



**Installation Management Agency, Army Reserve Division**

# **ENVIRONMENTAL BASELINE SURVEY**

**Huisman United States Army  
Reserve Center (OH 066)  
25445 Harvard Road  
Warrensville Heights, Ohio**



*Prepared For:*

**88<sup>th</sup> Regional Readiness Command  
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**March 31, 2004**

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## SECTION 1.0 EXECUTIVE SUMMARY

### 1.1 INTRODUCTION

The Installation Management Agency, Army Reserve Division (IMA-ARD) has prepared this Environmental Baseline Survey (EBS) for the 88th Regional Readiness Command (RRC) at the 2 Lieutenant (LT) S. William Huisman United States Army Reserve Center (USARC), hereafter referred to as the "Property". The Property is located at 25445 Harvard Road in Warrensville Heights, Cuyahoga County, Ohio. The Property lies on the north side of the road, approximately 1,000 feet west of the intersection of Richmond Road and Harvard Road.

This EBS was developed in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Designation D6008-96, *Standard Practice for Conducting Environmental Baseline Surveys*, the ASTM Designation E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, and Army Regulation 200-1, *Environmental Quality, Environmental Protection and Enhancement*, Chapter 15-6, and generally recognized industry practices.

This Executive Summary presents a description of the buildings on the Property, a brief description of historical Property use, and recognized environmental conditions or areas of environmental concern that could potentially impact the environmental condition of the Property. Other areas of potential environmental concern are outlined in the remainder of this document.

The Property evaluated during the course of this EBS encompasses approximately 4.65 acres. The USARC provides organizational and limited direct support maintenance, and technical assistance for Army Reserve units located in the region. Light maintenance at the Property includes support of military vehicles and military equipment. The Property is currently occupied by the 428<sup>th</sup> Quarter Master Company and 319<sup>th</sup> Quarter Master Battalion.

There are three buildings on the Property. A description of the structures on the Property follows:

- 2 LT William S. Huisman USARC. The 2LT William S. Huisman USARC facility is the predominant structure on the Property. It is approximately 28,950 square feet (sf) and functions mainly as offices, classrooms, and a drill hall. This building is a two-story, primarily U-shaped structure. The structure was constructed in 1962. The building is underlain with a concrete foundation. It is constructed of concrete block walls that have been finished with red bricks. Fluorescent lighting is used throughout the building. Floor covering is typically tile with the exception of finished concrete floors in the drill hall and caged storage areas.
- Organizational Maintenance Shop (OMS). The OMS on the Property is a rectangular, one-story cinder block building, with a red brick veneer. The building was constructed in 1963 and contains a slab-on-grade concrete foundation. The structure occupies approximately 6,576 sf and contains five metal overhead retractable bay doors, an administrative area, several caged storage areas, and two flammable-materials storage cabinets. The OMS is currently used to provide approximately 20% of the organizational level maintenance on equipment and vehicles that belong to the 428<sup>th</sup> and 319<sup>th</sup>, including "Level #1" vehicle maintenance (oil changes, tire changes, wheel bearing repacks, etc.). Major repairs such

as engine overhauls are referred to Area Maintenance Support Activity (AMSA) #123, located in Macedonia, Ohio. There are no floor drains in the OMS.

- Utility Building. This approximately 25 sf building functions as a storage facility for mechanical equipment used by East Ohio Gas, supplier of natural gas to the USARC. It is a half-story square building that rests on a concrete foundation with concrete block wall and a red brick facade. The building was constructed in 1962.

There is a sparse population of deciduous and coniferous trees around the main buildings and along the boundaries of the Property. Grassy, landscaped areas surround the main buildings. The central area of the Property is covered by asphalt parking areas for military and privately owned vehicles. A chain-link fence topped with barbed wire surrounds the OMS and Military Equipment Parking (MEP) area. Access to the buildings is only gained with proper identification.

Based on documents provided by the 88<sup>th</sup> RRC, the Property was purchased by the Department of the Army from the City of Cleveland in 1961. The 88<sup>th</sup> RRC is the current owner of the Property. Based on the legal description, the Property is situated in the Township of Warrensville, County of Cuyahoga, and the State of Ohio, and known as being part of the original Warrensville Township Lot No. 69, containing approximately 4.65 acres of land. The latitude/longitude of the Property is 41° 27' 0.0"N, 81° 30' 1.4"W. Adjacent properties are discussed in Section 4.0 of this report.

Based on the information revealed in this EBS, IMA-ARD identified **no recognized environmental conditions** that negatively impact the environmental condition of the Property. There were, however, two environmental concerns related to the Property. They are as follows:

#### Environmental Concerns

- Asbestos Containing Materials. An *Asbestos, PCB, Lead-Based Paint, and Radon Survey* (March 2004) was prepared by ITI of South Florida, Inc. (ITI) for the USARC and OMS on the Property. Asbestos Containing Materials (ACMs) were identified at the following locations:

#### USARC

##### Confirmed Asbestos

- Thermal system insulation located through the building (pipes and fittings)
- Water tank insulation and associated pipes in boiler room
- 9" x 9" floor tile and mastic located throughout
- Exterior expansion joints between bricks

##### Presumed Asbestos

- Cloth expansion joints
- Door putty
- Fire doors
- Electrical wiring

## OMS

### Presumed Asbestos

- Cloth wrap around flue pipe (6 inches) about bay door #2 (from left)
- Cloth expansion joint
- Exterior joint putty between bricks
- Fire doors
- Electrical wiring
- Roofing Materials

Localized damage of thermal system insulation was observed in some areas, especially at elbows and joints.

- Lead-Based Paint. An *Asbestos, PCB, Lead-Based Paint, and Radon Survey (March 2004)* was prepared by ITI for the USARC and OMS on the Property. Lead-Based Paint (LBP) was identified at the following locations:

## USARC

- All metal door jambs located throughout, brown with red tint (good condition)
- All painted components of staircases, brown and cream on metal (fair to damaged condition)
- All painted metal columns and beams and associated corrugated metal deck, cream color (good condition)
- Metal doors in the drill hall and copy entrance areas, brown with a red tint (fair condition)
- Chalk board in the drill hall (good condition)
- Exterior garage door frame/jamb, metal, grey (damaged condition)
- Ceramic tile walls in all restrooms, 1<sup>st</sup> and 2<sup>nd</sup> floor (good condition)
- Glazed block in room 209, janitor's closet (good condition)
- Green metal ladder in Rom 209, janitor's closet (good condition)

## OMS

- Exterior metal door jambs on garage doors (damaged condition)
- Yellow paint on floor, west door (significantly damaged)
- All metal beams and columns, yellow and white in color (fair condition)

## Environmental Condition of Property

This EBS classified the Property into one of seven Department of Defense (DoD) Environmental Condition of Property (ECP) categories as defined by ASTM Designation D5746-98 (2002), *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities*. Property classification categories are defined in Section 2.3 of this EBS.

The Property has been classified as category Type 2. This category is defined as *“an area or parcel of real property where only the release or disposal of petroleum products or their derivatives has occurred.”* This classification was selected based on the identification of petroleum-impacted soils during the removal and closure of a 550-gallon underground storage tank. Total Petroleum Hydrocarbons (TPH) were detected in one of the soil samples at 210 milligrams per kilogram (mg/kg), below the determined action level of 904 mg/kg (see Section 6.4.1).

## SECTION 2.0 SCOPE OF SERVICES

### 2.1 OBJECTIVES AND METHODOLOGY

IMA-ARD prepared this EBS for the Property and all of the properties within the minimum search distances specified under ASTM E 1527-00, ASTM D 6008-96, and Army Regulation 200-1 standards.

The objective of the EBS was to identify *recognized environmental conditions* by reviewing the Property history, including review of: historical aerial photographs; city directories; regulatory agency records; and historical reports. Interviews with persons knowledgeable about the Property and a site reconnaissance were also conducted. A recognized environmental condition is defined as *the presence or likely presence of hazardous substances or petroleum products under conditions that indicate an existing release, a past release, or a material threat of a release on the surface of the Property, or into the ground, groundwater, or surface water of the property. The term does not include de minimis conditions that generally do not represent a material risk of harm to public health or the environment, and that generally would not be the subject of a regulatory enforcement action.*

This EBS was performed in a manner that allowed for the identification of recognized environmental conditions at the Property, those concerns ascertained through visual and physical observations, and information-gathering procedures.

The following tasks were performed during the course of this EBS:

- A site reconnaissance for evidence of hazardous materials handling, storage, or disposal, and other potential contaminants, or practices that may have affected the property.
- An evaluation of the surrounding properties within the designated ASTM radii, with respect to their potential to impact the environmental integrity of the Property. This evaluation was limited to (a) evidence readily observable without accessing the neighboring properties and (b) data that may be obtained from federal, state, and local regulatory agency files via use of an electronic database search supplied by Environmental Data Resources (EDR).
- Review of reasonably available historical data (e.g., historical environmental reports, aerial photographs, and city directories), topographical and hydrogeological information, and other information, as appropriate.
- Interviews with persons knowledgeable of the Property.

The site reconnaissance for this EBS was conducted on February 24, 2004, by Mr. Michael Dickinson, Hydrogeologist/Environmental Property Assessor contractor for IMA-ARD. Ms. Nikki Foster, State Environmental Manager TAD-PGS contractor for the 88th RRC, provided Property access.

## 2.2 INFORMATION SOURCES

EBS: IMA-ARD personnel reviewed the following applicable documents in the course of this

Document	Source
Road Map of the Area	Rand McNally.com
USGS 7.5-Min. Topographic Map – Shaker Heights, Ohio Quadrangle, 1979	Topozone.com
Aerial Photographs of the Property and Surrounding Area (1952, 1962, 1977, 1991, and 2002)	EDR, GlobExplorer.com
City Directories for the Property and the Surrounding Area (1967, 1976, 1997)	EDR
Legal Description of the Property	88th RRC
Condemnation Documents, USACOE, October 1999	88th RRC
Project Report – Range Cleanup – OH066, 88 <sup>th</sup> RSC, Huisman USARC, Warrensville Heights, Ohio, IT Corporation, Feb	88th RRC
Ohio Section 110 Inventory Report, Fort McCoy Archaeology Laboratory, December 1999	88th RRC
Floor Plans of Buildings on the Property, 1987	88th RRC
Specifications for Oil/Water Separator Closure at Huisman USARC (OH066), Warrensville Heights, Ohio, Jones Technologies, Inc., October 2000	88th RRC
Final OWS System Closure Report, Huisman USARC (OH066), Warrensville Heights, Ohio, Jones Technologies, Inc., October 2001	88th RRC
Closure Assessment Report for Waste Oil Underground Storage Tank at 2 LT WM S Huisman USARC Facility, Warrensville Heights, Ohio, Harza Environmental Services, Inc., January 1999	88th RRC
Cross Connection/Backflow Prevention Program for the 88 <sup>th</sup> RSC Facilities in Ohio, Dosson-Stilson, Inc., January 1997	88th RRC
Miscellaneous As-Built Drawings for the Property	88th RRC
Final Oil/Water Separator Evaluation Report, 88 <sup>th</sup> RSC, Ohio, Jones Technologies, Inc., December 1998	88th RRC
Correspondence between Harza Environmental Services, Inc. and Division of State Fire Marshall, Bureau of Underground Storage Tank Regulations, May 1999	88th RRC

Document	Source
Environmental Compliance Assessment for 2 LT William S. Huisman USAR Center, Facility Engineering Team #1, 83 <sup>rd</sup> ID Memorial USAR Center, October 2002	88th RRC
Asbestos Survey Report, Huisman USARC, Warrensville Heights, Ohio, RMT, November 1992	88th RRC
Environmental Survey Report – Asbestos, PCB, Lead Based Paint and Radon Survey, 88 <sup>th</sup> Regional Support Command, Warrensville, Ohio (OH066)	88th RRC
Radon Survey Results, 83 <sup>rd</sup> ARCOM, June 1993	88th RRC
Final Installation Spill Contingency Plan, Huisman USARC, Warrensville, Ohio, Jones Technologies, Inc., May 1998	88th RRC
Draft Boiler Surveys, Air Emission Inventories, and Hazardous Materials Inventories, U.S. Army Reserves, Columbus, Ohio, Dames & Moore, April 1994	88th RRC
Record of Environmental Consideration for Right-of-Way Easment, Huisman USARC, Warrensville, Ohio (OH066), September 1997	88th RRC
Excerpts from Draft 88 <sup>th</sup> RRC Natural Resources Survey, February 2004	88th RRC
Geology, Hydrogeology, and Soils Data for the Property and Surrounding Area	EDR
Electronic Regulatory Agency File Database	EDR

With the exception of the as-built drawings, all environmental documents have been copied to an electronic disk and are included as an attachment in this report. In addition, substantive information about the Property and the surrounding area was obtained from interviews with the following persons:

- Ms. Lisa Gulbranson, 88th RRC, TAD-PGS Contractor
- Ms. Nikki Foster, 88th RRC, TAD-PGS Contractor
- Mr. Robert Healey, Supervisory Staff Administrator, 319<sup>th</sup> Quarter Master Battalion

### 2.3 ENVIRONMENTAL CONDITION OF THE PROPERTY CATEGORIES

The EBS classifies the Property into one of seven DoD Environmental Condition of Property (ECP) categories as defined by ASTM Designation D5746-98, *Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities*. The property classification categories are described in detail below:

- 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 under way, 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.

ECP Area Types 1 through 4 are suitable for lease or transfer by deed. ECP Area Types 5 and 6 are typically unsuitable for lease or transfer by deed because of ongoing or yet to be initiated remedial actions. ECP Area Type 7 is unevaluated or requires additional evaluations.

## **2.4 LIMITATIONS**

This EBS was performed in accordance with ASTM E 1527-00, ASTM D 6008-96, and Army Regulation 200-1. This EBS included available historical sources, including previous environmental documents, historical aerial photographs, city directories, and interviews with persons knowledgeable about Property activities. It should be noted that the ground surface was partially snow covered at the time of the site reconnaissance, thereby reducing the effectiveness of personal observation of staining, spills, or stressed vegetation on the subject property.

Although this study has been a reasonably thorough attempt to identify the potential sources of contamination for the Property, there is always the possibility that some sources of contamination have escaped detection due to the limitations of this study, the inaccuracy of government records, or the presence of undetected and unreported environmental events. IMA-ARD environmental personnel have performed this EBS using the degree of care and skill

ordinarily exercised under similar conditions by other reputable environmental professionals practicing in this or similar localities.

## SECTION 3.0 PROPERTY DESCRIPTION

### 3.1 PROPERTY NAME

2LT William S. Huisman USARC.

### 3.2 PROPERTY ADDRESS

The Property is located at 25445 Harvard Road in Warrensville Heights, Cuyahoga County, Ohio. The Property lies on the north side of the road, approximately 1,000 feet west of the intersection of Richmond Road and Harvard Road (see Attachments A and B – Property Location Map and Property Sketch). The mailing address for the facility is as follows:

2LT William S. Huisman USARC  
25445 Harvard Road  
Warrensville Heights, Ohio 44122

### 3.3 PROPERTY SIZE

Based on a review of the legal description provided by the 88th RRC, the Property encompasses approximately 4.65 acres.

### 3.4 CURRENT IMPROVEMENTS AND USES

The USARC currently provides organizational and limited direct support maintenance, and technical assistance for supported Army Reserve units located in the region. Light maintenance at the site includes support of military vehicles and military equipment. The Property is currently occupied by the 428<sup>th</sup> Quarter Master Company and 319<sup>th</sup> Quarter Master Battalion.

There are three buildings on the Property. A description of the structures on the Property follows:

- 2 LT William S. Huisman USARC. The 2LT William S. Huisman USARC facility is the predominant structure on the Property. It is approximately 28,950 square feet (sf) and functions mainly as offices, classrooms, and a drill hall. This building is a two-story, primarily U-shaped structure. The structure was constructed in 1962. The building is underlain with a concrete foundation. It is constructed of concrete block walls that have been finished with red bricks. Fluorescent lighting is used throughout the building. Floor covering is typically tile with the exception of finished concrete floors in the drill hall and caged storage areas.
- Organizational Maintenance Shop (OMS). The OMS on the Property is a rectangular, one-story cinder block building, with a red brick veneer. The building was constructed in 1963 and contains a slab-on-grade concrete foundation. The structure occupies approximately 6,576 sf and contains five metal overhead retractable bay doors, an administrative area, several caged storage areas, and two flammable-materials storage cabinets. The OMS is currently used to provide approximately 20% of the organizational level maintenance on equipment and vehicles that belong to the 428<sup>th</sup> and 319<sup>th</sup>,

including “Level #1” vehicle maintenance (oil changes, tire changes, wheel bearing repacks, etc.). Major repairs such as engine overhauls are referred to Area Maintenance Support Activity (AMSA) #123, located in Macedonia, Ohio. There are no floor drains in the OMS.

- Utility Building. This approximately 25 sf building functions as a storage facility for mechanical equipment used by East Ohio Gas, supplier of natural gas to the USARC. It is a half-story square building that rests on a concrete foundation with concrete block wall and a red brick facade. The building was constructed in 1962.

There is a sparse population of deciduous and coniferous trees around the main buildings and along the boundaries of the Property (see Attachment C – Photographs). Grassy, landscaped areas surround the main buildings. The central area of the Property is covered by asphalt parking areas for military and privately owned vehicles. A chain-link fence topped with barbed wire surrounds the OMS and Military Equipment Parking (MEP) area. Access to the buildings is only gained with proper identification.

### **3.4.1 Utilities**

According to Mr. Robert Healy, Supervisory Staff Administrator for the 319<sup>th</sup> Quarter Master Battalion, the City of Beachwood supplies the Property with potable water and sanitary sewer service. First Energy provides electricity to the Property and East Ohio Gas supplies the Property with natural gas. According to Mr. Healy, there are no septic tanks on the Property (see Attachment D – Record of Communication).

## **3.5 PROPERTY HISTORY**

### **3.5.1 Previous Environmental Assessments of the Property**

Based on a review of documents provided by the 88<sup>th</sup> RRC, a Phase I Environmental Assessment or EBS has not been performed for the Property previously. However, several site specific environmental documents were reviewed as part of this EBS. They have been included on an electronic disk in this report (see Attachment E – Research Documents).

### **3.5.2 Occupancy and Uses of the Property**

IMA-ARD reviewed several sources of historical information with regard to the Property, including historical aerial photographs, city directories, and information supplied by interviews (see Attachment D).

Based on documents provided by the 88<sup>th</sup> RRC, the Property was purchased by the Department of the Army from the City of Cleveland in 1961. Prior to 1961, the Property was apparently vacant, open grassland, making up a portion of land used by the Department of the Army for NIKE missile operations.

A review of historical aerial photographs for the Property corroborates this information in that they show the Property as open grassland from the date of the earliest aerial photograph (1952). The next available aerial photograph is from 1962 and shows the USARC and OMS in generally the same locations as they exist today. The MEP area has not been constructed in the 1962 photograph and the asphalt drive has not been constructed. The 1977 and 1991 aerial photographs show the addition of the asphalt boundaries of the MEP and POV parking areas.

The 2002 aerial photograph shows the Property in generally the same condition as it exists today.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1967 through 1997. The Property is listed as the US Department of Defense Army Reserve Center from the earliest listing (1967). According to the city directories, the USARC has occupied the Property continuously until the last listing in 1997.

**3.5.3 Occupancy and Uses of Nearby Land Use**

At the present time, the land to the south is occupied by Cuyahoga Community College. Undeveloped commercial property, owned by Chagrin Highlands Development Company, borders the site to the north, east, and west (see Attachment B).

The 1952 aerial photograph of the area surrounding the Property to the north and east indicate the land was used for military support buildings (command rooms, commissary, living quarters, offices, etc.) as part of NIKE missile operations. Adjacent property to the west was occupied by a military hospital (closed in approximately 2000, according to Mr. Healey) in the 1952 photograph and open grasslands were observed to the south. The development of Harvard Road can be seen in the 1962 photograph, with adjacent properties remaining generally unchanged. In the 1977 aerial photograph, the military support buildings to the north and east have been demolished and construction of Cuyahoga Community College is apparent to the south. The 1991 aerial photograph shows the continued development of Cuyahoga Community College to the south. The military hospital is missing from the 2002 aerial photograph and surrounding properties are in generally the same condition as they exist today. A review of the city directories for surrounding properties identified the U.S. Department of Defense Army Area Supply Office (25950 Harvard Road), Cuyahoga Community College (25444 Harvard Road), and the Highland Hills Fire Department (25441 Harvard Road).

**3.5.4 Review of Aerial Photographs**

Available aerial photographic coverage of the Property included photographs dated 1952, 1962, 1977, 1991, and 2002. These aerial photographs are included in Attachments F-1 through F-5. A summary of the information obtained from an analysis of these photographs is as follows:

<b>1952 Aerial Photograph EDR</b>	This aerial photograph shows the Property as vacant open grassland. Surrounding properties to the north, northeast, and east house military buildings in support of the NIKE missile operation. Land to the south is vacant and a military hospital is present east of the Property (see Attachment F-1).
<b>1962 Aerial Photograph EDR</b>	This photograph shows the Huisman USARC and OMS on the Property in generally the same locations as they exist today. The development of Harvard road is visible to the south. Land use to the north, east and west has remained relatively unchanged since the 1952 photograph. The presence of the NIKE missile silos, southeast of the Property is evident in this photograph (see Attachment F-2).

<b>1977 Aerial Photograph EDR</b>	This photograph shows the Property in generally the same condition as the 1962 photograph with the exception of paving in the POV and MEP areas. Military housing to the north, east have been demolished and construction of the Cuyahoga Community College is evident to the south of Harvard Road (see Attachment F-3).
<b>1991 Aerial Photograph EDR</b>	With the exception of continued development of Cuyahoga Community College south of Harvard Road, the Property and surrounding areas have remained relatively unchanged since the 1977 photograph. The former NIKE missile silos, southeast of the Property were closed at the time this photograph was taken (see Attachment F-4).
<b>2002 Aerial Photograph, GlobExplorer®</b>	This photograph shows the Property and surrounding properties in generally the same condition as they exist today. The military hospital, formerly east of the Property has been removed. Undeveloped commercial property borders the site to the north, east, and west (see Attachment F-5).

## **SECTION 4.0 ADJACENT PROPERTIES**

Attachment F-5 provides an aerial view of land that surrounds the Property. The Property is bounded to the north, east and west by undeveloped commercial property owned by Chagrin Highlands Development Company. Harvard Road borders the site to the south. Further south of Harvard Road is Cuyahoga Community College. The photographs below illustrate adjacent properties:

### **North**

Undeveloped commercial land borders the Property to the north. The photograph to the right was taken from the northern portion of the MEP, viewing north.



### **South**

Harvard Road borders the Property to the south. Cuyahoga Community College lies further south of Harvard Road. The photograph to the left shows Harvard Road with the Community College in the background



## East

Undeveloped commercial land borders the Property to the east. The photograph to the left was taken from the east side of the OMS, viewing east. Further east is I-271.



## West

Undeveloped commercial property borders the Property to the west. The photograph on the left shows the western fence line with the undeveloped commercial property in the background. The photograph on the right was taken viewing north and shows the western fence line of the MEP area and the undeveloped commercial property on the left side of the photograph.

## SECTION 5.0 ENVIRONMENTAL SETTING

### 5.1 TOPOGRAPHY AND SURFACE WATER

The Property lies in a gently rolling area with a land surface elevation of approximately 1,216 feet above mean sea level, based on the National Geodetic Vertical Datum (NGVD) of 1929. Based on surface topography and a visual inspection of the Property, storm water generally flows towards the southeast in the direction of an unnamed tributary, located approximately 2,500 feet southeast of the Property. This unnamed tributary flows toward the south-southeast (see Attachment G – U.S.G.S. Topographic Quadrangle Map).

Adjacent properties to the north and west are topographically upgradient of the Property. Based on the fact that these properties are undeveloped and had no noticeable outside storage of liquid chemicals (e.g., drums or hazardous waste storage areas) at the time of the site reconnaissance, it does not appear that storm water runoff from these adjacent properties would negatively impact the environmental condition of the Property. Adjacent properties to the east and south are located topographically downgradient and would not drain stormwater onto the Property.

### 5.2 WETLANDS

The United States Army Corp of Engineers (USACE) and Environmental Protection Agency (EPA) jointly define wetlands as *“Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.”*

National Wetland Inventory coverage was not available for the Property. Based on a review of the Draft 88<sup>th</sup> RRC Natural Resources Survey completed for the Property, no wetlands were observed on or in the immediate vicinity of the Property. It should be noted that a wetlands delineation study was not conducted as part of this EBS.

### 5.3 100-YEAR FLOOD ZONE

A review of the Overview Map 1136980.3s indicates that the site does not lie inside the 100-year flood zone (see Attachment H – EDR Database Report)

### 5.4 GEOLOGIC INFORMATION

Based on a review of documents provided by the 88<sup>th</sup> RRC, most of Cuyahoga County geology was formed from Wisconsin-age glacial till, glacial outwash, beach deposits, lacustrine sediments, recent stream alluvium and locally accumulated organic material. According to the EDR, the Property overlies a stratified sequence of deposits of the Paleozoic Era, Mississippian System, Mississippian Series (see Attachment H).

### 5.5 HYDROGEOLOGIC INFORMATION

Groundwater flow direction has been estimated to be towards the southeast in the direction of an unnamed tributary, based on a review of the 7.5-minute U.S.G.S. topographic

map of the area. It should be noted that this groundwater flow direction is not known with certainty and cannot be determined without the installation of monitoring wells and/or piezometers on the Property.

## **5.6 SOIL CHARACTERIZATION**

According to the U. S. Department of Agriculture's Soil Conservation Service data, the prominent soil type at the Property has been identified as MAHONING. This classification consists of silty loam that has very slow infiltration rates. Soils are clayey, have a high water table, and commonly have a layer with low hydraulic conductivity. Depth to water table is 1 to 3 feet. Depth to bedrock is greater than 60 inches (see Attachment H).

## SECTION 6.0 SITE RECONNAISSANCE AND INTERVIEWS

### 6.1 SITE OBSERVATIONS

#### 6.1.1 INSPECTOR/INSPECTION DATE

Environmental professional, Mr. Michael Dickinson performed the site reconnaissance on February 24, 2004. Mr. Dickinson is a Hydrogeologist/Environmental Property Assessor contractor for the IMA-ARD and has over ten years of experience in the environmental field. Ms. Nikki Foster, Ohio State Environmental Manager, TAD-PGS contractor for the 88<sup>th</sup> RRC, provided Property access.

#### 6.1.2 Site Access and Egress

There is only one access drive leading to the Property (from Harvard Road). The MEP area is bound by a chain-link fence topped with barbed wire. Access to the buildings is restricted to personnel with proper identification.

#### 6.1.3 Wells

##### 6.1.3.1 Drinking and/or Irrigation Wells

There are no drinking wells or irrigation wells on the Property.

##### 6.1.3.2 Dry Wells

No visual or physical evidence of dry wells was discovered on the Property.

#### 6.1.4 Pits, Ponds, and Lagoons

Visual inspections for pits, ponds, and lagoons, particularly those used in connection with waste disposal or waste treatment, were conducted. None were noted at the time of the visual inspection of the Property. There was no visual evidence that the area was currently or had been used for waste disposal in the past.

#### 6.1.5 Mounds or Depressions

A visual inspection was conducted to identify areas apparently filled or graded by other than natural means (or filled by unknown origins), mounds, or depressions suggesting trash or other solid waste disposal. No mounds or depressions were observed during the visual inspection of the Property.

#### 6.1.6 Vegetation/Wooded Areas

The Property is approximately ten percent landscaped with grassy areas/native plants and decorative shrubs. MEP and POV parking areas, driveways, and building footprints occupy the remainder of the Property.

#### 6.1.7 Buildings and Other Structures

The buildings on the Property have been previously discussed in Section 3.0.

#### **6.1.8 Septic Systems**

According to Mr. Robert Healey, Supervisory Staff Administrator for the 319<sup>th</sup> Quarter Master Battalion, the Property is serviced exclusively by sanitary sewer. Mr. Healey stated that there are no septic tanks on the Property.

#### **6.1.9 Solid Waste Disposal**

At the time of the visual inspection of the Property, there was one solid waste dumpster on the site. According to Mr. Healey, the solid waste dumpster is routinely emptied by BFI, Inc. No staining or unusual odors were observed in or around the solid waste dumpster.

#### **6.1.10 Evidence of Air Emissions/Odors**

No unusual odors were noted during the reconnaissance of the Property. Based on a review of the *Draft Boiler Surveys, Air Emission Inventories, and Hazardous Material Inventories*, the boiler at the Property is a natural gas fired boiler that is small enough (<10 MMBtu/hr heat input) to be exempt from Permit To Install (PTI) requirements pursuant to OAC 3745-31-03 (A) (1) (a). Permit to Operate (PTO) requirements pursuant to OAC 3745-35 mandate that a permit shall be obtained for any "air contaminant source", which is loosely defined as any physical facility that "emits or may emit any air pollutant". Though no "de minimis" value for PTO permitting requirements has been promulgated, a proposed rule that is being implemented in some of the OEPA district offices exempts any air contaminant source emitting less than 10 lb/day of any criteria air pollutant (per ORC 3704.111). The boiler on the Property falls well below the 10lb/day limit.

#### **6.1.11 Evidence of Wastewater Discharge**

No wastewater discharge, other than sanitary wastewater, was observed on or adjacent to the Property during the site reconnaissance. An oil/water separator (OWS) was previously located on the Property and is discussed below in Section 6.5.

#### **6.1.12 Evidence of Monitoring Wells or Environmental Remedial Activities**

No monitoring wells were observed on the Property during the site reconnaissance.

#### **6.1.13 Evidence of Stained or Discolored Soil or Dead, Distressed, Discolored, or Stained Vegetation**

No stained or discolored soil or distressed vegetation was observed during the site reconnaissance. It should be noted that the ground surface was partially snow covered at the time of the site reconnaissance, thereby reducing the effectiveness of observations of staining, spills, or distressed vegetation on the Property.

#### **6.1.14 Evidence of Leachate or Seeps**

None were observed during the site reconnaissance.

#### **6.1.15 Evidence of Chemical/Petroleum Spills or Releases**

No evidence of past chemical/petroleum spills or releases was observed during the site reconnaissance. The Final installation Spill Contingency Plan, Huisman USARC was available for review during the site reconnaissance. According to Mr. Healey, the methods outlined in the plan are enforced at the facility.

#### **6.1.16 Hydraulic Equipment**

No permanently installed hydraulic equipment was identified at the Property. According to Mr. Healey, the OMS was never equipped with a hydraulic lift.

#### **6.1.17 Evidence of Farm Waste Concerns**

No such evidence was observed.

#### **6.1.18 Evidence of Excessive Use of Pesticides, Herbicides, Soil Conditioners, or Fertilizers**

With the exception of minimal amounts of commercially-available products used by landscape/pest-control personnel, no excessive use of any of these chemicals were noted at the time of the site reconnaissance.

#### **6.1.19 Other Concerns**

None.

### **6.2 AREA RECONNAISSANCE**

The Property and the properties immediately surrounding the site have been described previously. It should be noted that a former NIKE missile launch area was formerly located in the southeast quadrant of the intersection of Richmond Road and Harvard Road, approximately 1,500 feet southeast and downgradient of the Property. The former launch area can be seen in the 1962 and 1977 aerial photographs, but has been removed in the 1991 aerial photograph (see Attachment F).

### **6.3 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS IN CONNECTION WITH IDENTIFIED USES**

Visual and physical inspections for hazardous substances and petroleum products were also conducted. The Property is listed under EPA's Resource Conservation and Recovery Information System (RCRIS) as a Small Quantity Generator (SQG), EPA ID# OH9210090040. A SQG is defined as a site which generates between 100 kilograms (kg) and 1,000 kg of hazardous waste per month.

Based on information supplied by the 88<sup>th</sup> RRC, the Property is listed as a SQG based on the generation of waste from vehicle maintenance at the OMS. Typical wastes noted during the site reconnaissance were: used oily rags, used fuel and oil filters, used fuel, lamps (used), paint cans, used antifreeze, used motor oil, and other vehicle maintenance waste. Chemicals stored at the OMS include: 5-gallon containers of fuel, motor oil, brake fluid, gear oil, lubrication oil, flux paste, silicone compound, multi-purpose grease, aerosol spray paints, as well as other typical vehicle maintenance fluids.