		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.63472		
LONGITUDED:	-75.43444		
DEPTHTOBED:	42		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180967		

Construction Information:

Construction Date:	03/01/1991 00:00:00		
Driller:	188		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	SCREEN		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	20	Casing Diameter:	5
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	MINE
Water Use:	Not Reported

Owner Information:

Owner:	MONARCH ALLENTOWN
Date Ownership:	Not Reported

N43
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS2159977**

Agency cd:	USGS	Site no:	403937075261801
Site name:	LE 766		
Latitude:	403937		
Longitude:	0752618	Dec lat:	40.66037496
Dec lon:	-75.43795976	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	390	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Hilltop		
Site type:	Ground-water other than Spring	Date construction:	1958
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	950	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1967-06-14
Water quality data end date:	1967-06-14	Water quality data count:	1
Ground water data begin date:	1958-12-01	Ground water data end date:	1958-12-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1958-12-01	106.00	

N44
NNW
1/2 - 1 Mile
Higher

PA WELLS **PA1000000108155**

WELLID:	403937075261801	LOCALWELLN:	LE 766
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLTOP		
WELLDEPTH:	950		
ELEVATION:	390		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66028		
LONGITUDED:	-75.43833		

DEPTHTOBED: 0
DATEDRILLE: Not Reported
PAGWIS ID: 25136

Agency Use Section:
Agency Use of Site: OBSERVATION
Agency Use Date: Not Reported

Construction Information:
Construction Date: 01/01/1958 00:00:00
Driller: 1
Source Cons Data: OTHER/UNKNOWN/UNSPECIFIED
Method Cons: CABLE TOOL
Finish: OPEN HOLE

Casing Information:
Top Of Casing: 0
Bottom Of Casing: 71
Casing: UNKNOWN
Casing Wall Thickness: Not Reported
Casing Diameter: 10

Geohydrologic Information:
A A P G: 367EPLR
Lithology: LIMESTONE
Contributing Unit: PRIMARY
Top Of Interval: Not Reported
Bottom Of Interval: Not Reported

Water Use Information:
Site Use: WITHDRAWAL
Water Use: COMMERCIAL

Owner Information:
Owner: PILOTS CLUB
Date Ownership: 01/01/1958 00:00:00

M45
SSW
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136445**

Well ID: 2062N
Owner's Name: MONARCH ALLENTOWN
Latitude: 403805
Quadrangle: CATASAUQUA
Hydrologic Unit: 02040106
Water Usage: Not Reported
Well Depth: 94
Casing 1: 20
Casing2: Not Reported
Grouted: Yes
Static Water Level: 87
Yield (gpm): Not Reported
Drawdown: Not Reported
Bedrock: 42
Water Bearing Zone 1: 84
Water Bearing Zone 3: Not Reported
Municipality: HANOVER TOWNSHIP
Aquifer: EPLER FORMATION
County LEHIGH
Longitude: 752604
Lat/Long Accuracy: ACCURATE TO +1 MINUTE
Topographic Setting: HILLSIDE
Site Usage: MONITORING
Finish: SCREEN
Casing1 Diameter(inches): 5
Casing2 Diameter(inches): Not Reported
Date Drilled: 3-91
Production WL: Not Reported
Yield Measurement Method: V
Test Time: 0.5
Driller: 188
Water Bearing Zone 2: Not Reported
Lithology: LIMESTONE
Remark: Not Reported

Map ID Direction Distance Elevation		Database	EDR ID Number
J46 NNE 1/2 - 1 Mile Lower		**PA WELLS**	**PA1000000108144**

WELLID:	Not Reported	LOCALWELLN:	1902N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	FLAT SURFACE		
WELLDEPTH:	150		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66		
LONGITUDED:	-75.42222		
DEPTHTOBED:	128		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180952		

Construction Information:

Construction Date:	11/01/1983 00:00:00		
Driller:	1052		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	131	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	PUBLIC SUPPLY

Owner Information:

Owner:	FEGLEY + SON INC
Date Ownership:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J47
NNE
1/2 - 1 Mile
Lower

PA WELLS **SPAW0136430**

Well ID:	1902N		
Owner's Name:	FEGLEY + SON INC	County	LEHIGH
Latitude:	403936	Longitude:	752520
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	FLAT SURFACE
Water Usage:	PUBLIC SUPPLY	Site Usage:	WITHDRAWAL
Well Depth:	150	Finish:	OPEN HOLE
Casing 1:	131	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Not Reported	Date Drilled:	11-83
Static Water Level:	65	Production WL:	70
Yield (gpm):	20	Yield Measurement Method:	V
Drawdown:	5	Test Time:	12
Bedrock:	128	Driller:	1052
Water Bearing Zone 1:	135	Water Bearing Zone 2:	141
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

M48
SSW
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136443**

Well ID:	2060N		
Owner's Name:	MONARCH ALLENTOWN	County	LEHIGH
Latitude:	403804	Longitude:	752603
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	Not Reported	Site Usage:	MONITORING
Well Depth:	105	Finish:	SCREEN
Casing 1:	20	Casing1 Diameter(inches):	Not Reported
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	Yes	Date Drilled:	3-91
Static Water Level:	79	Production WL:	105
Yield (gpm):	3	Yield Measurement Method:	V
Drawdown:	26	Test Time:	0.5
Bedrock:	46	Driller:	188
Water Bearing Zone 1:	93	Water Bearing Zone 2:	99
Water Bearing Zone 3:	Not Reported	Lithology:	OTHER
Municipality:	HANOVER TOWNSHIP	Remark:	TYPE OF ROCK=LS/CLAY
Aquifer:	EPLER FORMATION		

M49
South
1/2 - 1 Mile
Higher

PA WELLS **PA1000000106384**

WELLID:	Not Reported	LOCALWELLN:	2060N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	105		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.63444		
LONGITUDED:	-75.43417		
DEPTHTOBED:	46		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180965		

Construction Information:

Construction Date:	03/01/1991 00:00:00		
Driller:	188		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	SCREEN		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	20	Casing Diameter:	Not Reported
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	O		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	MINE
Water Use:	Not Reported

Owner Information:

Owner:	MONARCH ALLENTOWN
Date Ownership:	Not Reported

Remarks Information:

Remark:	TYPE OF ROCK=LS/CLAY
Remark Date:	Not Reported

L50
North
1/2 - 1 Mile
Higher

PA WELLS **PA1000000108266**

WELLID:	403943075255801	LOCALWELLN:	LE 482
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	VALLEY FLAT		
WELLDEPTH:	157		
ELEVATION:	395		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66194		
LONGITUDED:	-75.43278		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24738		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1972 00:00:00
Driller:	1
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED
Method Cons:	CABLE TOOL
Finish:	OPEN HOLE

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	100	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	DOMESTIC

Owner Information:

Owner:	SEIP ALBERT B
Date Ownership:	01/01/1928 00:00:00

L51
North
1/2 - 1 Mile
Higher

FED USGS **USGS2159800**

Agency cd:	USGS	Site no:	403943075255801
Site name:	LE 482		
Latitude:	403943		
Longitude:	0752558	Dec lat:	40.66204166
Dec lon:	-75.43240406	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	395	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	1972
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	157	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1972-00-00	Ground water data end date:	1972-00-00
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1972	115	

O52
NNE
1/2 - 1 Mile
Higher

PA WELLS **SPAW0136441**

Well ID:	2058N		
Owner's Name:	JOHN JEAN	County	LEHIGH
Latitude:	403940	Longitude:	752525
Quadrangle:	CATASAUQUA	Lat/Long Accuracy:	ACCURATE TO +1 MINUTE
Hydrologic Unit:	02040106	Topographic Setting:	HILLSIDE
Water Usage:	DOMESTIC	Site Usage:	WITHDRAWAL
Well Depth:	120	Finish:	OPEN HOLE
Casing 1:	116	Casing1 Diameter(inches):	6
Casing2:	Not Reported	Casing2 Diameter(inches):	Not Reported
Grouted:	No	Date Drilled:	5-19-92
Static Water Level:	80	Production WL:	100
Yield (gpm):	15	Yield Measurement Method:	E
Drawdown:	20	Test Time:	1.5
Bedrock:	30	Driller:	1663
Water Bearing Zone 1:	118	Water Bearing Zone 2:	Not Reported
Water Bearing Zone 3:	Not Reported	Lithology:	LIMESTONE
Municipality:	HANOVER TOWNSHIP	Remark:	Not Reported
Aquifer:	EPLER FORMATION		

Map ID Direction Distance Elevation		Database	EDR ID Number
O53 NNE 1/2 - 1 Mile Higher		**PA WELLS**	**PA1000000108220**

WELLID:	Not Reported	LOCALWELLN:	2058N
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	HILLSIDE		
WELLDEPTH:	120		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	02040106		
LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66111		
LONGITUDED:	-75.42361		
DEPTHTOBED:	30		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180963		

Construction Information:

Construction Date:	05/19/1992 00:00:00		
Driller:	1663		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	116	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	DOMESTIC

Owner Information:

Owner:	JOHN JEAN
Date Ownership:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N54
NNW
1/2 - 1 Mile
Higher | **FED USGS** | **USGS2159979**

Agency cd:	USGS	Site no:	403938075262201
Site name:	LE 618		
Latitude:	403938		
Longitude:	0752622	Dec lat:	40.66065273
Dec lon:	-75.4390709	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	42
State:	42	County:	077
Country:	US	Land net:	Not Reported
Location map:	CATASAUQUA	Map scale:	24000
Altitude:	390	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Lehigh. Pennsylvania. Area = 1350 sq.mi.		
Topographic:	Undulating		
Site type:	Ground-water other than Spring	Date construction:	1960
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	EPLER FORMATION		
Well depth:	230	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	Not Reported
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1960-09-01	Ground water data end date:	1960-09-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1960-09-01	100.00	

N55
NNW
1/2 - 1 Mile
Higher | **PA WELLS** | **PA1000000108175**

WELLID:	403938075262201	LOCALWELLN:	LE 618
COUNTY:	LEHIGH		
AAPG:	367EPLR		
TOPOGRAPHY:	UNDULATING		
WELLDEPTH:	230		
ELEVATION:	390		
ELEVMETHOD:	INTERPOLATED FROM TOPOGRAPHIC MAP		
ACCURACYOF:	5		
HYDROLOGIC:	02040106		

LATLONGACCURACY:	ACCURATE TO +1 SECOND		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	FIELD CHECKED BY REPORTING AGENCY (PaDAg pest. survey)		
SOURCE DEPTH DATA:	OTHER/UNKNOWN/UNSPECIFIED		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66056		
LONGITUDED:	-75.43944		
DEPTHTOBED:	0		
DATEDRILLE:	Not Reported		
PAGWIS ID:	24733		

Agency Use Section:

Agency Use of Site:	OBSERVATION
Agency Use Date:	Not Reported

Construction Information:

Construction Date:	01/01/1960 00:00:00		
Driller:	1		
Source Cons Data:	OTHER/UNKNOWN/UNSPECIFIED		
Method Cons:	AIR ROTARY		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	114	Casing Diameter:	6
Casing:	UNKNOWN		

Geohydrologic Information:

A A P G:	367EPLR		
Lithology:	LIMESTONE		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	RECHARGE
Water Use:	UNUSED

Owner Information:

Owner:	PILOTS CLUB
Date Ownership:	01/01/1960 00:00:00

56
NNE **PA WELLS** **PA1000000108267**
1/2 - 1 Mile
Higher

WELLID:	Not Reported	LOCALWELLN:	X 0809
COUNTY:	LEHIGH		
AAPG:	364BKMN		
TOPOGRAPHY:	FLAT SURFACE		
WELLDEPTH:	168		
ELEVATION:	0		
ELEVMETHOD:	Not Reported		
ACCURACYOF:	Not Reported		
HYDROLOGIC:	Not Reported		

LATLONGACCURACY:	ACCURATE TO +1 MINUTE		
QUAD:	CATASAUQUA		
TYPEOFSITE:	WELL		
DATECREATE:	Not Reported	DATEUPDATE:	Not Reported
DATARELIABILITY:	LOCATION MAY NOT BE ACCURATE (WWI paper)		
SOURCE DEPTH DATA:	DRILLER'S RECORD		
MUNICIPALITY:	HANOVER TWP.		
LATITUDEDD:	40.66194		
LONGITUDED:	-75.42583		
DEPTHTOBED:	107		
DATEDRILLE:	Not Reported		
PAGWIS ID:	180981		

Construction Information:

Construction Date:	Not Reported		
Driller:	0275		
Source Cons Data:	DRILLER'S RECORD		
Method Cons:	Not Reported		
Finish:	OPEN HOLE		

Casing Information:

Top Of Casing:	0	Casing Wall Thickness:	Not Reported
Bottom Of Casing:	112	Casing Diameter:	6
Casing:	Not Reported		

Geohydrologic Information:

A A P G:	364BKMN		
Lithology:	LS		
Contributing Unit:	PRIMARY		
Top Of Interval:	Not Reported	Bottom Of Interval:	Not Reported

Water Use Information:

Site Use:	WITHDRAWAL
Water Use:	DOMESTIC

Owner Information:

Owner:	STRAIN ED
Date Ownership:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: PA Radon

Test Result Statistics

Zip	Total Sites	Min pCi/L	Max pCi/L	Avg pCi/L
18017	2579	0	153.7	7.1

EPA Region 3 Statistical Summary Readings for Zip Code: 18017

Number of sites tested: 3734.

Maximum Radon Level: 380.0 pCi/L.
Minimum Radon Level: 0.5 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
1605 (42.98%)	1196 (32.03%)	632 (16.93%)	262 (7.02%)	28 (0.75%)	11 (0.29%)

Federal EPA Radon Zone for LEHIGH County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Pennsylvania Public Water Supply Wells
Source: Pennsylvania Department of Environmental Resources Bureau of Water Supply
Telephone: 717-787-5017

Pennsylvania Groundwater Information System
Source: Department of Conservation and Natural Resources
Telephone: 717-783-7258

OTHER STATE DATABASE INFORMATION

RADON

State Database: PA Radon
Source: Department of Environmental Protection
Telephone: 717-783-3594
Radon Test Results Statistics by Zip Code

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

EPA Region 3 Statistical Summary Readings
Source: Region 3 EPA
Telephone: 215-814-2082
Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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Fax To: CH2M Hill
Contact: Mary Beth Jacques
Fax : 404-229-9152
Date: 07/12/2006

Fax From: Bart Sobieralski
EDR
Phone: 1-800-352-0050

EDR PUR-IQ® Report

"the intelligent way to conduct historical research"

for
Wilson-Kramer USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017
Lat./Long. 40.64810 / 75.43030
EDR Inquiry # 01714247.248r

The EDR PUR-IQ report facilitates historical research planning required to complete the Phase I ESA process. The report identifies the *likelihood* of prior use coverage by searching proprietary EDR-Prior Use Reports® comprising nationwide information on: city directories, fire insurance maps, aerial photographs, historical topographic maps, flood maps and National Wetland Inventory maps.

Potential for EDR Historical (Prior Use) Coverage - Coverage in the following historical information sources may be used as a guide to develop your historical research strategy:

1. City Directory: Coverage exists for portions of BETHLEHEM, PA for 1963-1966, 1968-1979, 1981-1984, 1986, 1987, 1989, 1991, 1992-1995, 1997

2. Fire Insurance Map: When you order online any EDR Package or the EDR Radius Map with EDR Sanborn Map Search/Print, you receive site specific Sanborn Map coverage information at no charge.

3. Aerial Photograph: Aerial photography coverage may exist for portions of Lehigh County. Please contact your EDR Account Executive for information about USGS photos available through EDR.

4. Topographic Map: The USGS 7.5 min. quad topo sheet(s) associated with this site:

Historical: Coverage exists for Lehigh County

Current: Target Property: TP | 2001 | 40075-F4 Catasauqua, PA

EDR's network of professional researchers, located throughout the United States, accesses the most extensive national collections of city directory, fire insurance maps, aerial photographs and historical topographic map resources available for BETHLEHEM, PA. These collections may be located in multiple libraries throughout the country. To ensure maximum coverage, EDR will often assign researchers at these multiple locations on your behalf. Please call or fax your EDR representative to authorize a search.

EDR - HISTORICAL SOURCE(S) ORDER FORM

CH2M Hill
Mary Beth Jacques
Account # 1592163

Wilson-Kramer USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017
Lehigh County
Lat./Long. 40.64810 / 75.43030
EDR Inquiry # 01714247.248r

Should you wish to change or add to your order, fax this form to your EDR account executive:

Bart Sobieralski
Ph: 1-800-352-0050 Fax: 1-800-231-6802

Reports

___ EDR Sanborn Map® Search/Print

___ EDR Fire Insurance Map Abstract

___ EDR Multi-Tenant Retail Facility® Report

___ EDR City Directory Abstract

___ EDR Aerial Photo Decade Package

___ USGS Aerial 5 Package

___ USGS Aerial 3 Package

___ EDR Historical Topographic Maps

___ Paper Current USGS Topo (7.5 min.)

___ Environmental Lien Search

___ Chain of Title Search

___ NJ MacRaes Industrial Directory Report

___ EDR Telephone Interview

Shipping:

___ Email
___ Express, Next Day Delivery — RUSH SERVICE IS AVAILABLE
___ Express, Second Day Delivery
___ Express, Next day Delivery — Customer Account — Acct # _____
___ Express, Second Day Delivery — Customer Account — Acct # _____
___ U.S. Mail

Thank you

"Linking Technology with Tradition"®

Sanborn® Map Report

Ship To: Mary Beth Jacques
CH2M Hill
1569 Stampmill Way
Lawrenceville, GA 30043

Order Date: 7/12/2006 **Completion Date:** 7/12/2006
Inquiry #: 1714247.249
P.O. #: NA
Site Name: Wilson-Kramer USARC
Address: 2940 AIRPORT ROAD
City/State: BETHLEHEM, PA 18017
Cross Streets:

Customer Project: NA
1592163BAS 770-338-1589

This document reports that the largest and most complete collection of Sanborn fire insurance maps has been reviewed based on client supplied information, and fire insurance maps depicting the target property at the specified address were not identified.

NO COVERAGE

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The EDR Aerial Photo Decade Package

Wilson-Kramer USARC
2940 AIRPORT ROAD
BETHLEHEM, PA 18017

Inquiry Number: 1714247.251

July 12, 2006

EDR® Environmental Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

This document reports that EDR searched its own collection or select outside repository collections of aerial photography, and based on client-supplied target property information, aerial photography, including the target property was not deemed reasonably ascertainable by Environmental Data Resources, Inc. (EDR). This no coverage determination reflects a search only of aerial photography repository collections that EDR accessed. It can not be concluded from this search that no coverage for the target property exists anywhere, in any collection.

NO COVERAGE

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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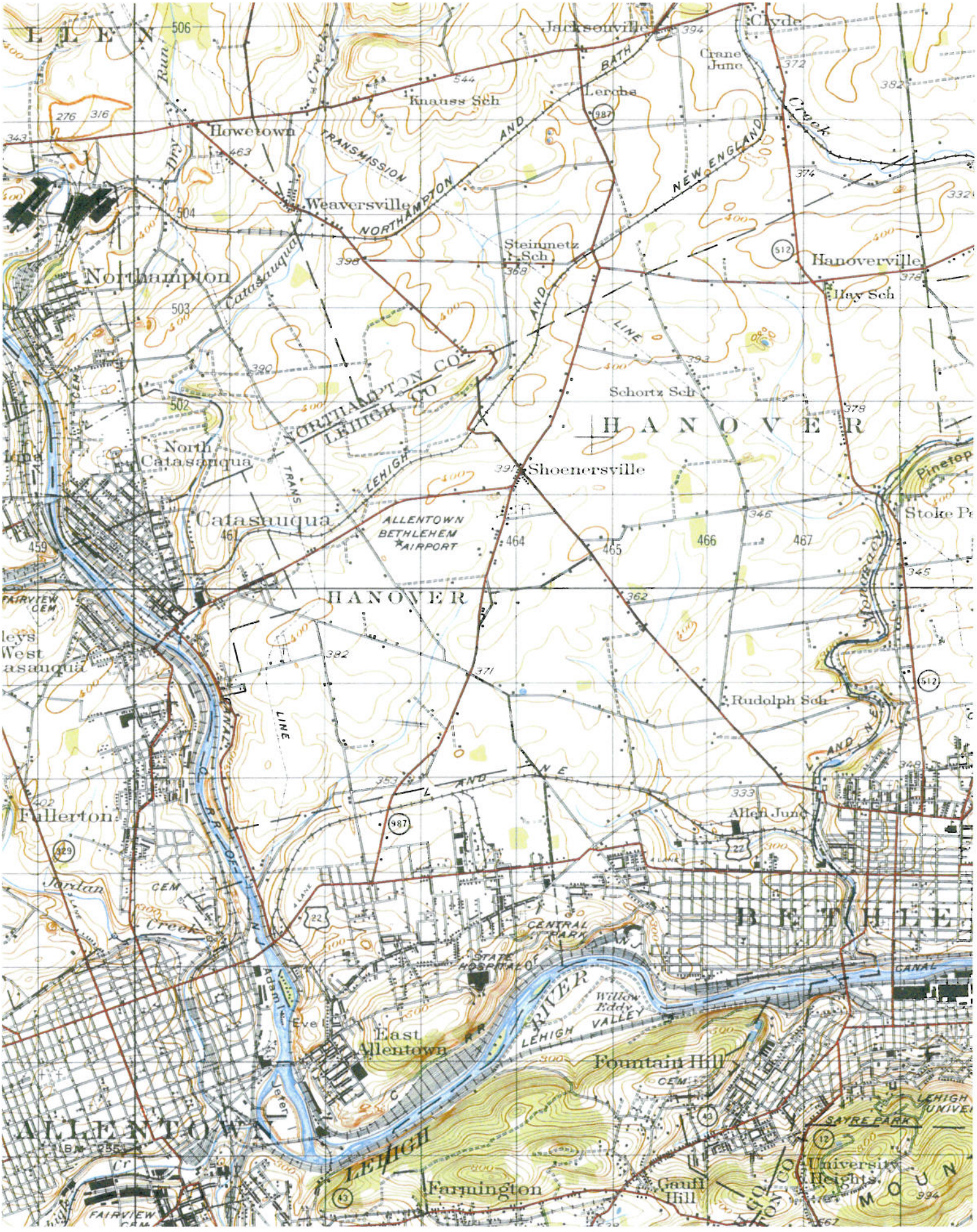
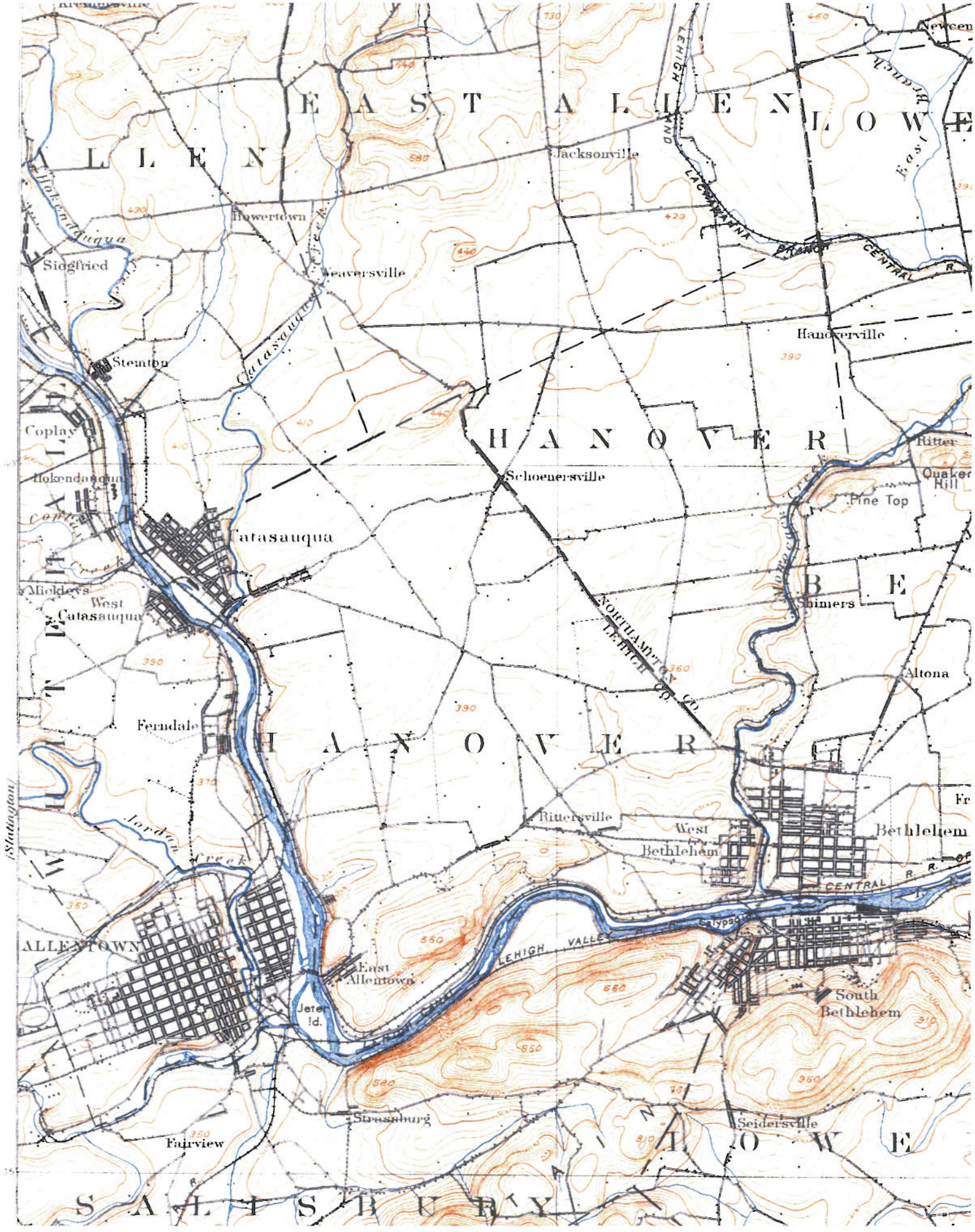
N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: ALLENTOWN YEAR: 1957 Series: 15' Scale: 1:62,500



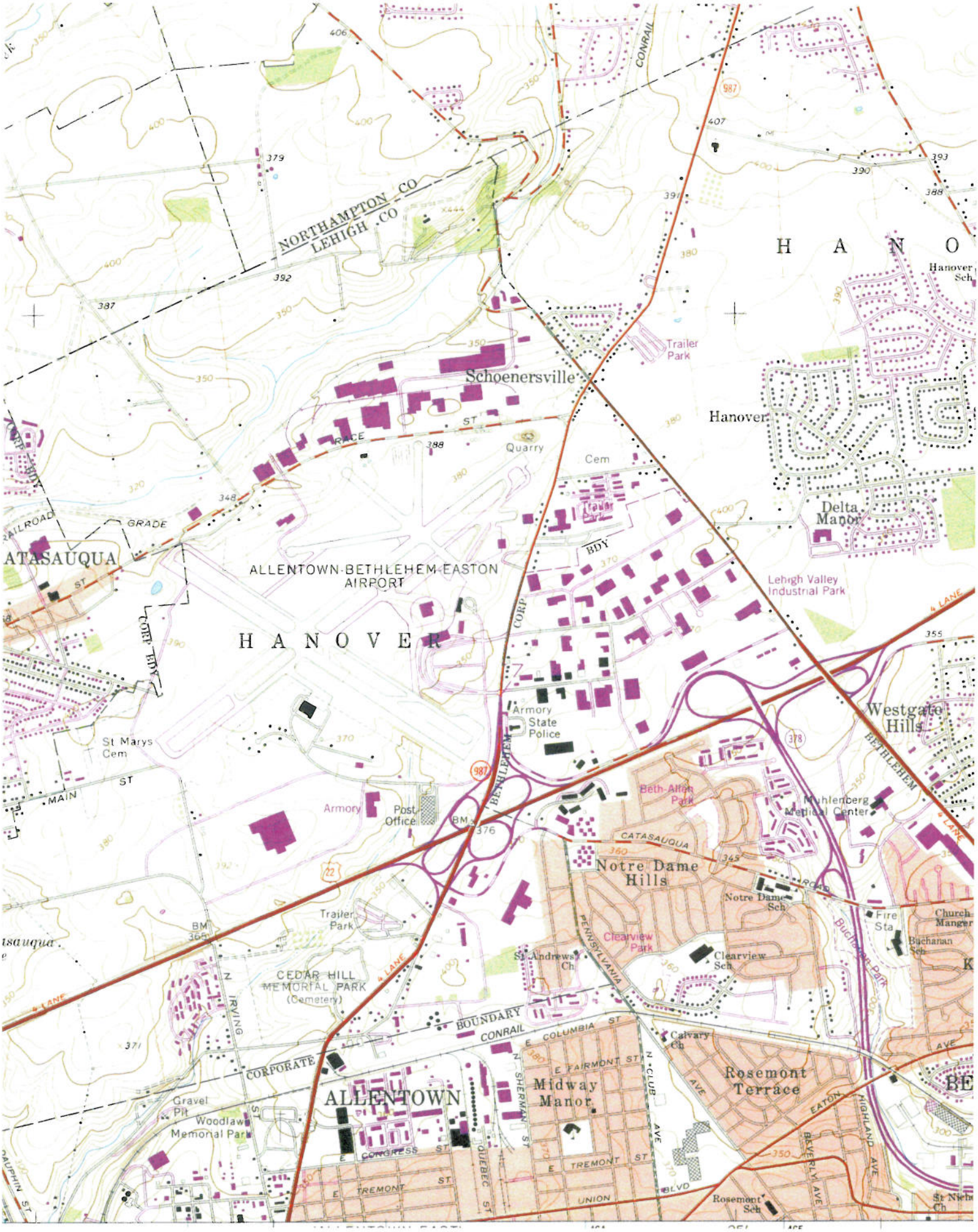
N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: ALLENTOWN YEAR: 1947 Series: 15' Scale: 1:50,000



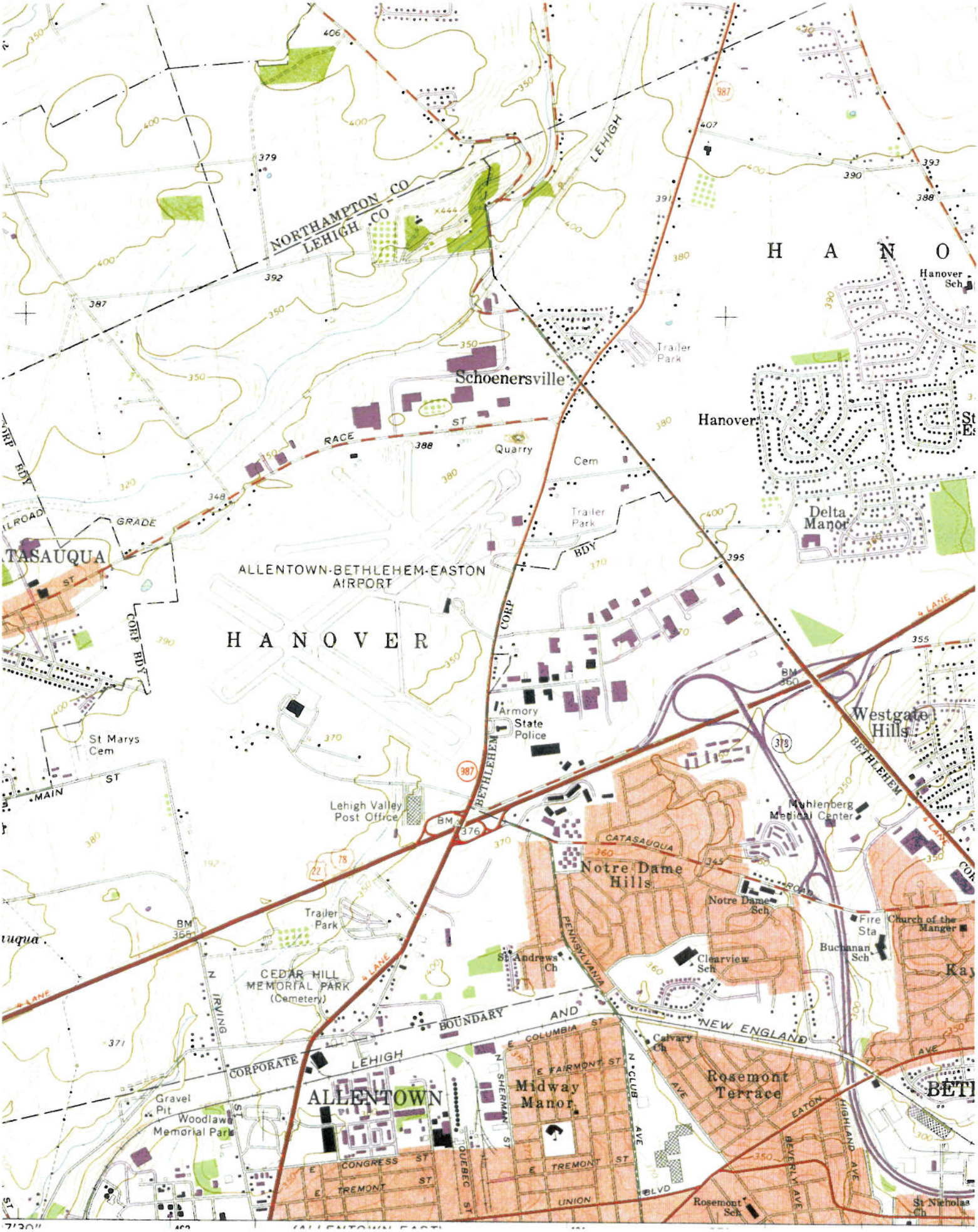
N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: ALLENTOWN YEAR: 1893 Series: 15' Scale: 1:62,500

N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA YEAR: 1999 Series: 7.5' Scale: 1:24,000

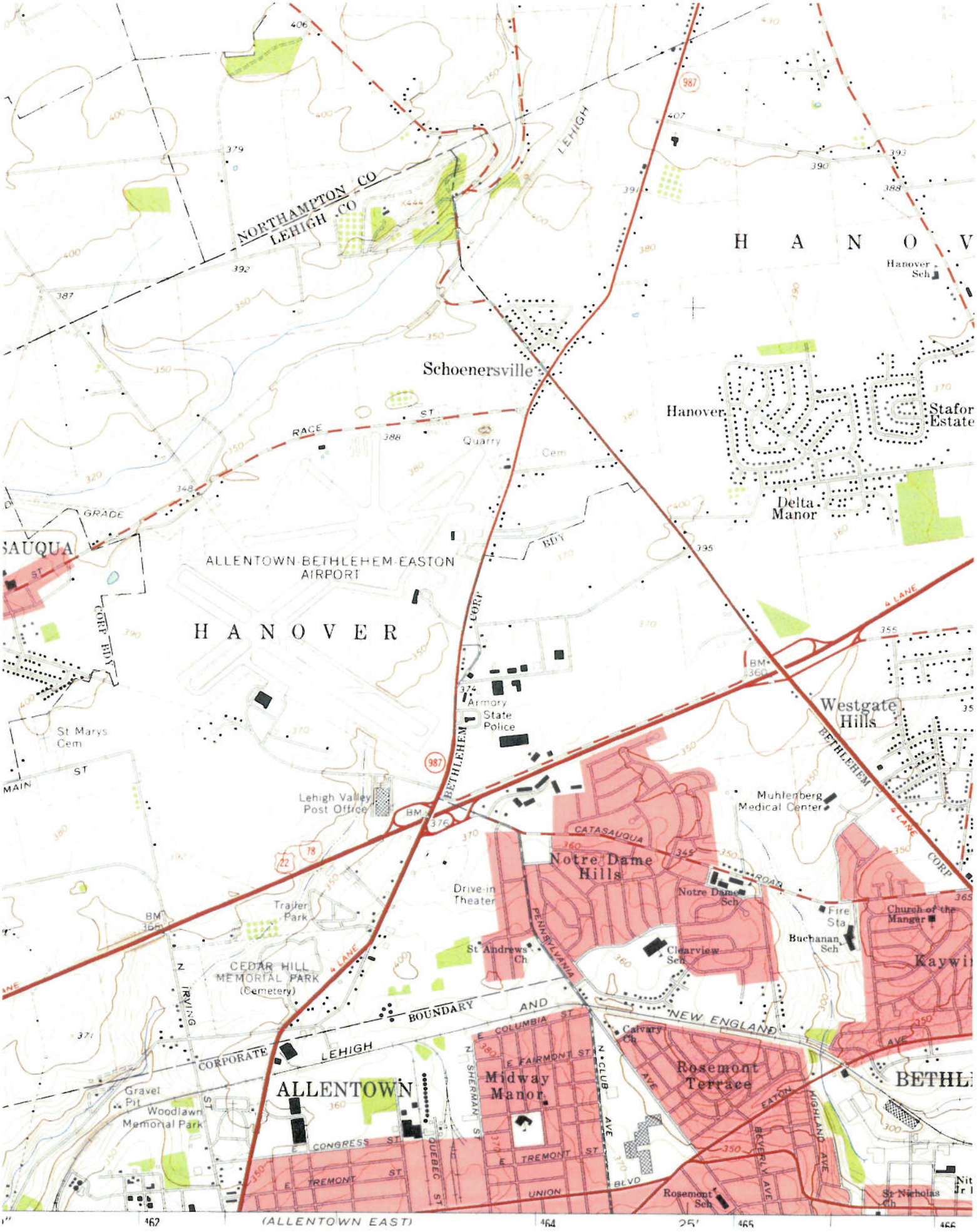
N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA Revised: 1964-1992 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA PhotoRevised: 1964-1983 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA PhotoRevised: 1964-1972 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1714247.250 TARGET QUAD: CATASAUQUA YEAR: 1964 Series: 7.5' Scale: 1:24,000