

***FINAL***

**ENVIRONMENTAL CONDITION OF  
PROPERTY REPORT**

**CEDAR RAPIDS  
ARMED FORCES RESERVE CENTER (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IOWA 52402**

***Prepared For:***

**U.S. Army Corps of Engineers – Louisville District  
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.

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**WILLIAM S. TITTERINGTON**  
Environmental Division Chief  
BRAC Environmental Coordinator  
89<sup>th</sup> Regional Readiness Command

**DATE**

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



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**02/07/2007**

**DATE**

## EXECUTIVE SUMMARY

Smith Management Group, Inc. (SMG), in conjunction with Fuller, Mossbarger, Scott and May Engineers, Inc. (FMSM), under contract to the U.S. Army Corps of Engineers (USACE), Louisville District, has prepared this Environmental Condition of Property (ECP) Report for the Cedar Rapids Armed Forces Reserve Center (IA003), hereinafter referred to as the "Site" or "AFRC". The Site is located at 1599 Wenig Road NE, Cedar Rapids, Linn County, Iowa and encompasses approximately 6.0 acres.

This ECP Report was prepared in conformance with primary Department of Defense and Army guidance, the Department of Defense's Base Redevelopment and Realignment Manual, DoD 4165.77-M (BRRM), Army regulations and the American Society for Testing and Materials (ASTM) Designation D 6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys*, as secondary guidance when it was not inconsistent with the primary guidance.

This ECP Report details the history of the property, including the U.S. Armed Forces Reserve and any prior tenant uses of the Site and the resulting environmental condition of the property.

The AFRC is situated on approximately 6.0 acres of land with one permanent two story administration building of approximately 34,256 square feet, an Organizational Maintenance Shop (OMS) of approximately 3,800 square feet, and a small gas meter building. The site is currently occupied by three units: the 649<sup>th</sup> Area Support Group, the 960<sup>th</sup> Quartermaster Company, the 4224<sup>th</sup> United States Army Hospital, Detachment 1. Note: At the time of the site visit, a portion of the Site was occupied by the U.S. Naval Reserve; however, U.S. Naval Reserve personnel indicated that the U.S. Naval Reserve's lease terminated at the end of 2006.

Based on a review of aerial photographs and U.S. Geological Survey (USGS) topographic maps dating back to 1889, the Site has served as an AFRC since prior to 1967. In 1964, the U.S. Government purchased 6.0 acres of land for the construction of the AFRC.

Areas of potential concern were reviewed and SMG identified petroleum impacts relating to the AFRC use of this property. Evidence of petroleum contamination was discovered in the groundwater within the vicinity of oil/water separator (OWS). However, the contamination discovered did not exceed concentrations that required a removal or remedial action in accordance with Iowa Department of Natural Resources (IDNR) action levels. In accordance with Department of Defense policy defining the classifications (See Deputy Under Secretary of Defense Goodman Memorandum dated 21 October 1996), the Property has been classified as Category 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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## LIST OF ACRONYMS

ACM	asbestos containing material
AFRC	Armed Forces Reserve Center
AR	army regulation
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BTEX	benzene, toluene, ethyl benzene, and xylene
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	CERCLA Information System
CERFA	Community Environmental Response Facilitation Act
CESQG	conditionally exempt small quantity generator
CFR	Code of Federal Regulations
CONEX	Container Express
CORRACTS	corrective action report
DoD	Department of Defense
DRO	diesel range organics
EBS	Environmental Baseline Survey
ECP	Environmental Condition of Property
EDR	Environmental Data Resources, Inc.
FEMA	Federal Emergency Management Agency
FINDS	Facility Index System/Facility Registry System
FMSM	Fuller, Mossbarger, Scott & May Engineers, Inc.
GRO	gasoline range organics
IDNR	Iowa Department of Natural Resources
IFR	indoor firing range
kg	kilogram
LBP	lead-based paint
LQG	large quantity generator
LUST	leaking underground storage tank
MEP	military equipment parking
MEC	munitions and explosives of concern
NPL	National Priorities List

NRHP	National Register of Historic Places
OMS	organizational maintenance shop
OWS	oil/water separator
PCBs	polychlorinated biphenyls
pCi/l	picoCuries per liter of air
POL	petroleum, oil, and lubricant
POV	privately-owned vehicle
RCRA	Resource Conservation and Recovery Act
RCRIS	RCRA Information System
ROD	Record of Decision
RQ	reportable quantity
Site	Cedar Rapids Armed Forces Reserve Center (IA003)
SMG	Smith Management Group, Inc.
SQG	small quantity generator
T&E	threatened and endangered
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
WSR	wild and scenic river

## 1.0 INTRODUCTION

SMG, in conjunction with FMSM, was contracted by the USACE – Louisville District to prepare an ECP Report for the Cedar Rapids Armed Forces Reserve Center (IA003) in response to the Base Realignment and Closure (BRAC) 2005 legislation. The facility is located at 1599 Wenig Road NE, Cedar Rapids, Linn County, Iowa, hereinafter referred to as the “Site” or “AFRC”. In support of the ECP Report, a visual reconnaissance of the Site was conducted on August 8, 2006. The purpose of the reconnaissance was to visually obtain information indicating the environmental condition of property at the Site.

### 1.1 PURPOSE OF ENVIRONMENTAL CONDITION OF PROPERTY (ECP) REPORT

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 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 EPA’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 one year or more – specifically, quantities exceeding 1,000 kilograms or the reportable quantity, whichever is greater, of the substances specified in 40 CFR 302.4 or one kilogram of acutely hazardous waste as defined in 40 CFR 261.30. A notice is also 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, radon and other substances potentially hazardous to human health.

This ECP Report used the American Society for Testing and materials (ASTM) Designation D 6008-96 (2005), *Standard Practice for Conducting Environmental Baseline Surveys* as a guideline when not inconsistent with the BRRM, CERCLA § 120, Army regulations and other applicable Army guidance.

## **1.2 SCOPE OF SERVICES**

This ECP Report covers the AFRC located at 1599 Wenig Road NE, Cedar Rapids, Iowa. The Site is bounded by residential properties to the north, south, west, and residential properties and Shaver Park to the east. Site maps are provided in Appendix A. Appendix B provides photographs taken during the August 2006 site visit. Appendix C provides warranty deeds for the property and chain of title information. Historical environmental documents and reports are provided in Appendix D, while Appendix E contains the Environmental Data Resources, Inc. (EDR) report.

This ECP Report classifies the property into one of seven DoD Environmental ECP categories as defined by Deputy Under Secretary of Defense S. Goodman Memorandum, "Clarification of 'Uncontaminated' Environmental Condition of Property at BRAC Installations" (21 October 1996). The property classification categories are as follows:

- Category 1 – Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
- Category 2 – Areas where only the release or disposal of petroleum products has occurred.
- Category 3 – Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.
- Category 4 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.
- Category 5 – Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are under way, but all required remedial actions have not yet been taken.
- Category 6 – Areas where release, disposal, and/or migration of hazardous substances have occurred, but required actions have not yet been implemented.
- Category 7 – Areas that are not evaluated or require additional evaluation.

## **2.0 SITE LOCATION AND PHYSICAL DESCRIPTION**

### **2.1 SITE LOCATION**

The AFRC is located within the city limits of Cedar Rapids, Linn County, Iowa. The Site is located in a primarily residential area. Figure 1 in Appendix A provides a general site location map.

### **2.2 ASSET INFORMATION**

Facility Name and Address: Cedar Rapids Armed Forces Reserve Center (IA003)  
1599 Wenig Road NE  
Cedar Rapids, IA 52402

Property Owner: United States Government

Date of Ownership: 1964

Current Occupant: 649<sup>th</sup> Area Support Group, 960<sup>th</sup> Quartermaster Company,  
4224<sup>th</sup> United States Army Hospital, Detachment 1, and  
U.S. Naval Reserve

Zoning: R-1, Single Family Residential

County, State: Linn County, Iowa

USGS Quadrangle(s): Cedar Rapids North, Iowa

Section/Township/Range: Section 17, Township 83 North, Range 7 West

Latitude/Longitude: 42° 0' 20.5" N; 91° 40' 39.0" W

Legal Description: Title and lien reports and copies of the deeds, which  
include legal descriptions, are provided in Appendix C.

### **2.3 PHYSICAL DESCRIPTION**

The AFRC is situated on approximately 6.0 acres of land with one two-story administration building, an OMS, an military equipment parking (MEP) area, a privately-owned vehicle (POV) parking area, a small brick gas meter building and landscaped grounds, all within a chain-link fenced area. The Site is located off of Wenig Road NE and is accessed via Matterhorn Drive. Based upon available information, construction of the AFRC occurred in 1964. The property owner is identified as the U.S. Government.

The two-story building is constructed with concrete masonry units and brick veneer. A paved MEP area and POV parking area are also contained within the Site. Photographs 4 and 5 in Appendix B provide views of the MEP area and POV parking area. Chain-link security fencing

encloses the AFRC. Approximately 90 percent of the Site is covered by impervious surface features (e.g., asphalt parking areas, driveways, concrete walkways, building footprints, etc.). The remaining ground surface is covered by lawn. Topographically, the Site is located on a high point overlooking the Cedar River. Figure 2 in Appendix A provides a current plan view layout of the Site. Appendix B provides photographs taken during the August 2006 site visit.

The two-story administration building consists of office space, classrooms, a drill hall, storage areas, a kitchen, and latrines. Based upon visual observations and records review, significant interior renovations (i.e., painting, new ceiling tiles, tile removal, a new roof, etc.) have occurred within the building since the initial construction. Photographs 1 and 2 in Appendix B provide views of the exterior of the building, and Photographs 14 through 18 provide interior views of the administration building. Figures 3 and 4 in Appendix A provide layouts of the interior of the administration building. Additionally, a small brick building is located on the southeastern portion of the landscaped grounds and contains the Site's natural gas meter (see Photograph 13 in Appendix B).

The OMS is located within the fenced MEP area (see Photograph 3 in Appendix B). Reportedly, preventative maintenance (i.e., oil changes, fluid checks, battery replacements, etc.) is conducted on the vehicles maintained on Site in the OMS. Various military vehicles, such as 5 ton trucks, 2½ ton cargo trucks, portable generators, Containers Express (CONEX), two refrigeration units, 2 forklifts, and fuel tanker trucks and trailers are stored within the MEP area. The fuel tanks of the tanker trucks are reportedly purged before entering into the AFRC. A vehicle wash rack is located adjacent to the OMS and drains to the OWS located outside of the Site's perimeter fence. According to Site personnel at the time of the site visit, no vehicle washing is currently being conducted. The effluent from the OWS ultimately discharges to the sanitary sewer. The Site's designated hazardous material storage was primarily located within the MEP area and the OMS.

## **2.4 SITE HYDROLOGY AND GEOLOGY**

### **2.4.1 Surface Water Characteristics**

Figure 9 in Appendix A provides a portion of the 1994 Cedar Rapids North, Iowa United States Geological Survey (USGS) topographic map which includes the Site. As shown, the Site is situated at an elevation of approximately 800-feet above mean sea level and is situated on a topographic high. Stormwater drains were observed on the northern portion of the property in the POV parking area, and in the southern portion of the MEP area. (One storm drain in the MEP was blocked with lawn trimmings during the August 2006 site visit.) Based upon topography, stormwater sheet flow will likely run to the southwest towards the Cedar River. No surface water features are located in the immediate vicinity of the Site. The Cedar River, located approximately one mile southwest of the Site, is the closest major surface water feature.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Community Panel 190187 0020 B, the Site is not included in the floodplain. Figure 14 in Appendix A provides a map depicting the extent of the nearest floodplain in relation to the Site.

## 2.4.2 Geology / Hydrogeological Characteristics

Information obtained from the U.S. Department of Agriculture's Natural Resources Conservation Service Web Soil Survey, identifies the soil at the Site as the Fayette silt loam. This soil is located on hillsides and uplands. It is a well drained soil with moderate available water capacity and moderately coarse textures. This soil does not meet the requirements of a hydric soil.

In general, groundwater flows within alluvial deposits, generally mirroring surface flow within the region. Groundwater flow direction at the Site is to the southwest as determined by the USGS during the Phase II OWS investigation conducted in November 2002.

## 2.5 SITE UTILITIES

**Water Service** – The City of Cedar Rapids Water Department provides potable water service to the Site.

**Sanitary Sewer System** – The City of Cedar Rapids – Public Works provides sanitary sewer service to the Site. The primary source of wastewater that is directed to the city sewer system includes non-process wastewater (bathrooms, sinks, etc.). The OWS discharges to a sanitary sewer lift station and out to a sanitary sewer as determined by dye tests performed by the USGS during the Phase I OWS investigation conducted in October 2000.

**Gas & Electric** – MidAmerican Energy provides natural gas service to the Site, while Alliant Energy provides electric service to the Site.

## 2.6 WATER SUPPLY WELLS & SEPTIC SYSTEMS

No water supply wells were observed or reported on Site. As part of a Phase II investigation of the Site's vehicle wash rack and OWS, three groundwater monitoring wells were installed. Further documentation indicates that these three wells were plugged and abandoned in accordance with Iowa Administrative Code in July 2005.

A search of Federal and State water well databases identified no Federal public water supply wells within a mile of the Site; however, twenty-three State municipal wells were identified within 1.0-mile of the Site.

No evidence of a septic system was obtained or reported.

### **3.0 SITE HISTORY**

#### **3.1 HISTORY OF OWNERSHIP**

Land titles for the Site were reviewed back to 1940. The chain of title report did not identify any leases or environmental liens against the AFRC property. Based upon available information, in July 1964, Harold and Mabel Ross transferred the property to the U.S. Government by means of a warranty deed. Mr. and Mrs. Ross also granted the U.S. Government a perpetual and transferable easement for Tract 100E-1, and temporary easements for Tracts 100E-2, 100E-3, 100E-4, and 100E-5 for the construction of the AFRC. Appendix C contains copies of the warranty deed, chain of title report, and easement documentation for the Site.

Available business directories including City, cross-reference, and telephone directories were reviewed, if available, at approximately five-year intervals for the years spanning 1958 through 2005. According to a City Directory provided by EDR and dated July 18, 2006, the address of the AFRC was first listed in the research source (Polk's City Directory) in 1968. Preceding city directory searches do not list the Site address. A copy of the City Directory is included in Appendix E. As reported by EDR, no coverage was available for Sanborn fire insurance maps.

#### **3.2 PAST USES AND OPERATIONS**

In 1964, the U.S. Government purchased 6.0 acres of land for the construction of the AFRC. According to information provided by Site personnel, the Site has served as a reserve and mobilization center for the U.S. Armed Forces Reserve. Additionally, the U.S. Naval Reserve has leased a small area for storage in the OMS and several offices and classrooms within the administration building since 1964. The Site primarily functions as an administrative, logistical, and educational facility, with preventative maintenance of military vehicles occurring in the OMS. The Site is used by reservists for drill activities on various weekends throughout the year. The 649<sup>th</sup> Area Support Group, the 960<sup>th</sup> Quartermaster Company, and the 4224<sup>th</sup> United States Army Hospital, Detachment 1 currently occupy the AFRC. At the time of the site visit, the administration building contained various items, including desks and office furniture. An indoor rifle firing range used to be present in the administration building, but this range was reportedly remediated and closed in 1996. During the August 2006 site visit, SMG observed that the former range had been converted to storage space.

The OMS building is used to perform maintenance activities on military equipment (see Photograph 6 in Appendix B). Activities inside include, but are not limited to, preventative maintenance checks, checking vehicle fluids such as motor oil, water, and antifreeze, and light maintenance activities. Equipment requiring major overhaul is sent off-site. Various military vehicles, such as 5 ton trucks, 2½ ton cargo trucks, portable generators, and fuel tanker trucks and trailers are stored within the MEP area. Site personnel reported that the fuel tanks of the tanker trucks are purged before entering into the AFRC. A vehicle wash rack is located adjacent to the OMS and drains to the OWS located outside of the Site's perimeter fence. According to Site personnel at the time of the site visit, no vehicle washing is currently being conducted. Large crates of equipment and supplies were stacked within the wash rack at the time of the site visit. The effluent from the OWS discharges to a sanitary sewer lift station and out to a sanitary sewer as determined by dye tests performed by the USGS during the Phase I

OWS investigation conducted in October 2000. The Site's designated hazardous material storage was primarily located within the MEP area and the OMS.

Historical aerial photographs and topographic maps were the primary source of information on the past use and operations at the Site. Figures 5 - 13 in Appendix A provide USGS topographical maps and aerial views of the Site and surrounding areas in 1889, 1958, 1967, 1975, 1982, 1983, 1990, 1994, and 2000.

The 1889 USGS topographical map (Figure 5, Appendix A) does not depict a structure at the Site. Minimal development is illustrated on the map. The Cedar River is visible to the southwest, and a railroad is visible to the north of the Site.

The 1958 aerial photograph (Figure 10, Appendix A) does not illustrate the Site. The Site appears as a wooded parcel. Land adjacent to the Site is also undeveloped. The Cedar River is visible to the south, and Wenig Road is visible to the east.

The 1967 USGS topographical map (Figure 6, Appendix A) illustrates a structure at the Site. No structures are visible within the vicinity of the Site. The City of Cedar Rapids is visible to the east of the Site. Residential development is present to the east of the Site across Wenig Road NE.

The 1975 USGS topographical map (Figure 7, Appendix A) depicts the Site. A structure appears to the southwest of the Site, and development (residential) is evident to the north and northwest of the Site. Shaver Park is located to the east of the Site across Wenig Road NE.

The 1982 USGS topographical map (Figure 8, Appendix A) depicts the Site. Matterhorn Drive and Bilgarie Court appears as a revision to this map. Residential development also appears to the west of the Site.

The 1983 aerial photograph (Figure 11, Appendix A) depicts the Site. Residential properties appear to surround the Site. Cedar Lake, a railroad, and a quarry are visible to the southwest of the Site across J Street.

The 1994 USGS topographical map (Figure 9, Appendix A) includes the Site, and appears much the same as the 1982 USGS topographical map, except more residential development is visible to the west and southwest of the Site.

The 1990 and 2000 aerial photographs (Figures 12 and 13, Appendix A) appear to illustrate the Site roughly as it exists today. Other neighboring structures appear much the same as during the site visit.

### **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 Site was compiled through review of available site records, search of Federal and State environmental databases, and interviews with Reserve personnel.

Chemicals currently used and stored at the Site are associated with vehicle and facility maintenance activities, and janitorial services. Janitorial chemicals and building maintenance-related products were stored in a designated storage area within the administration building. Vehicle maintenance products and amounts of petroleum, oil, and lubricant (POL) products are also stored within designated areas (flammable cabinets) within the OMS and the MEP area.

Certain types of chemical products used and stored at the Site contain CERCLA hazardous substances and are stored on a rotational basis in amounts necessary to support the unit through direct support level maintenance. However, there was no evidence obtained or reviewed that CERCLA hazardous substances have been stored at the Site for one year or more in excess of corresponding RQs.

#### **3.3.2 Past Disposal and Release of Hazardous Substances**

Information related to past disposal and potential release of hazardous substances at the Site was compiled through review of available site records, search of Federal and State environmental databases, and interviews with Army Reserve personnel. According to Army Reserve personnel and available site records, on-site disposal of hazardous materials or wastes has not occurred at the Site. No stained soil or stressed vegetation was observed during the August 2006 site visit. Additionally, the MEP area and POV parking area did not show obvious signs of staining, and no noxious or foul odors were noted during the site visit. Drip pans were observed under the military vehicles within the MEP area. Furthermore, available records indicate that hazardous materials on Site were disposed of appropriately.

### **3.4 PAST PRESENCE OF BULK PETROLEUM STORAGE TANKS**

Based upon a review of available site records, a search of Federal and State environmental databases, and interviews with Army Reserve personnel, it does not appear that aboveground storage tanks (ASTs) and/or underground storage tanks (USTs) are now or have been present on Site.

### **3.5 REVIEW OF PREVIOUS ENVIRONMENTAL REPORTS**

A review of site records produced several reports pertaining to the Site. 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 Asbestos Survey(s) and Asbestos Management**

Historical records provide results of an analysis completed by Thompson Laboratories of the boiler room in 1987. The results indicated the presence of asbestos in the boiler room. Additionally, in 1990, an asbestos survey was completed by Hall-Kimbrell Environmental Services Inc. for the U.S. Naval Reserve Center, a tenant of the AFRC. As a result of laboratory analysis, ACM was identified in breeching, tank insulation, mudded joint packings, roof flashing, and duct insulation materials. Suspect materials included, but were not limited to, vinyl floor tile, mastic, vinyl baseboards, concrete block, and brick mortar. An asbestos management plan was developed for the Site.

An asbestos abatement project was conducted by the Fort McCoy Asbestos Abatement Team in 1991 for the renovation of the boiler room. The abatement consisted of the removal of 200 linear feet of pipe and boiler insulation. In 2000, a site investigation report by Invensys Construction Engineering provided a scope of work for a significant renovation of the administration building. Planned renovations described included converting the old rifle range to a storage area, removal and abatement of all existing asbestos floor tile in the facility, removal of ceiling tiles, light fixtures, replacement of exterior doors, plumbing work, and rifle range accoutrements.

### **3.5.2 1990 Radon Survey Report**

A November 1990 radon survey report was completed as part of the Fort McCoy Radon Program. Specifically, eight samples were taken at various locations throughout the first floor of the AFRC administrative building. Of the eight samples taken, no results exceeded 2.4pCi/l. Radon gas levels were well below the U.S. Environmental Protection Agency's (USEPA) recommended action level of 4.0 pCi/l.

### **3.5.3 1996 Firing Range Information**

During the site visit, SMG obtained drawings, photographs, and information relating to the former firing range located at the facility. The documentation indicates that asbestos and lead sampling occurred in the firing range. However, no closure report or final remediation documentation was provided. Therefore, based upon available information, an adequate determination can not be made as to whether appropriate remediation of the former indoor firing range has occurred.

### **3.5.4 1999 Environmental Baseline Study**

An Environmental Baseline Study was completed by Bregman & Company Inc. in March 1999 as part of the relocation of the 917<sup>th</sup> Quartermaster Company. The report documented the presence of a former indoor firing range, which was closed in 1995. The report also stated that a comprehensive asbestos survey had not been completed for the Site. No adverse environmental conditions were reported at the Site.

### **3.5.5 2003 Phase I Archaeological Survey**

A Phase I Archaeological Survey was completed by the Louis Berger Group Inc. in October 2003. The purpose of this report was to assess the potential impact to historical cultural resources for the installation of a fence around the perimeter of the AFRC. The area of potential effect was a surveyed area of 4.9 acres. No cultural resources were identified as a result of this investigation.

### **3.5.6 2003 Phase II Oil/Water Separator Investigation**

In November 2002, the USGS conducted a Phase II Investigation of the OWS located at the AFRC. The purpose of this investigation was to determine if contamination of the groundwater and soil had occurred as a result of the Site's leaking wash rack which is connected to an OWS located outside the Site's fenced perimeter. (Although the OWS is outside the perimeter fence, it is reportedly still on the Site's property.) Analytes tested included gasoline range organics (GRO), benzene, toluene, ethylbenzene, xylene (BTEX), and diesel range organics (DRO). Three soil boreholes were drilled and converted to wells. No DRO, GRO, or BTEX were found above method detection limits in soil samples collected. The maximum concentration of xylene found in groundwater samples collected during this investigation was 2.7 µg/liter, well below the IDNR action level of 10,000 µg/liter. The maximum concentration of toluene found in groundwater samples was 2.2 µg/liter, well below the IDNR action level of 1,000 µg/liter. All other detected constituents had estimated concentrations below laboratory reporting limits.

A letter dated October 17, 2005, indicates that these wells were abandoned and plugged in accordance with the plugging method prescribed by the Iowa Administrative Code 567-110.12(2)a and 567-39.8 in July 2005.

### **3.5.7 2003 Environmental Compliance Assessment Report**

An internal engineering and environmental assessment report was completed by the Army's Facility Engineering Group. The report evaluated maintenance, energy, safety, and environmental concerns at the Site. Deficiencies were noted and corrective actions were recommended. Deficiencies primarily related to improper hazardous material storage. None of the deficiencies noted posed an immediate risk to the environmental condition at the Site. Portions of the report addressing maintenance and energy are not included in Appendix D.

### **3.5.8 2006 Lead-Based Paint Survey Report**

In January 2006, SCS Engineers completed a lead-based paint (LBP) survey at the facility. Of the 720 samples taken, 2.8% of the readings were positive. Seven positive readings were identified on exterior surfaces, seven positive readings were identified in the interior of the administration building, and six positive readings were identified in the OMS. The report documented that paint surfaces with positive readings appeared to be intact. Due to the condition of the painted surfaces and the low number of LBP surfaces identified, the report recommended no abatement activities for the Site, and recommend that routine maintenance be performed at the facility.

### **3.5.9 2006 Drinking Water Survey**

In February 2006, Riverfront Environmental performed Drinking Water Surveys for several Reserve Centers. Results of the drinking water survey indicated that the Site's water is supplied by the City of Cedar Rapids Water Department, and recommended that no testing of the drinking water be completed at the time of the survey.

### **3.5.10 2006 Backflow Prevention Device Survey**

This survey was completed by NPN Environmental in 2006. The report's objective was to locate and identify the occurrences of cross-connection protection code violations. Facility inspection checklists, photographs, and site diagrams were included in the report. Two backflow prevention devices were observed in the Site's boiler room.

#### 4.0 ADJACENT PROPERTIES

Figure 13 in Appendix A provides a 2000 aerial view of the Site and adjacent properties. Adjacent properties include residential properties to the south and west; residential properties with Matterhorn Drive to the north; and residential properties with Wenig Road NE and Shaver Park beyond to the east. Table 1 provides a list of adjacent properties with their directional location in regards to the Site.

<b>TABLE 1 LIST OF ADJACENT PROPERTIES</b>			
<b>Direction From Site</b>	<b>Name/Type of Property</b>	<b>Address</b>	<b>Description</b>
North	Residential Apartments	Matterhorn Drive	R-2, Multi-Family Residential District
South	Residential Properties	Bilgaire Court	R-1, Single Family Residential District
East	Residential Properties	Wenig Road NE	R-1, Single Family Residential District
West	Residential Properties	Matterhorn Drive	R-1, Single Family Residential

Appendix A provides historical aerial photographs and topographic maps, Appendix C provides title information, Appendix D provides historic reports and documents and Appendix E provides EDR Reports. This information was used to evaluate potential environmental impacts on adjacent properties that may have also impacted the environmental condition at the Site. Land use at the adjacent properties does not appear to have changed significantly over the years and does not appear to have impacted the environmental condition of the AFRC.

## 5.0 REVIEW OF REGULATORY INFORMATION

A component of the ECP is the review of all reasonably obtainable federal, state, and local government records for the Site and surrounding properties, where there has been a release or likely release of a hazardous substance or petroleum product, and which is likely to cause or contribute to a release or threatened release of hazardous substances or petroleum product on the Federal leased property. A regulatory database summary was acquired from EDR dated July 14, 2006. The regulatory database summary consolidates standard federal, state, local, and tribal environmental record sources based on ASTM recommended minimum search distances from the Site. A copy of the complete EDR Report is included in Appendix E. Acronyms and abbreviations used in the summary tables below are fully explained in the EDR Report attached in Appendix E.

### 5.1 FEDERAL ENVIRONMENTAL RECORDS

The regulatory information presented in Table 2 was obtained from the EDR federal regulatory database search report.

TABLE 2 FEDERAL DATABASE SEARCH								
Database	Search Distance (miles)	Target Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
NPL	1.000		0	0	0	1	NR	1
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. Quantity Gen	0.250		0	0	NR	NR	NR	0
RCRA Sm. Quantity Gen	0.250	X	0	0	NR	NR	NR	1
ERNS	TP		NR	NR	NR	NR	NR	0

**TABLE 2  
 FEDERAL DATABASE SEARCH**

Database	Search Distance (miles)	Target Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
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	1	NR	1
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		NR	NR	NR	NR	NR	0
FINDS	TP	X	NR	NR	NR	NR	NR	1
RAATS	TP		NR	NR	NR	NR	NR	0

TP = Target Property; NR = Not Requested at this Search Distance

### **5.1.1 Federal RCRA Small and Large Quantity Generators List Within ¼ - Mile**

Conditionally exempt small quantity generators (CESQG) are defined as facilities generating less than 100 kilograms (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 kg and 1,000 kg of hazardous waste per month, while a large quantity generator (LQG) is defined as a facility generating more than 1,000 kg of hazardous waste, or over 1 kg of acutely hazardous waste per month.

The AFRC is listed as a RCRA-registered CESQG according to the EDR report. No RCRA violations are reported associated with the AFRC. No LQGs are identified within ¼-mile of the Site.

### **5.1.2 Facility Index System/Facility Registry System (FINDS) Site**

The FINDS List contains both facility information and “pointers” to other sources that contain more detail. The EDR report 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 Statute), and PADS (PCB Activity Data System).

According to the EDR report, the AFRC is on the FINDS list due to it being a SQG.

### **5.1.3 National Priority List (NPL) Within 1.0-Mile**

The NPL is a subset of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and identifies over 1,200 sites for priority cleanup under the Superfund Program. One NPL facility, Electro Coatings, Inc., was identified within the search radius of the Site. Electro Coatings, Inc. is a chromium, cadmium, nickel and zinc plating plant on the north shore of Cedar Lake. In 1976, the water of Cedar Lake was found to contain high levels of chromium, which was traced back to a leaking concrete tank of chromic acid at the plant. In June 1988, the Electro Coatings facility was proposed for inclusion on the NPL. In 1990, the facility entered into a Consent Order with the Iowa Department of Natural Resources to conduct a Remedial Investigation/Feasibility Study (RI/FS) to determine the type and extent of contamination at the facility and to identify remedial actions. This was completed in 1993. This facility is identified as 3,756-feet south/southeast of the AFRC. Based upon Site reconnaissance and review of a USGS topographic map, this facility is down gradient from the AFRC, and does not appear to be an environmental concern to the Site.

### **5.1.4 Record of Decision Site (ROD) Within 1.0-Mile**

ROD documents mandate a permanent remedy at an NPL facility containing technical and health information to aid in the cleanup. One ROD facility, Electro Coatings Inc., was identified within one mile of the AFRC. This facility is down gradient and does not pose an immediate

environmental concern to the AFRC. Please note that the Electro Coatings Inc. plant was also identified on the CERCLIS, FINDS, RCRA-LQG, and US INST Control databases; however, the plant is outside of the ASTM search radii for these databases.

## 5.2 STATE AND LOCAL ENVIRONMENTAL RECORDS

The regulatory information presented in Table 3 was obtained from the EDR State and Local regulatory database search report.

TABLE 3 STATE DATABASE SEARCH								
Database	Search Distance (miles)	Target Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
State Haz. Waste	1.000		0	0	0	0	NR	0
State Landfill	0.500		0	0	0	NR	NR	0
LUST	0.500		0	0	0	NR	NR	0
UST	0.250		0	0	0	NR	NR	0
LAST	0.500		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
INST CONTROLS	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
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

TP = Target Property; NR = Not Requested at this Search Distance

According to the EDR report, no facilities were identified within the State database records searched. The Site itself is not listed in any State database that was reviewed for this ECP.

### 5.2.1 State Response to Inquiry

In addition to the information provided by the EDR Report, SMG contacted the Iowa Department of Natural Resources (IDNR), Wallace Records Center.

In response to SMG's inquiry, the IDNR provided SMG a letter dated August 5, 1993, which acknowledged the IDNR's receipt of the Site's filing of a RCRA Notification of Regulated Waste Activity.

### 5.3 TRIBAL ENVIRONMENTAL RECORDS

The regulatory information presented in Table 6 was obtained from the EDR's Tribal database search report.

TABLE 6 TRIBAL DATABASE SEARCH								
Database	Search Distance (miles)	Target Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
Indian Reservation	1.000		0	0	0	0	NR	0
IA Indian UST	0.250		0	0	NR	NR	NR	0

NR = Not Requested at this Search Distance

According to the EDR report, no locations were identified within the designated radius for each of the searched Tribal Databases.

### 5.4 EDR PROPRIETARY RECORDS

The regulatory information presented in Table 7 was obtained from the EDR's Proprietary Records database search report.

TABLE 7 EDR Proprietary Database Search								
Database	Search Distance (miles)	Target Site	<1/8	1/8 – 1/4	1/4 – 1/2	1/2 – 1	>1	Total Plotted
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

TP = Target Property; NR= Not Requested at this Search Distance

According to the EDR report, no facilities were located within the designated radius for each of the searched EDR Proprietary Databases.

## **5.5 UNMAPPED SITES/FACILITIES**

The EDR database search yielded five unmapped facilities. Unmapped facilities are those with insufficient address information such that they can only be identified as within the zip code of the Site. Reasonable efforts were made to locate these facilities and assess their relevance to this ECP report. Further research was conducted using the mapping utility provided at maps.google.com. Two of the unmapped locations or orphaned facilities were identified and mapped, and were not identified within close proximity to the Site. The remaining three unmapped locations were not identified and mapped; however, these locations were not observed in proximity to the Site during the vehicle reconnaissance conducted of the area on August 8, 2006.

## **5.6 SUMMARY OF PROPERTIES EVALUATED TO DETERMINE RISK TO THE SITE**

To summarize Subsections 5.1 through 5.5, one property in addition to the AFRC was evaluated as a potential risk property to the Site. The property evaluated was identified as a result of information obtained during area reconnaissance and regulatory database searches. The Electro Coatings, Inc. plant is identified as an NPL and ROD facility located approximately 3,756 feet to the south/southeast of the AFRC. Although contamination has been documented at the plant, based upon its distance and gradient from the Site, this facility does not appear to pose an environmental concern to the AFRC, and would not be classified as "High Risk" property for purposes of the ECP. "High Risk" properties are those that exhibit significant environmental conditions that have the probability of adversely affecting the environmental conditions at another location.

## **6.0 SITE INVESTIGATION AND REVIEW OF HAZARDS**

Findings documented in the following subsections are based on the August 8, 2006 site visit and area reconnaissance, a review of available site records, and information obtained from U.S. Army Reserve personnel.

### **6.1 UNDERGROUND/ABOVEGROUND STORAGE TANKS**

No evidence was discovered of the historic or current use or presence of USTs or ASTs on Site.

### **6.2 INVENTORY OF CHEMICALS / HAZARDOUS SUBSTANCES**

During the August 2006 site visit, SMG observed that the Site stores most of its hazardous substances in the MEP and OMS areas. Specifically, five designated flammable storage cabinets were located in the OMS and MEP areas. Four cabinets were located in the OMS building, and contained various materials such as paint and cleaning supplies (see Photograph 7 in Appendix B). A larger flammable storage unit was located outside the front entrance of the OMS building. This unit contained items such as motor oil, antifreeze, and lubricants (see Photograph 10 in Appendix B). In addition to these five cabinets, a hazardous materials storage closet was attached to the OMS building. This closet contained two 55-gallon drums of used oil and antifreeze, respectively, and several bags of used absorbent. The two drums were placed on top of a secondary containment unit (see Photograph 8 and 9 in Appendix B). The closet was observed to have an open vent on the side of the closet near the floor which vented to the outdoors, and staining was visible on the closet's concrete floor. SMG did not observe stressed vegetation on the ground surface outside of the building around the vent.

In addition to the designated storage areas, SMG also observed spill kits, a parts washer in the OMS, as well as two 55-gallon drums of petroleum product outside on a pallet adjacent to the OMS. The cleaner used in the parts washer was reported as non-solvent based material. The parts washer is reportedly not in use (see Photograph 21 in Appendix B). An air compressor, two hydraulic forklifts and a cart containing vehicle batteries were also located in the OMS. Some staining was observed on the OMS floor. No floor drains were observed on the OMS floor; however, the floor was cluttered with miscellaneous tools and equipment. Site personnel reported that no floor drains are located in the OMS building work area.

In the administration building, a designated storage area in the hallway contained chemicals utilized for janitorial services (see Photograph 19 in Appendix B). No additional hazardous material storage areas were observed in the administration building.

### **6.3 WASTE DISPOSAL SITES**

There were no signs of landfilling or illegal waste disposal activities at the Site during the August 2006 site visit. Solid waste is collected in a dumpster and transported for disposal by Waste Management of Iowa City.

#### **6.4 WASH WATER DISCHARGE**

During the August 2006 site visit, SMG observed an OWS on the southwestern perimeter (outside the fence) of the AFRC in a small wooded parcel. The OWS reportedly receives outflow from the vehicle wash rack located adjacent to the OMS (see Photographs 11 and 12). An October 2000 dye test conducted by the USGS as part of a Phase I OWS investigation indicated that effluent from the OWS discharges to a sanitary sewer lift station and out to a sanitary sewer. Historical documents indicate that the vehicle wash rack was leaking, and that some detectable contamination of the groundwater had occurred; however, the method detectable levels of volatile organic compounds were below IDNR action levels. SMG did not observe any stressed vegetation around the OWS, and no noxious odors were noted. Site personnel indicated that the vehicle wash rack is currently not in use. During the site visit various miscellaneous storage cartons and military supplies were located on the vehicle wash rack. Due to the materials located in the wash rack, SMG was unable to see the vehicle wash drain or observe the integrity of the wash rack floor.

#### **6.5 ASBESTOS CONTAINING MATERIAL**

Historical records indicate the presence of asbestos containing material (ACM) throughout the AFRC building and the OMS. Based upon available information, it appears as if some asbestos abatement has occurred on Site. A documented asbestos abatement project was conducted by the Fort McCoy Asbestos Abatement Team in 1991 for the renovation of the boiler room. It was evident to SMG during the site visit that renovations had occurred in the boiler room (see Photograph 20 in Appendix B). Visual observations also indicated that significant renovations, such as a newly installed roof, have occurred within the administration building. However, records depicting all abatement projects conducted at the Site were not provided. Therefore, based upon visual observations, the age of the AFRC, and incomplete records, it is presumed that the potential of ACM on Site still exists.

#### **6.6 POLYCHLORINATED BIPHENYL CONTAINING EQUIPMENT**

Two poles supporting transformers were observed on Site. These poles were located on the western portion of the Site property between the administration building and the MEP area. One pole supported one transformer and the second pole supported three transformers. No labels identifying the polychlorinated biphenyl (PCB) content were observed. SMG contacted a representative from Alliant Energy, the owner of the transformers. An Alliant Energy representative indicated that the transformers were installed in 1975, and may potentially contain PCBs. Additionally, Alliant Energy does not have any documented PCB laboratory testing of the transformers. At the time of the site visit, the units appeared in good condition with no visual signs of leaking or disrepair.

PCBs may be contained in light ballasts in older type light fixtures. Due to the age of the building, it is possible that some of the light ballasts could potentially contain PCBs. Any light ballast not marked with "No PCBs" should be assumed to contain PCBs and management and disposal of these light ballasts must be in accordance with local, State and Federal requirements.

## **6.7 LEAD**

A 2006 survey identified the presence of LBP on exterior and interior surfaces of the AFRC. Positive readings were identified on the exterior garage doors, door casings, and a curb; interior surfaces identified included metal risers and stringers in three of the administration building stairwells and floor; and metal columns, metal window casings, and a metal beam in the OMS.

During the August 2006 site visit, painted surfaces in the building were observed to be in good condition.

## **6.8 RADON**

In 1990, a Radon Survey was completed as part of the Fort McCoy Radon Program. Based on the sampling results, no locations sampled exhibited radon levels above USEPA's recommended action level of 4.0 pCi/l.

## **6.9 MUNITIONS AND EXPLOSIVES OF CONCERN (MEC)**

No indications of MEC were observed during the site visit in August 2006. Only limited small arms were reported to be stored in an arms vault on Site.

The AFRC had an indoor firing range (IFR) that was reportedly closed and remediated in 1996. During the site visit, SMG observed that the former range had been converted to a storage area (see Photograph 22 in Appendix B).

## **6.10 RADIOLOGICAL MATERIALS**

During the August 2006 site visit and records review process, no indications of current storage or use of radiological commodities at the AFRC were found.

## **7.0 REVIEW OF SPECIAL RESOURCES**

### **7.1 LAND USE**

Figure 13 in Appendix A provides a 2000 aerial photograph of the AFRC and surrounding properties and depicts current land use. According to a Zoning Administrator of Cedar Rapids, the Site is zoned R-1, Single Family Residential. The site is located in primarily a residential area.

### **7.2 COASTAL ZONE MANAGEMENT**

According to the National Oceanic and Atmospheric Administration (<http://www.costalmanagement.noaa.gov/mystate/welcome.html>), the Site does not lie within a Coastal Management Zone.

### **7.3 WETLANDS**

According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory mapping utility (<http://www.fws.gov/nwi/>), no jurisdictional wetland areas are identified on the Site or adjacent properties. Wetlands are located to the southwest of the Site across Shaver Road and are associated with the Cedar River. The Cedar River is approximately one-mile southwest of the Site. Additionally, a detailed overview map depicting the site and adjacent properties generated by EDR indicates no wetlands within the immediate vicinity of the subject site. Figure 15 in Appendix A provides an EDR map of wetlands in the vicinity of the Site.

During the August 2006 site visit, no vegetation indicative of wetlands was observed on the Site. Additionally, the soils identified at the Site do not meet the classification requirements of a hydric soil (i.e., wetland indicator soils).

### **7.4 100-YEAR FLOODPLAIN**

A review of the FEMA digital Flood Hazard Area map indicates that the Site lies outside the 100-year floodplain. Figure 14 in Appendix A provides a map of the 100-year floodplain elevations located in the immediate vicinity of the Site.

### **7.5 NATURAL RESOURCES**

No Site specific report relating to natural resources was available. Readily available resources were accessed to determine the likelihood that the Site may have significant natural resources. The National Wilderness Preservation System ([www.wilderness.net](http://www.wilderness.net)) was reviewed and indicates that no federally designated wilderness areas are located in Iowa.

A Trails Map prepared by the National Park System (<http://www.nps.gov/hfc/carto/nps-trails.htm#>) indicates that there are no apparent National Historic Trails in proximity to the Site.

A review of the federally listed Wildlife Refuges for Iowa was conducted (<http://www.fws.gov/midwest/maps/iowa.htm>). No wildlife refuges were identified in the vicinity of the Site.

A list of Federal and State threatened and endangered (T&E) species for Linn County was obtained from Iowa's Department of Natural Resources online interactive mapping utility (<http://csbweb.igsb.uiowa.edu/imgate/introduction/home.asp>). This list identifies one federally threatened species, the Western Prairie Fringed (a plant) for Linn County. Thirty-seven State T&E species were also identified on the list. However, since this is an existing structure and developed area covered with approximately 90% of impervious cover, and no new construction is planned at the Site, it does not appear as if critical habitats would be affected by current AFRC operations.

## **7.6 CULTURAL RESOURCES**

A Phase I Archaeological Survey was conducted at the Site by the Louis Berger Group, Inc. in October 2003 for the installation of a perimeter fencing around the AFRC. The area of potential effect was a surveyed area of 4.9 acres. No cultural resources were identified as a result of this investigation. Additionally, the site was not identified in the National Register Information System database (<http://www.nr.nps.gov/>). Based upon a review of evaluation criteria for listing historic properties obtained from the National Park Service's National Register of Historic Places (NRHP), the buildings at the Site were unlikely to meet the criteria for inclusion in the NRHP.

## **7.7 OTHER SPECIAL RESOURCES**

As reported in the National Wild and Scenic Rivers (WSR) System (<http://www.nps.gov/rivers/wildriverslist.html>), there are no designated Wild and Scenic Rivers within the State of Iowa.

## 8.0 CONCLUSIONS

SMG was authorized to conduct an ECP Report for the Cedar Rapids AFRC, located at 1599 Wenig Road NE, Cedar Rapids, Linn County, Iowa 52402 on approximately 6.0 acres of land. The 649<sup>th</sup> Area Support Group, the 960<sup>th</sup> Quartermaster Company, and the 4224<sup>th</sup> United States Army Hospital, Detachment 1 currently occupy the AFRC. In addition, at the time of the site visit, the U.S. Naval Reserve occupied a number of offices and classrooms and controlled certain storage areas at the site pursuant to a lease with the U.S. Army. The Site primarily functions as an administrative, logistical, and educational facility, with some minor vehicle maintenance occurring in the OMS building.

Findings of this ECP are based on existing environmental information, including visual observations, site records, federal, state, and local database and file information, related to the storage, release, treatment, or disposal of hazardous substances or petroleum products or derivatives on the property. The following paragraphs present the findings related to areas of potential environmental concern that were evaluated during the ECP process.

- **Hazardous Substances** - Chemicals containing CERCLA hazardous substances are used and stored at the Site in amounts necessary to support unit-level vehicle and building maintenance activities. However, on the date of the site visit, no hazardous substances were observed in quantities which exceed the corresponding CERCLA RQs. The Site stores most of its hazardous substances in the MEP and OMS areas. All of the observed material storage areas appeared to be adequate. A used hazardous material (i.e., motor oil, antifreeze) storage closet was attached to the OMS building. This closet was observed to have an open vent on the side of the closet near the floor which vented to the outdoors, and staining was observed on the closet's concrete floor. SMG did not observe stressed vegetation on the ground surface outside of the building around the vent. Based upon site observations and historical documentation, there is no evidence obtained or observed that the chemicals used or stored were ever improperly handled, released, or disposed at the Site. Therefore, it is not believed that the past use and storage of hazardous substances have negatively impacted environmental conditions at the Site.
- **USTs/ASTs** - No evidence was obtained or reviewed that indicated USTs or ASTs are now or have been at the Site.
- **Wash Water Discharge** - The Site has an OWS, which receives outflow from the vehicle wash rack located adjacent to the OMS. An October 2000 dye test conducted by the USGS as part of a Phase I OWS investigation indicated that effluent from the OWS discharges to a sanitary sewer lift station and out to a sanitary sewer. In November 2002, the USGS conducted a Phase II Investigation of the OWS to determine if contamination of the groundwater and soil had occurred as a result of the Site's leaking wash rack. No DRO, GRO, or BTEX were found above method detection limits in soil samples collected. The maximum concentration of xylene found in groundwater samples collected during this investigation was 2.7 µg/liter, well below the IDNR action level of 10,000 µg/liter. The maximum concentration of toluene found in groundwater samples was 2.2 µg/liter, well below the IDNR action level of 1,000 µg/liter. All other

detected constituents had estimated concentrations below laboratory reporting limits. A letter dated October 17, 2005, indicates that these wells were abandoned and plugged in accordance with State requirements. No records were provided for review as to whether the leaking wash rack was fixed. According to Site personnel, the vehicle wash rack is currently not in use. An exact date was not provided as to when operation of the wash rack ceased.

- **Non-UST/AST Petroleum Storage** - Petroleum storage occurs in designated areas within the OMS building. Based on the site visit and information available from site personnel, there is no evidence that non-UST/AST petroleum products in excess of 55-gallons were stored for one year or more on Site.
- **PCBs** - Two poles supporting mounted transformers were observed on Site. One pole supported one transformer and the second pole supported three transformers. No labels identifying the PCB content were observed. SMG contacted a representative from Alliant Energy, the owner of the transformers. An Alliant Energy representative indicated that the transformers were installed in 1975, and may potentially contain PCBs. Additionally, Alliant Energy does not have any documented PCB laboratory testing of the transformers. At the time of the site visit, the units appeared in good condition with no visual signs of leaking or disrepair. PCBs may be contained in light ballasts in older type light fixtures. Due to the age of the building, it is possible that some of the light ballasts could potentially contain PCBs. Any light ballast not marked with "No PCBs" should be assumed to contain PCBs and management and disposal of these light ballasts must be in accordance with local, State and Federal requirements.
- **Asbestos Containing Materials** - Historical records indicate the presence of ACM throughout the AFRC building and the OMS. As the result of an asbestos survey completed by Hall-Kimbrell Environmental Services, Inc. in 1990, ACM identified at the AFRC included, breaching, tank insulation, mudded joint packing, roof flashing, and duct insulation materials. Suspect materials, included but were not limited to, vinyl floor tile, mastic, vinyl baseboards, concrete block, and brick mortar. Based upon a records review, it appears as if some asbestos abatement has occurred on Site. A documented asbestos abatement project was conducted by the Fort McCoy Asbestos Abatement Team in 1991 for the renovation of the boiler room. Additionally, a site investigation report by Invensys Construction Engineering in 2000 provided a scope of work for a significant renovation of the administration building, including the removal and abatement of all existing asbestos floor tile in the Site, and removal of ceiling tiles. Visual observations indicated that significant renovations, such as a newly installed roof, have occurred within the administration building. However, no comprehensive survey of the buildings was available for review and records documenting all abatement projects conducted at the Site were not provided. Therefore, based upon visual observations, the age of the AFRC, and incomplete records, it is presumed that the potential of ACM on Site still exists.
- **Lead-Based Paint** - In January 2006, SCS Engineers completed a LBP survey at the facility. Of the 720 samples taken, 2.8% of the readings were positive. Seven positive readings were identified on exterior surfaces, seven positive readings were identified in

the interior of the administration building, and six positive readings were identified in the OMS. The report documented that paint surfaces with positive readings appeared to be intact. Due to the condition of the painted surfaces and the low number of LBP surfaces identified, the report recommended no abatement activities for the Site, and recommended that routine maintenance be performed at the facility.

During the August 2006 site visit, painted surfaces in the building were observed to be in good condition, and several rooms within the building were being repainted.

- **Radiological Materials** - No radiological materials were identified during the site reconnaissance. There is no evidence of a release of radiological materials at the Site.
- **Radon** - In 1990, a Radon Survey was completed as part of the Fort McCoy Radon Program. Based on the sampling results, no locations sampled exhibited radon levels above the USEPA's recommended action level of 4 picoCuries per liter of air (pCi/l).
- **Munitions and Explosives of Concern** - No observations or documentation were identified during the site reconnaissance or records review process that would indicate the usage or past presence of MEC.
- **Former Indoor Firing Range** - The AFRC had an IFR that was reportedly closed and remediated in 1996. The former IFR has been converted and is currently used by the AFRC as storage. Minimal documentation was provided regarding the cleanup efforts of the IFR. Reviewed documentation does illustrate that asbestos and lead samples were collected in 1996. Additionally, SMG reviewed a document prepared by Invensys Construction and Engineering which included a proposal to renovate the former IFR. No final report on the remediation of the IFR was available.
- **Surrounding Properties** - Potential environmental properties of concern, located within corresponding ASTM search radius distances from the Site were evaluated. Overall, none of the properties evaluated exhibited environmental conditions that had or have the potential to adversely affect environmental conditions at the Site. The Site is located on a topographic high, and is primarily in a residential area.

In accordance with Department of Defense policy defining the classifications (See Deputy Under Secretary of Defense Goodman Memorandum dated 21 October 1996), the Property has been classified as Category 2, an area where only the release or disposal of petroleum products has occurred. 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. This classification is based on evidence from two investigations of the OWS conducted by the USGS in October 2000 and November 2002. No soil samples revealed contamination levels above standard detection limits, although, elevated levels of petroleum constituents (i.e., xylene and toluene) were detected in the groundwater, these levels were below IDNR action levels. Therefore, the site does not appear to be significantly impacted, based upon soil and groundwater sampling performed in November 2002.

## 9.0 LIMITATIONS

This ECP Report was prepared to review certain elements of the environmental condition of property related to the storage, release, treatment, or disposal of hazardous substances or petroleum products. It documents efforts to determine or discover the presence or likely presence of a release or threatened release of these materials. Project activities were performed in general conformance with the BRRM, ASTM D6008 guidance, the project prescribed scope of work, and generally accepted practices in the consulting industry. The degree of care and skill is consistent with that generally exercised in the industry under similar conditions.

SMG, in conjunction with FMSM, has relied on certain information provided by the USACE, USAR, and other parties referenced in the report. This information was assumed to be accurate and complete unless information to the contrary arose during the course of the investigation. Historic documentation (e.g., information on past environmental practices, environmental records, USARC operational changes, unit and equipment changes, chemical/substance inventories and storage, current as-built drawings, etc.) and facility personnel knowledge regarding chemicals used or stored on the Site and the quantities stored, was often limited or non-existent. Therefore, statements regarding storage of chemicals or presence of hazardous substances reflect best available data and are not warranted for either completeness or accuracy over the history of the facility.

In preparing this report, SMG was required to review previous documents from other sources (collectively referred to herein as the Prior Reports). The Prior Reports may present findings regarding the abatement or remediation of *known* concerns at the time of their preparation or within the limit of the project scope of work. The Prior Reports may include statements or opinions of the original authors of the Prior Reports as to the satisfactory completion of work. SMG notes that environmental laws and regulations, including abatement or remedial action levels, are periodically reviewed and updated by the various regulatory agencies and may have changed since the respective dates of the Prior Reports.

SMG has summarized certain of the Prior Reports in fulfilling the project prescribed scope of work for the project. This summarization may include statements or opinions as to the satisfactory completion of work. These statements or opinions are those of the original report authors. SMG neither warrants nor certifies the accuracy or completeness of these statements. The summarization of previous documents has not reviewed or updated those conclusions with regards to actions from the time of that document to date, current regulatory agency abatement, or remedial standards. Rather, this summary provides the original author's conclusions at the time the report was prepared. Evaluation of the completeness of previous documents or statements of abatement or remediation is beyond the current scope of service included in this contract.

A limited site reconnaissance was performed to visually identify materials or conditions representing recognized adverse environmental conditions. Identification of hidden conditions, observation of the effects of activities or incidents occurring after completion of the reconnaissance, buried conditions, conditions obscured by dense foliage, conditions beneath buildings, other structures, or covered by building/paving materials, or conditions otherwise

obscured, is beyond the scope of this work. The conditions described in this report are valid only for the time that the observations were made. Some conditions may change with time.

The findings and conclusions contained in this report are based in part on the information available at the time of the study. The findings and conclusions should be considered not as scientific certainties, but as probabilities based on professional judgment of the significance of the limited data gathered in the course of the site evaluation, interviews and literature review. If additional or corrected information becomes available, SMG, in conjunction with FMSM, requests the opportunity to review/modify conclusions, as warranted.

## 10.0 REFERENCES

### PERSONS CONTACTED

- Mr. Steve Miller, TAD Technical, Contractor for 89th Regional Readiness Command, Environmental Coordinator, on-site, August 8, 2006
- Sergeant Jason Wagner, 649th Area Support Group, on-site August 8, 2006
- Sergeant Sarah Sullivan, 649<sup>th</sup> Area Support Group, Facility Manager, on-site August 8, 2006
- Ms. Ecco Conry, 960<sup>th</sup> Quartermaster Company, Unit Administrator, on-site August 8, 2006
- Sergeant Daniel Kriens, 4224<sup>th</sup> United States Army Hospital, Unit Administrator, on-site August 8, 2006.
- Petty Officer Charlotte Bell, US Naval Reserve, on-site August 8, 2006
- Ms. Willette Crawford, Iowa Department of Natural Resources, Wallace Records Center via e-mail August 14, 2006
- Ms. Deb Freese, Alliant Energy, via telephone February 14, 2007

### RESOURCES CONSULTED

- USGS Aerial Photographs provided by Environmental Data Resources, Inc. dated 1958, 1983, and 2000.
- USGS Aerial Photograph obtained from the TerraServer USA online database dated 1994, <http://terraserver-usa.com/>
- US Fish and Wildlife National Wetlands Inventory Maps, <http://www.fws.gov/nwi/>.
- US Department of Natural Resources Conservation Service, Web Soil Survey, <http://soils.usda.gov/survey/>
- FEMA Flood Mapping, <http://www.msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1> –
- National Oceanic and Atmospheric Administration, Ocean and Coastal Resource Management, <http://coastalmanagement.noaa.gov/mystate/welcome.html>
- Iowa Department of Natural Resources Interactive Mapping, Species at Risk, <http://csbweb.igsb.uiowa.edu/imgate/introduction/home.asp>

- National Register of Historic Places, <http://www.cr.nps.gov/nr/listing.htm>
- National Wilderness Preservation System, <http://www.wilderness.net/index.cfm?fuse=NWPS>
- US Fish and Wildlife Federal Refuges Map for Iowa, <http://www.fws.gov/midwest/maps/iowa.htm>
- National Wetlands Management Districts of the National Wildlife Refuge System, <http://www.fws.gov/refuges/pdfs/WMDs2005.pdf>
- Wild and Scenic Rivers, <http://www.nps.gov/rivers/wildriverslist.html>
- Wild and Scenic Trails map, <http://www.nps.gov/hfc/carto/nps-trails.htm#>
- USEPA Map of Radon Zones, <http://www.epa.gov/radon/zonemap.html>
- Federal Regulatory Databases
  - National Priority List, April 19, 2006
  - Proposed NPL Sites, April 19, 2006
  - Delisted NPL Sites, April 19, 2006
  - Federal Superfund Liens (NPL Liens), October 15, 1991
  - Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), February 1, 2006
  - CERCLIS No Further Remedial Action Planned Sites (NFRAP), February 1, 2006
  - Resource Conservation and Recovery Information System (RCRIS) Corrective Action Sites (CORRACTS), March 15, 2006
  - Resource Conservation and Recovery Act Information (RCRA), March 9, 2006
  - Emergency Response Notification System (ERNS), December 31, 2005
  - Hazardous Materials Information Reporting System (HMIRS), December 31, 2005
  - Engineering Controls Sites List (US ENG CONTROLS), March 21, 2006
  - Institutional Control Sites (US INST CONTROLS), March 21, 2006
  - Department of Defense Sites (DoD), December 31, 2004

- Formerly Used Defense Sites (FUDS), December 5, 2005
- Listing of Brownfields Sites, April 26, 2006
- Superfund Consent Decrees, December 14, 2004
- Records of Decision (ROD), April 13, 2006
- Uranium Mill Tailings Sites, November 4, 2005
- Open Dump Inventory (ODI), June 30, 1985
- Toxic Chemical Release Inventory System (TRIS), December 31, 2003
- Toxic Substances Control Act (TSCA), December 31, 2002
- FIFRA/TSCA Tracking System, March 29, 2006
- FTTS INSP, March 31, 2006
- Section 7 Tracking Systems (SSTS), December 31, 2004
- Integrated Compliance Information System (ICIS), February 13, 2006
- PCB Activity Database System (PADS), December 27, 2005
- Material Licensing Tracking System (MLTS), April 12, 2006
- Mines Master Index File (MINES), February 9, 2006
- Facility Index System/Facility Registry System (FINDS), April 27, 2006
- RCRA Administrative Action Tracking System (RAATS), April 17, 1995
- Biennial Reporting System (BRS), December 31, 2003
- State and Local Regulatory Databases
  - Registry of Hazardous Waste or Hazardous Substance Disposal Sites (SHWS), December 31, 2005
  - Permitted Solid Waste Management Facilities (SWF/LF), April 5, 2006
  - Leaking Underground Storage Tank File, April 27, 2006
  - Underground Storage Tank File, April 27, 2006
  - Leaking Aboveground Storage Tanks (LAST), April 6, 2006

- Aboveground Storage Tank Sites, January 17, 2006
- SPILLS – Emergency Response Database, April 11, 2006
- Institutional Control Sites (INST Control), February 16, 2006
- Voluntary Action Program Sites, February 14, 2006
- Drycleaner Facility Listing, May 30, 2006
- Brownfields Inventory, February 16, 2006
- Minor and Title V Sources Listing (AIRS), April 11, 2006
- Tribal Records
  - Indian Reservations, December 31, 2004
  - Indian Underground Storage Tanks, December 14, 2005

**AGENCIES CONTACTED**

- City of Cedar Rapids Zoning and Building, Iowa
- Iowa Department of Natural Resources, Wallace Records Center

**APPENDIX A**  
**CEDAR RAPIDS AFRC**  
**IA003**  
**FIGURES**

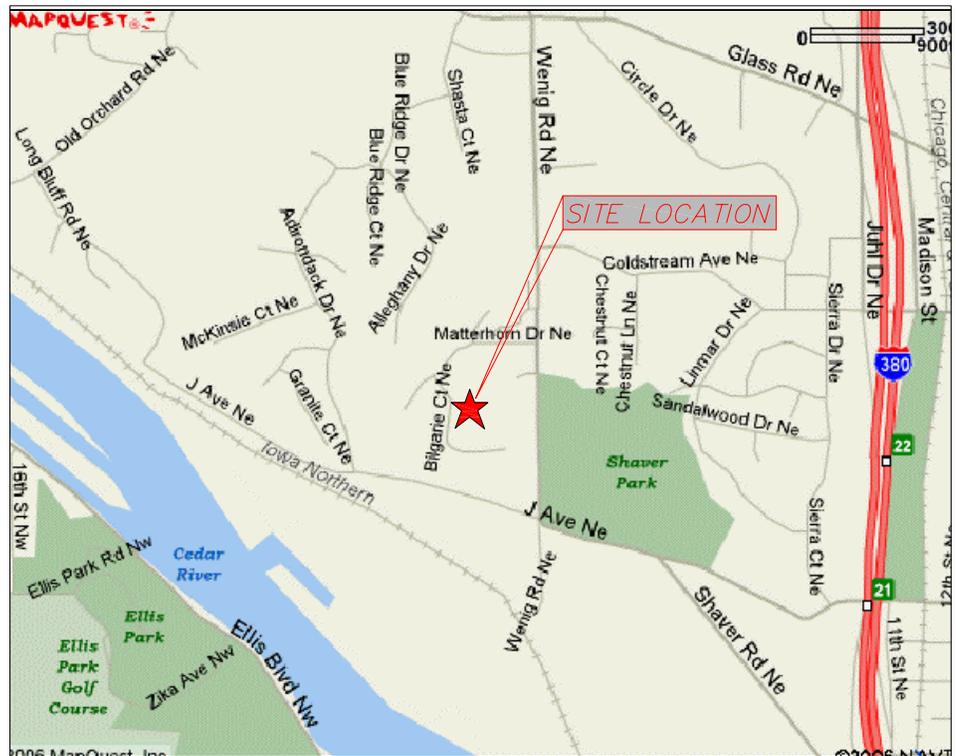
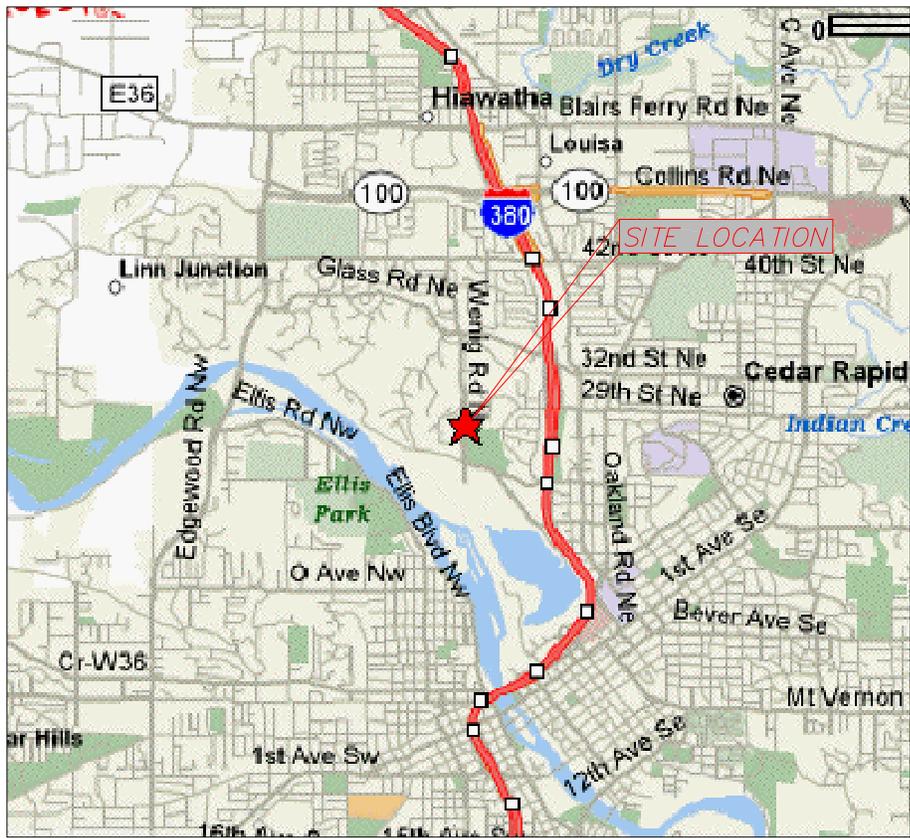


FIGURE 1  
 SITE LOCATION MAP  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

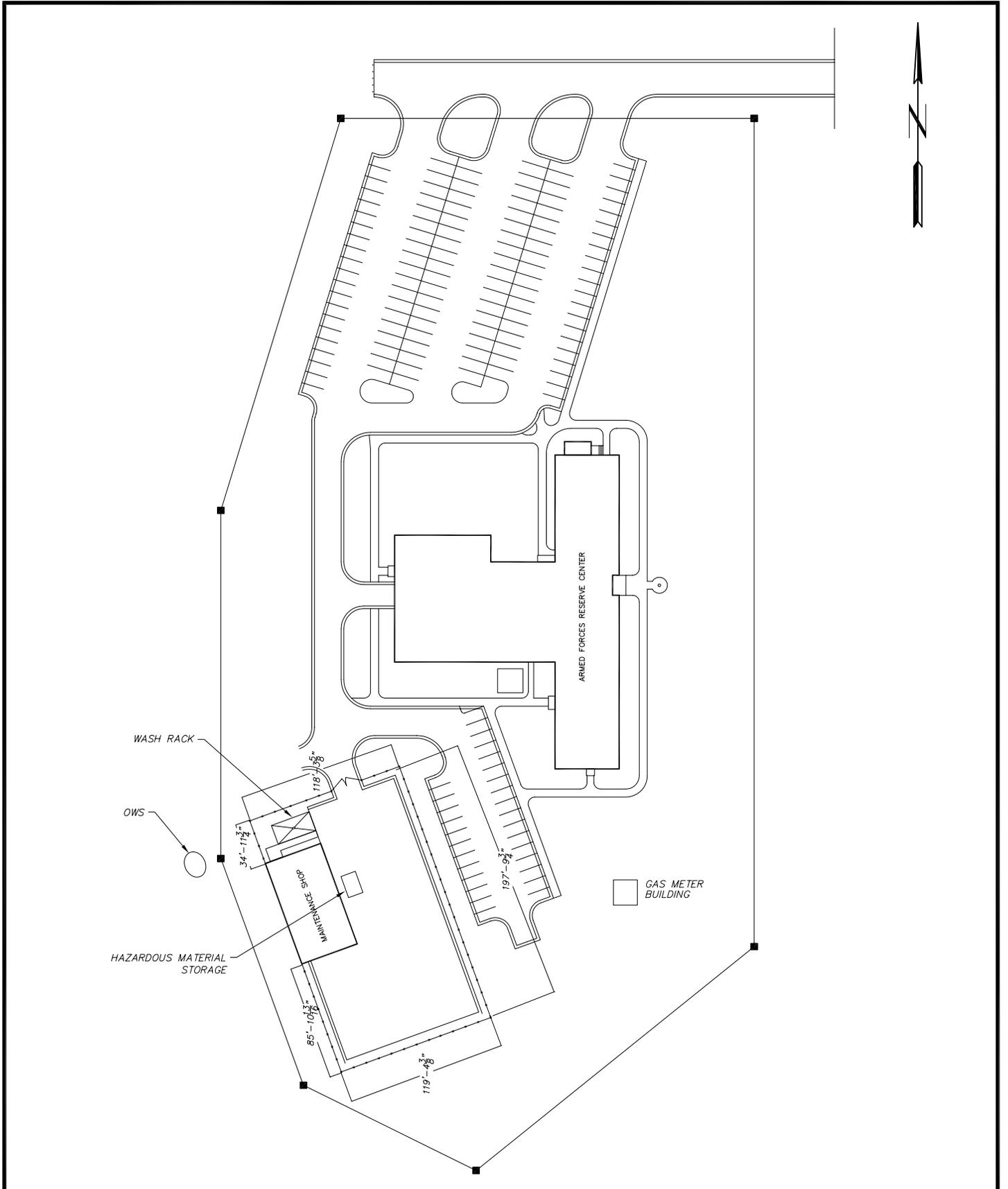


FIGURE 2  
 SITE PLAN  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

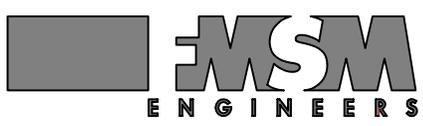
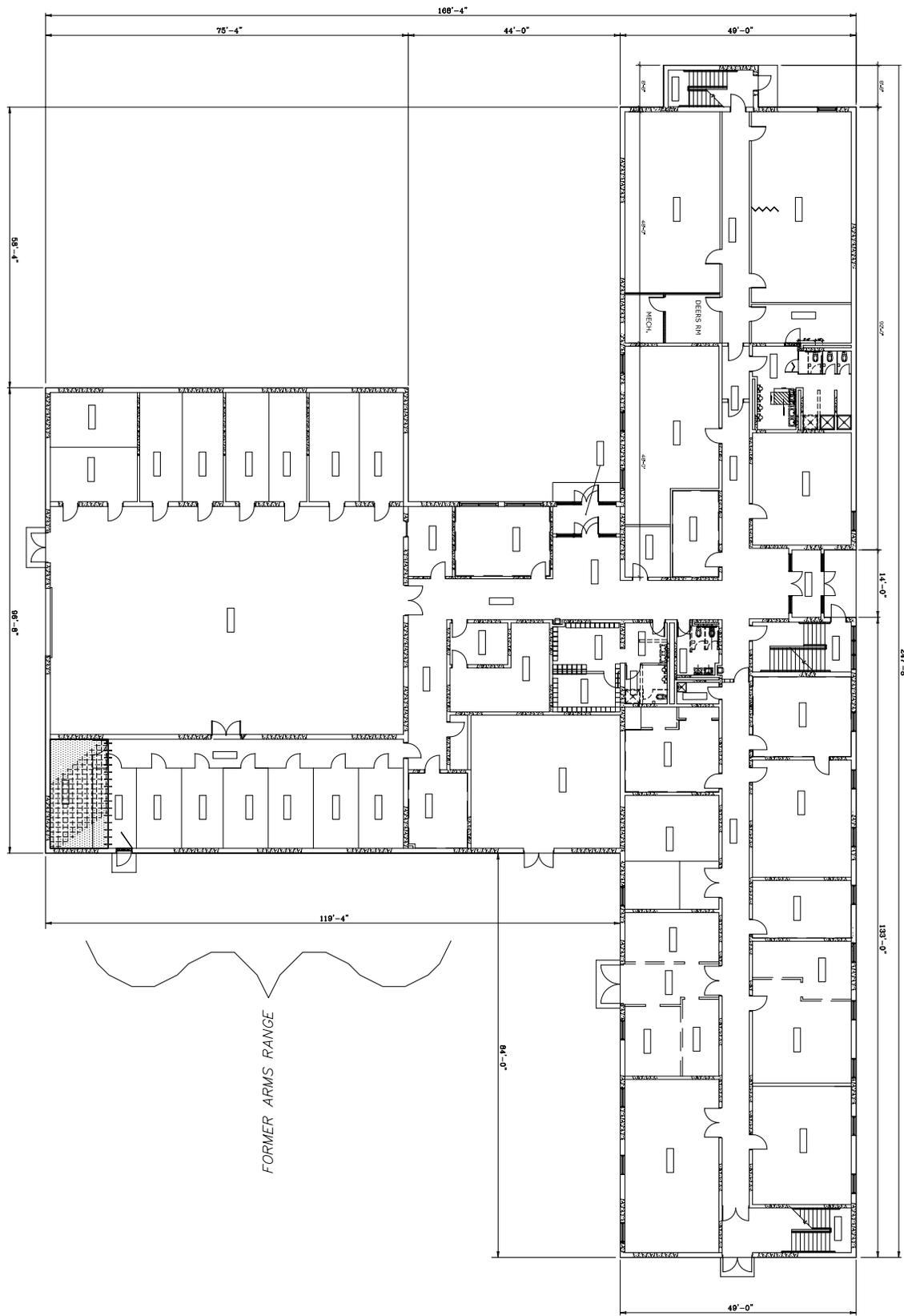


FIGURE 3  
 INTERIOR SITE LAYOUT (FIRST FLOOR)  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

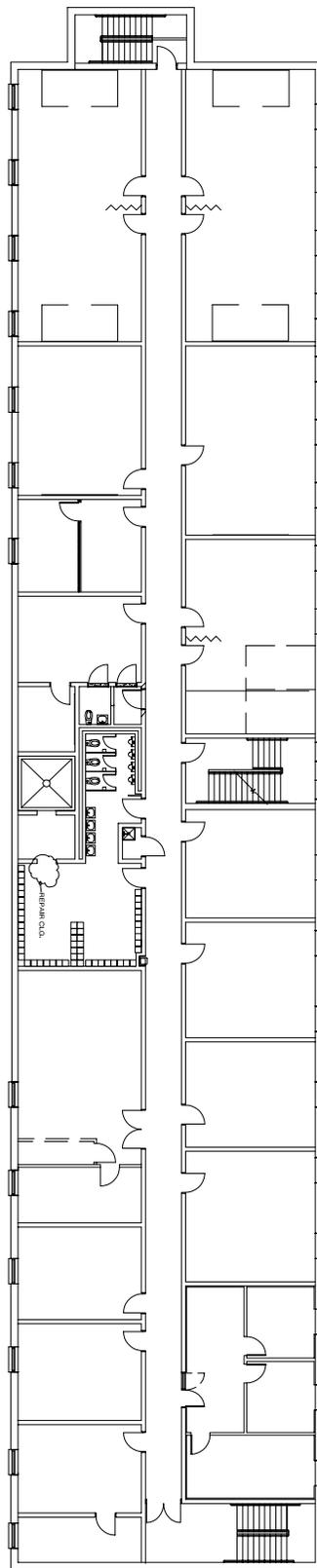


FIGURE 4  
INTERIOR SITE LAYOUT (SECOND FLOOR)  
CEDAR RAPIDS AFRC (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, LINN COUNTY, IOWA

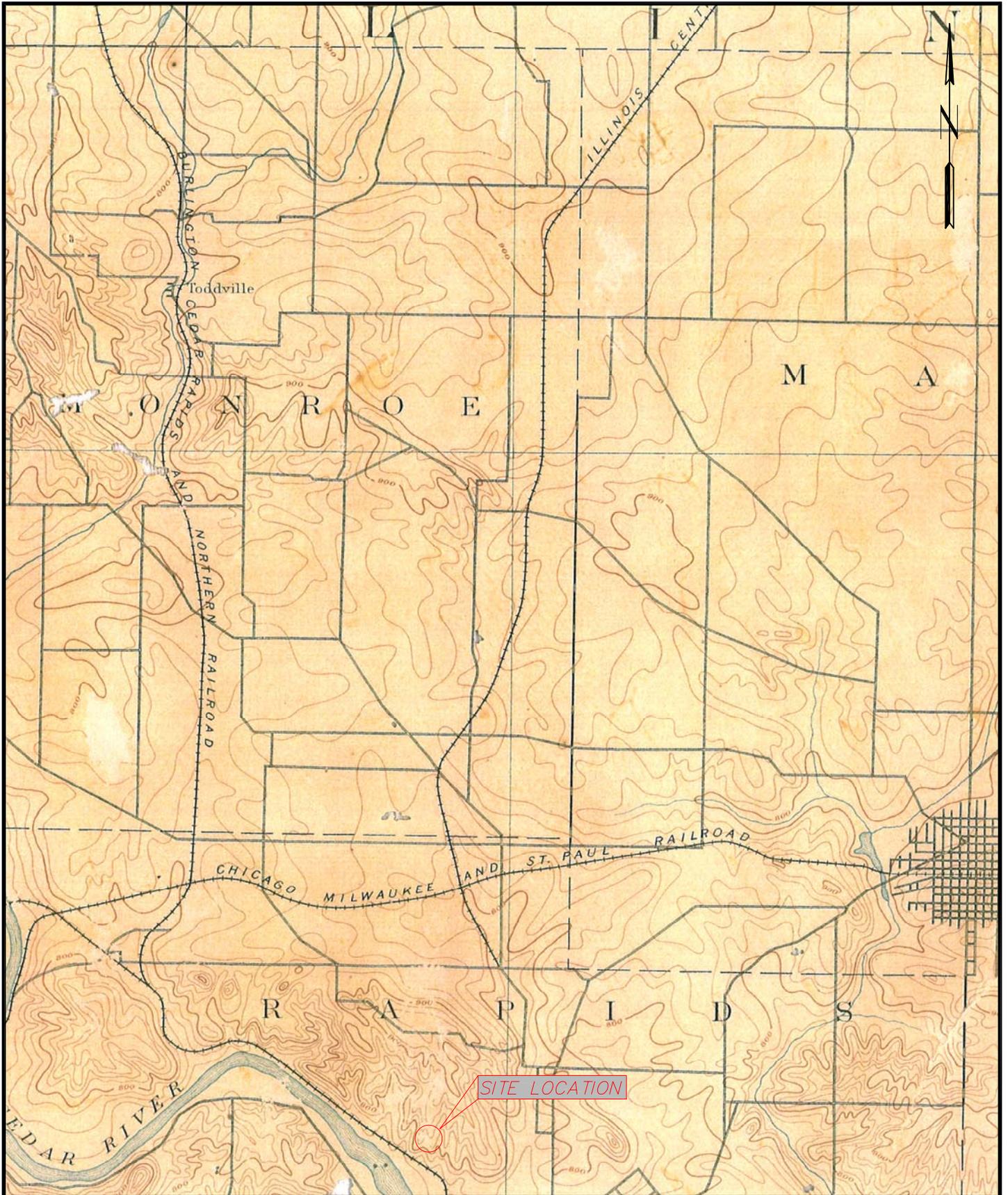


FIGURE 5  
1889 USGS TOPOGRAPHIC MAP, MARION  
CEDAR RAPIDS AFRC (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, LINN COUNTY, IOWA

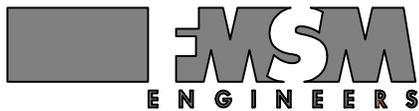
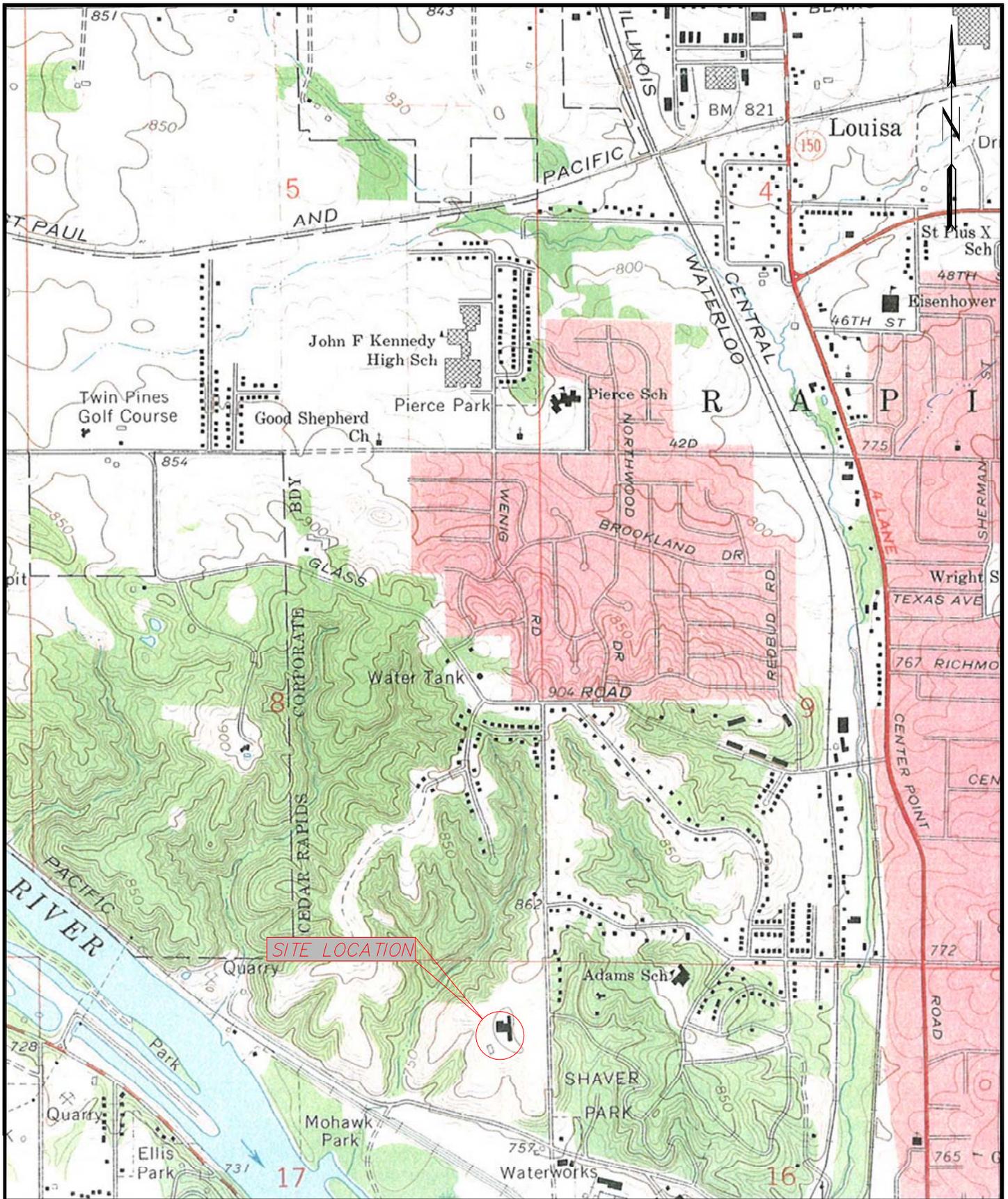


FIGURE 6  
 1967 USGS TOPOGRAPHIC MAP, CEDAR RAPIDS  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

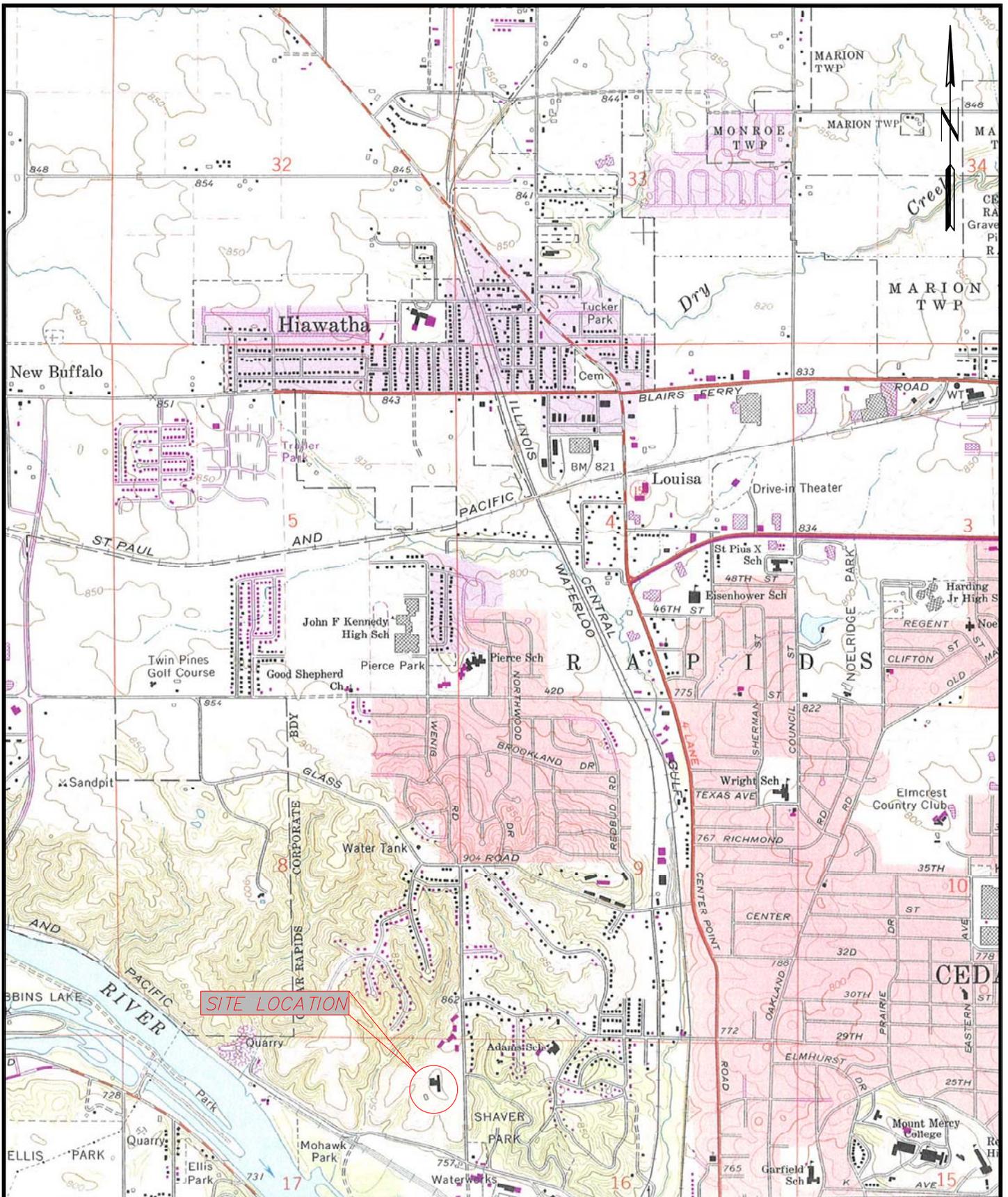


FIGURE 7  
 1975 USGS TOPOGRAPHIC MAP, CEDAR RAPIDS  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

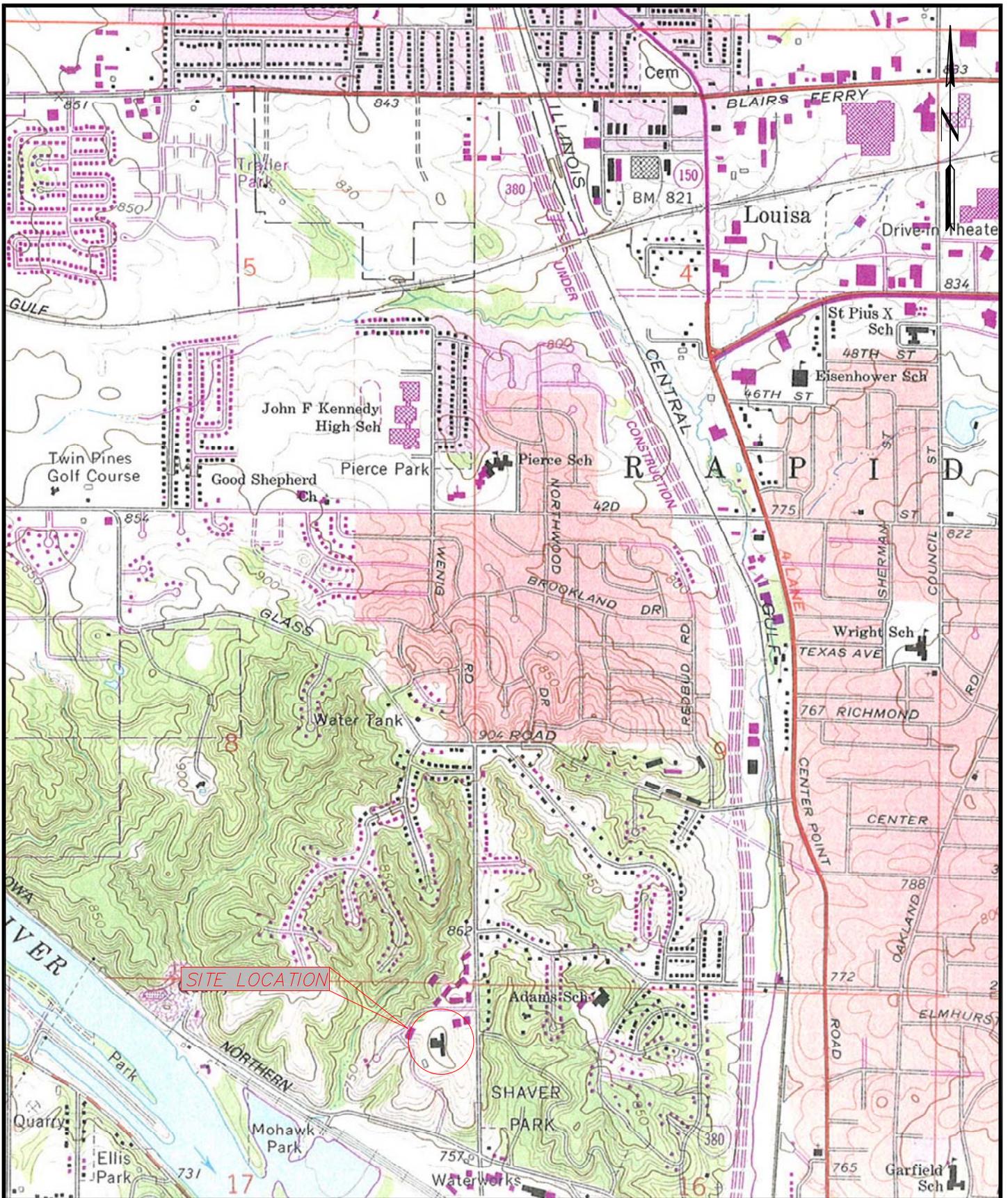


FIGURE 8  
 1982 USGS TOPOGRAPHIC MAP, CEDAR RAPIDS  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA



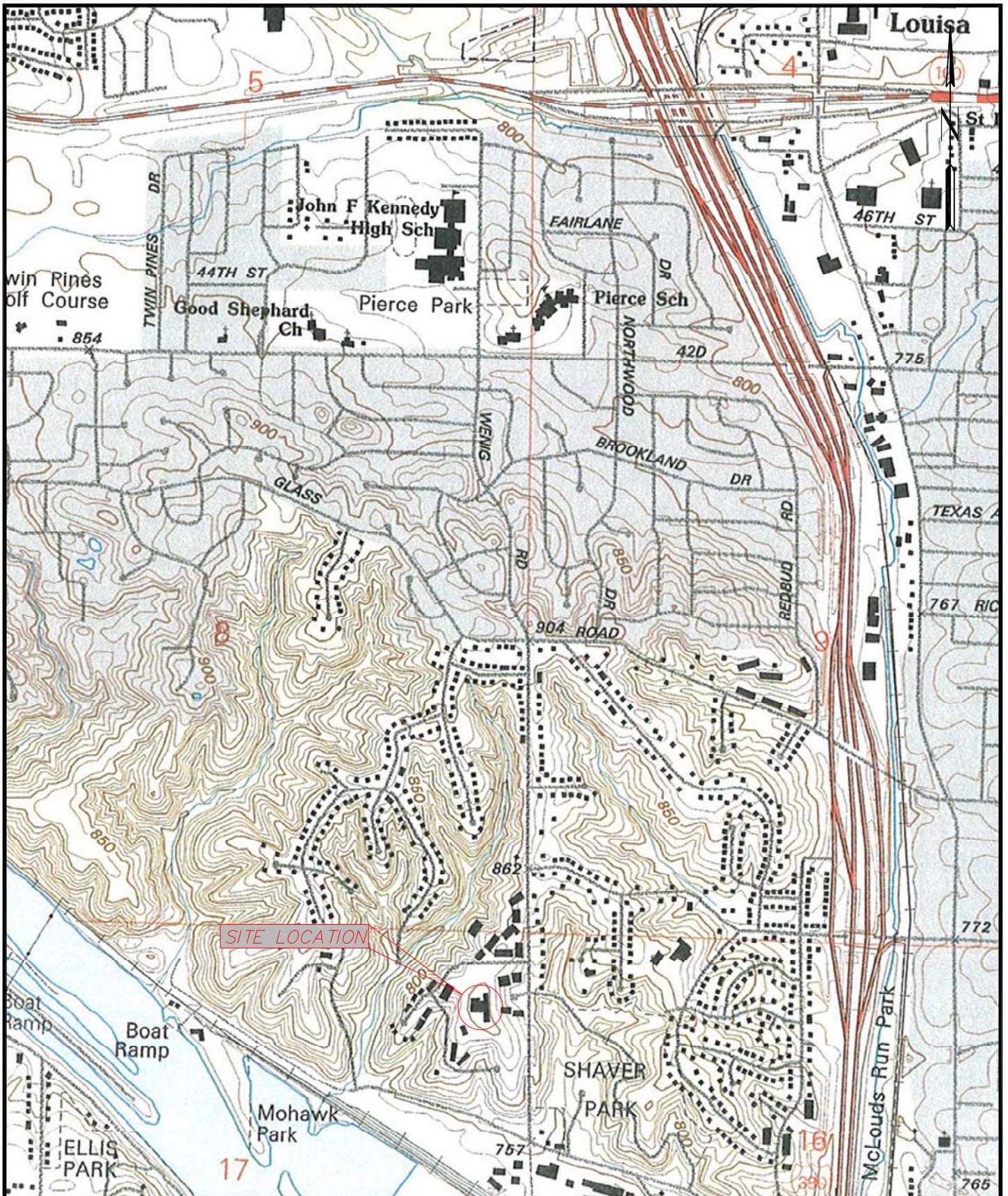


FIGURE 9  
 1994 USGS TOPOGRAPHIC MAP, CEDAR RAPIDS  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

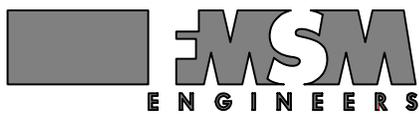


FIGURE 10  
1958 AERIAL PHOTOGRAPH  
CEDAR RAPIDS AFRC (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, LINN COUNTY, IOWA

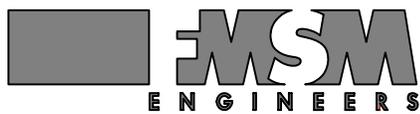


FIGURE 11  
1983 AERIAL PHOTOGRAPH  
CEDAR RAPIDS AFRC (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, LINN COUNTY, IOWA



FIGURE 12  
1990 AERIAL PHOTOGRAPH  
CEDAR RAPIDS AFRC (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, LINN COUNTY, IOWA



FIGURE 13  
2000 AERIAL PHOTOGRAPH  
CEDAR RAPIDS AFRC (IA003)  
1599 WENIG ROAD NE  
CEDAR RAPIDS, LINN COUNTY, IOWA

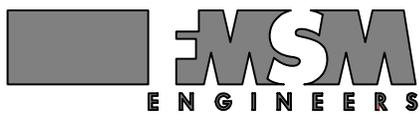
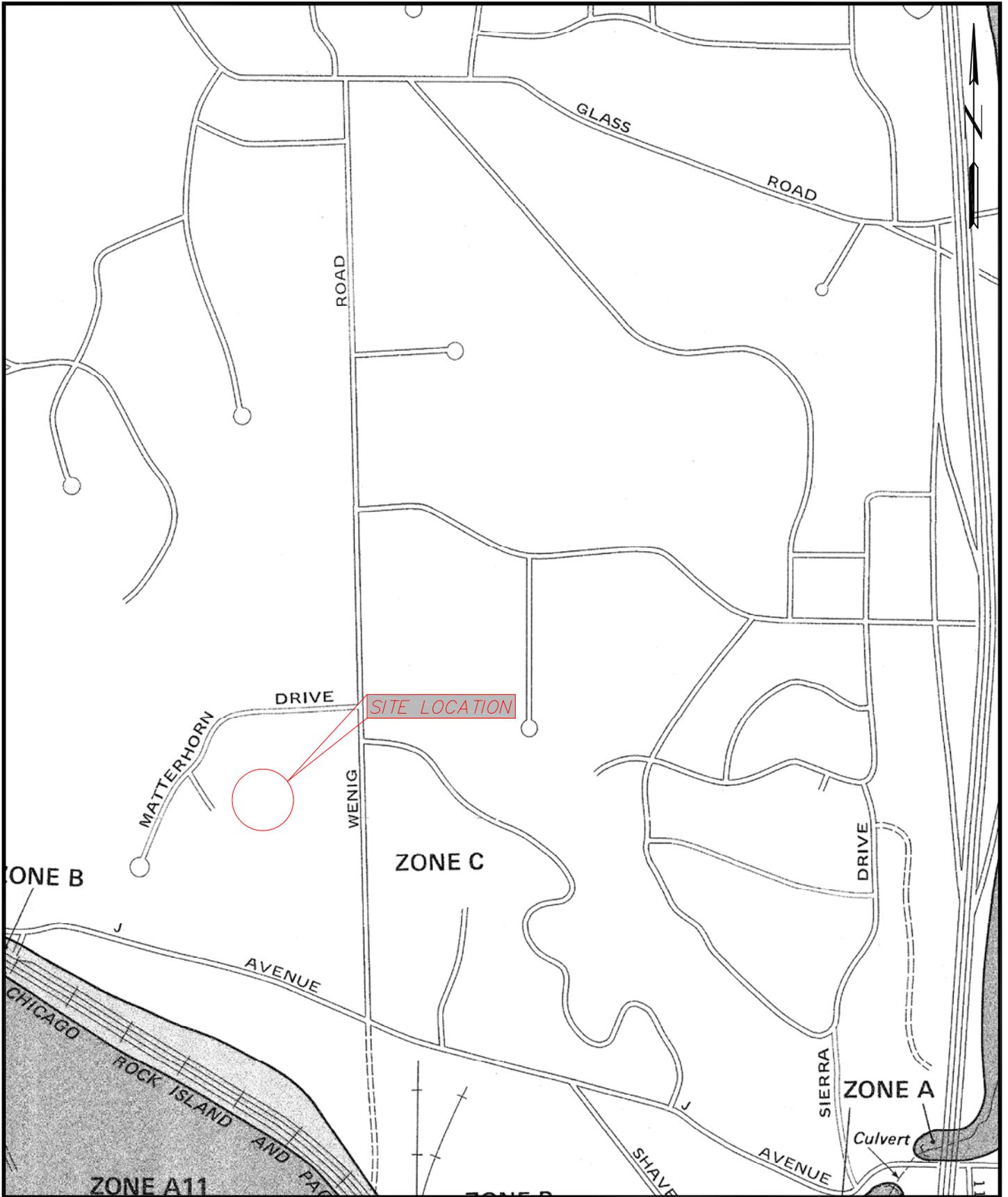
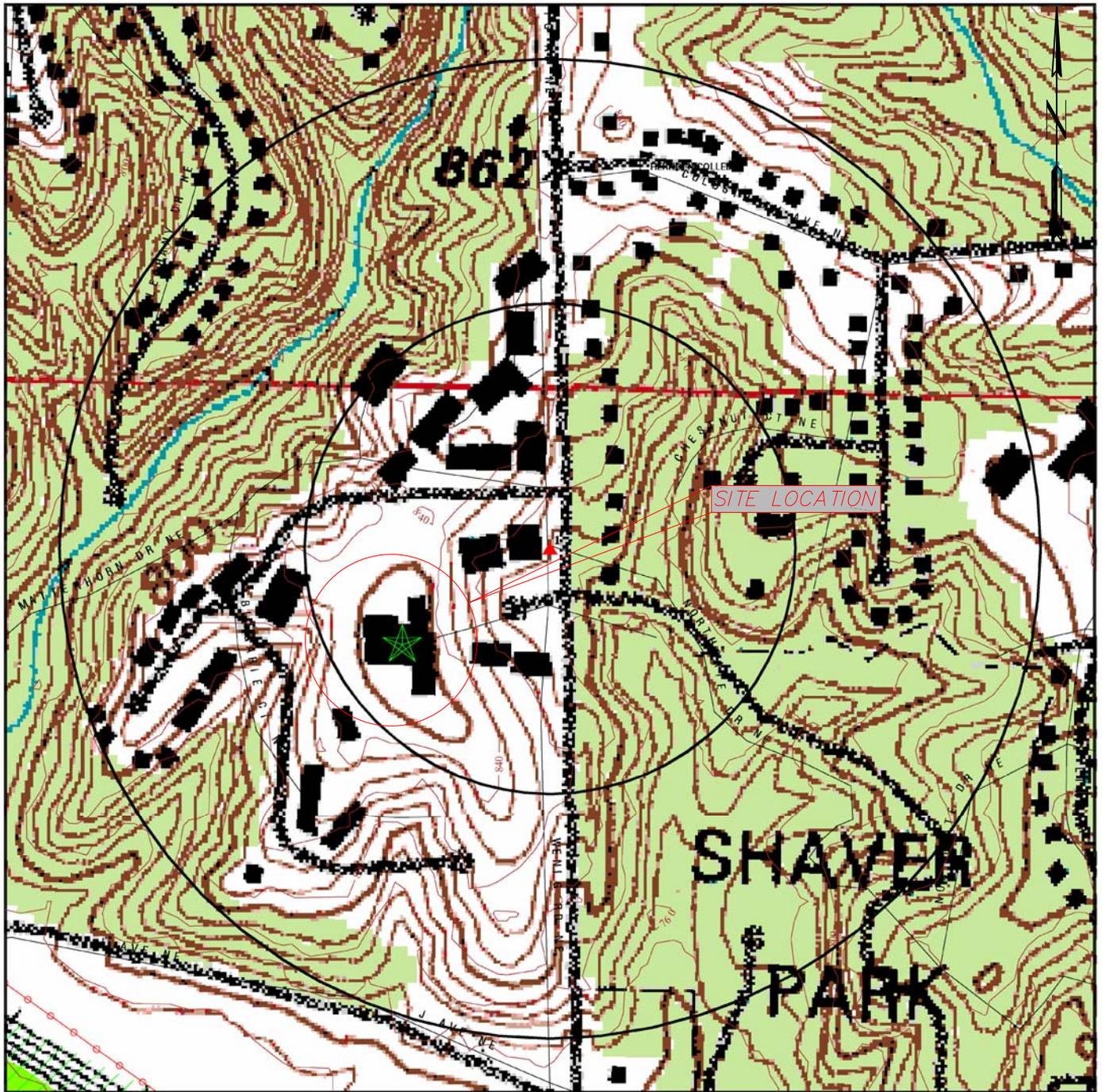


FIGURE 14  
 FLOODPLAIN ZONES  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA



- ★ 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
- ⚡ Power transmission lines
- 🛢️ Oil & Gas pipelines
- 🌊 100-year flood zone
- 🌊 500-year flood zone
- 🌿 National Wetland Inventory



FIGURE 15  
 WETLANDS MAP  
 CEDAR RAPIDS AFRC (IA003)  
 1599 WENIG ROAD NE  
 CEDAR RAPIDS, LINN COUNTY, IOWA

**APPENDIX B**  
**CEDAR RAPIDS AFRC**  
**IA003**  
**PHOTOGRAPHS**



1) AFRC from the north



2) AFRC from the west



3) OMS and MEP area



4) POV parking area



5) MEP area



6) Interior of OMS



7) Hazardous material storage in OMS



8) Hazardous materials storage closet for used materials



9) Hazardous material storage closet with stained floor



10) Hazardous material cabinet outside of OMS



11) OWS on west side of property, outside fence



12) Vehicle wash rack



13) Gas meter building on southeastern side of property



14) Hallway occupied by the US Naval Reserve



15) Interior of AFRC



16) AFRC kitchen



17 Typical interior of AFRC



18) Drill hall/assembly area



19) Hazardous materials storage in AFRC hallway



20) AFRC boiler room



21) Parts washer in OMS



22) Former arms range now used as storage



23) View of surrounding properties to the north

## **APPENDIX C**

### **CEDAR RAPIDS AFRC IA003**

#### **TITLE AND LIEN INFORMATION**

HISTORICAL DEED INFORMATION



DEPARTMENT OF THE ARMY  
OMAHA DISTRICT CORPS OF ENGINEERS  
6014 U.S. POST OFFICE AND COURTHOUSE  
OMAHA, NEBRASKA 68102

REPLY TO  
ATTENTION OF

MRORE-MD

20 JUL 1981

SUBJECT: Conveyance of Tract 100E-1, U.S. Armed Forces Reserve Center,  
Cedar Rapids, Iowa

Mr. Richard C. Ransom  
City Engineer  
City Hall, 7th Floor  
Cedar Rapids, Iowa 52401

Dear Mr. Ransom:

Inclosed is the Quitclaim Deed executed by the Secretary of the Army conveying the subject 0.76- acre access easement to the city of Cedar Rapids.

We request that you have the deed recorded in the Linn County property records. We would appreciate receiving a copy of the recorded deed for our files.

Sincerely,

1 Incl  
As stated

J. H. COOKE  
Chief, Management & Disposal Branch  
Real Estate Division

~~CE~~  
Cmd, Fort McCoy, ATTN: AFKB-LG-E, Sparta, WI 54656

PROJECT: U.S. Armed Forces  
Reserve Center  
Cedar Rapids, Iowa  
TRACT: 100E-1

### QUITCLAIM DEED

#### KNOW ALL MEN BY THESE PRESENTS:

THIS INDENTURE made and entered into between THE UNITED STATES OF AMERICA acting by and through the Secretary of the Army, under and pursuant to the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended, and the delegation of authority to the Secretary of Defense from the Administrator of the General Services Administration (41 CFR 101-47.601) and the redelegation of authority from the Secretary of Defense to the Secretary of the Army (Fed. Reg. 7113), party of the first part, and the City of Cedar Rapids, Iowa, party of the second part, a body corporate and politic under the laws of the State of Iowa, its successors and assigns,

WITNESSETH, That the party of the first part for and in consideration of the covenant and agreement by the party of the second part to all of the obligations and its taking, subject to certain reservations, exceptions and conditions, all as set out hereinafter, does by these presents hereby convey, release and quitclaim unto the said party of the second part, its successors and assigns, all its right, title and interest in and to a perpetual and assignable access easement and right-of-way in, upon, over and across 0.76 of an acre of land, more or less, known as Tract 100E-1, and as more particularly described below, to locate, construct, operate, maintain, and repair a roadway, utilities and appurtenances thereto, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and any other vegetation, structures or obstacles within the limits of the right-of-way of said easement, to wit:

A tract of land situated in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, Iowa, being more particularly described as follows: Commencing at the Northeast corner of said NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southerly along the East line of said NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 340.00 feet; thence Westerly at right angles to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to the Westerly right-of-way line of the Wenig Road Northeast and the point of beginning of said tract; thence Southerly along said Westerly right-of-way line of the Wenig Road Northeast for a distance of 60.00 feet; thence Westerly along a line, said line being perpendicular to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to a point, said point being 603.00 feet Westerly from said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Northeasterly, making an angle of 107°00'00" to the right for a distance of 62.12 feet; thence Easterly along a straight line to the point of beginning.

The tract of land herein described contains 0.76 of an acre, more or less, together with improvements and appurtenances thereon.

SUBJECT, HOWEVER, to the following covenants, agreements, conditions, obligations, reservations, exceptions, and possibility of reversion:

a. Existing easements for public roads and highways, public utilities, railroads and pipelines.

- (1) To bear the cost of reconstruction of the existing roadway in order to bring the roadway up to the city's standards;
- (2) Maintain and replace, if necessary, the improved roadway at its own expense;
- (3) Maintain and replace, if necessary, the waterlines at its own expense;
- (4) Maintain and replace, if necessary, the sewerlines at its own expense;
- (5) Not to abandon the easement herein granted; and
- (6) Not to temporarily obstruct more than half of said access easement, except in cases of emergency, without written permission of the Commanding Officer, U.S. Armed Forces Reserve Center, Cedar Rapids, Iowa.

d. That in the event that the party of the second part or its successors and assigns, abandon the easement herein granted, all the right, title, interest, and all other rights transferred by this instrument shall automatically revert to the party of the first part. The right, title, interest and other rights transferred to the party of the first part by this reversion shall include any improvements and appurtenances placed on said premises by the party of the second part, its successors and assigns, without any compensation payable therefor to the party of the second part, its successors and assigns.

This conveyance is not subject to Title 10, U.S.C. 2662.

IN WITNESS WHEREOF, the United States of America has caused these presents to be executed in its name by the Secretary of the Army and the seal of the Army to be hereto affixed this 9th day of JUNE 1981.

UNITED STATES OF AMERICA

By John O. Marsh, Jr.

THE SECRETARY OF THE ARMY

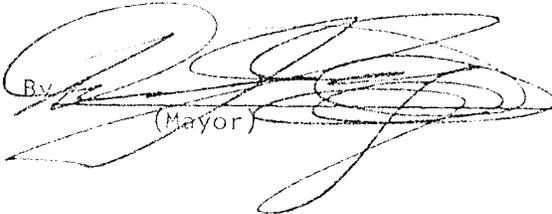
COMMONWEALTH OF VIRGINIA )  
 )ss  
 COUNTY OF ARLINGTON )

On this 9th day of JUNE 1981, before me appeared John O. Marsh, Jr., known to be the person described in and who executed the foregoing instrument and acknowledged that HE executed the same as a voluntary act and deed of the United States of America.

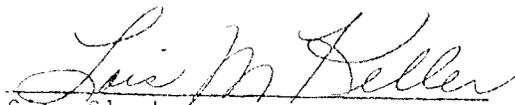
IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in said county and state the day and year last above written.

THE FOREGOING INSTRUMENT is also executed and accepted for and on behalf of the party of the second part by Donald J Canney its Mayor and attested by its City Clerk, and its seal hereunto affixed this 3rd day of October, 1979.

City of Cedar Rapids, Iowa

By   
(Mayor)

Attest

  
City Clerk

STATE OF IOWA        )  
                              ) ss  
COUNTY OF LINN     )

On this 3rd day of October, A.D. 1979, before me, a notary public in and for said county, personally appeared Donald J. Canney, to me personally known, who being by me duly affirmed did say that he is the mayor of the City of Cedar Rapids, Iowa, that the seal affixed to said instrument is the seal of said city and that said instrument was signed and sealed on behalf of said city by authority of its City Council and the said Donald J. Canney, who acknowledged the (Mayor) execution of said instrument to be the voluntary act and deed of said city by it voluntarily executed.

  
Notary Public

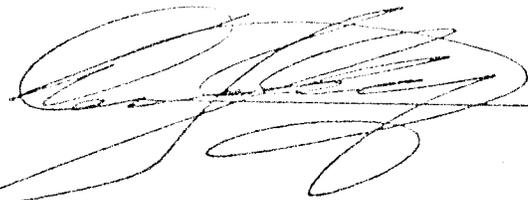
*Council for  
USA  
Entry  
Records*

RESOLUTION NO. 2106-10-79

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CEDAR RAPIDS, IOWA, that the Mayor and City Clerk are hereby authorized and directed to execute a Quit Claim Deed with the United States of America, acting by and through the Secretary of the Army, for easement rights on Matterhorn Drive N.E.

Passed this 3rd day of October, 1979.

Voting: Councilman Phillips moved the adoption of the resolution; seconded by Councilman Bergen. Adopted, Yeas, Councilmen Bergen, Phillips, Reinis and Schaefer.

  
\_\_\_\_\_  
Mayor

Attest:-

  
\_\_\_\_\_  
City Clerk

Project: U. S. Armed Forces Reserve Center,  
Cedar Rapids, IowaDOCUMENT NO. 11286  
RECORDING FEE 3.50  
ADD. FEE .50

Tracts: 100E-1-2-3-4-5

**EASEMENT**

THIS INDENTURE, made and entered into this 16th day of July, 1964, between Harold J. Ross and Mabel M. Ross, husband and wife, of the County of Linn, State of Iowa, parties of the first part, and the UNITED STATES OF AMERICA, party of the second part. 137 ✓

WITNESSETH, that the parties of the first part, for and in consideration of the sum of One Thousand Five Hundred Forty & No/100 Dollars (\$1,540.00), to them in hand paid, the receipt of which is hereby acknowledged, do by these presents grant, bargain, sell, convey and confirm unto the UNITED STATES OF AMERICA and its assigns, easements in, upon, over and across the following described real estate, to-wit:

Tract 100E-1

A tract of land situated in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, Iowa, being more particularly described as follows: Commencing at the Northeast corner of said NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southerly along the East line of said NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 340.00 feet; thence Westerly at right angles to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to the Westerly right of way line of the Wenig Road Northeast and the point of beginning of said tract; thence Southerly along said Westerly right of way line of the Wenig Road Northeast for a distance of 60.00 feet; thence Westerly along a line, said line being perpendicular to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to a point, said point being 603.00 feet Westerly from said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Northeasterly, making an angle of 107°00'00" to the right for a distance of 62.12 feet; thence Easterly along a straight line to the point of beginning. The tract of land herein described contains 0.76 of an acre, more or less.

Tract 100E-2

A tract of land situated in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, Iowa, being more particularly described as follows: Commencing at the Northeast corner of said NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southerly along the East line of said NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 340.00 feet; thence Westerly at right angles to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to the Westerly right of way line of the Wenig Road Northeast and the point of beginning of said tract; thence continuing Westerly along the aforesaid course to a point, said point being 425.00 feet Westerly from said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Northeasterly, making an angle of 160°00'00" to the right for a distance of 83.00 feet; thence Northeasterly, making an angle of 07°00'00" to the right for a distance of 190.00 feet; thence Southeasterly to a point on said Westerly right of way line of the Wenig Road Northeast, 48.00 feet Northerly from the point of beginning; thence Southerly along said Westerly right of way line of the Wenig Road Northeast to the point of beginning. The tract of land herein described contains 0.41 of an acre, more or less.

NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 400.00 feet; thence Westerly at right angles to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  to the Westerly right of way line of the Wenig Road Northeast, and the point of beginning of said tract; thence continuing Westerly along the aforesaid course to a point 256.00 feet Westerly from said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southeasterly, making an angle of 159°00'00" to the left, for a distance of 44.00 feet; thence Southeasterly, making an angle of 06°00'00" to the left for a distance of 111.00 feet; thence Southeasterly to a point on said Westerly right of way line of the Wenig Road Northeast 52.00 feet Southerly of the point of beginning; thence Northerly along said Westerly right of way line of the Wenig Road Northeast to the point of beginning. The tract of land herein described contains 0.16 of an acre, more or less.

Tract 100E-4

A tract of land situated in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, Iowa, being more particularly described as follows: Commencing at the Northeast corner of said NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southerly along the East line of said NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 340.00 feet; thence Westerly at right angles to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 456.00 feet to the point of beginning of said tract; thence continuing Westerly along the aforesaid course for a distance of 130.92 feet; thence Southwesterly making an angle of 73°00'00" to the left for a distance of 62.12 feet; thence Northwesterly making an angle of 145°30'00" to the right for a distance of 75.00 feet; thence Northeasterly making an angle of 60°30'00" to the right for a distance of 99.00 feet; thence Southeasterly to the point of beginning. The tract of land herein described contains 0.20 of an acre, more or less.

Tract 100E-5

A tract of land situated in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, Iowa, being more particularly described as follows: Commencing at the Northeast corner of said NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southerly along the East line of said NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 400.00 feet; thence Westerly at right angles to said East line of the NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 603.00 feet; thence Southwesterly making an angle of 73°00'00" to the left for a distance of 301.00 feet; thence Southerly making an angle of 17°00'00" to the left for a distance of 117.50 feet to the point of beginning of said tract; thence continuing Southerly along the aforesaid course for a distance of 153.50 feet; thence Northwesterly making an angle of 149°00'00" to the right for a distance of 116.00 feet; thence Northerly making an angle of 30°00'00" to the right for a distance of 20.00 feet; thence Northeasterly making an angle of 77°00'00" to the right for a distance of 50.00 feet; thence Northeasterly to the point of beginning. The tract of land herein described contains 0.11 of an acre, more or less.

The said easements shall be for the following purposes:

Tract 100E-1

A perpetual and assignable easement and right of way to locate, construct, operate, maintain, and repair a roadway, utilities and appurtenances thereto, in, upon, over and across Tract No. 100E-1, as hereinbefore described, together

Tracts 100E-2-3-4-5

The temporary easement and right of way for a period not to exceed twenty-four (24) months in, over, and across Tract Nos. 100E-2, 100E-3, 100E-4 and 100E-5, as hereinbefore described, for the purpose of removing borrow material and/or of depositing waste material thereon in connection with the construction, operation and maintenance of the United States Armed Forces Reserve Center, Cedar Rapids, Iowa project; together with the right to trim, cut, fell and remove timber, underbrush and other vegetation, structures, and any other obstructions or obstacles; reserving, however, to the owners of said land, their heirs, administrators, executors, successors and assigns, all such rights and privileges as may be used and enjoyed without interfering with or abridging the rights and easements hereby acquired; the above estate is taken subject to existing easements for public roads and highways, public utilities, railroads and pipelines.

The parties of the first part covenant and agree that they are the owners in fee of the above described premises and that they have a good right to convey the same; that said premises are free and clear of all liens and encumbrances, and that they will warrant and defend title to said easement against all claims and demands of all persons whomsoever.

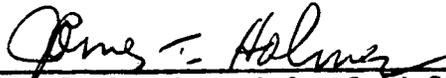
IN WITNESS WHEREOF, the parties of the first part have hereunto set their hands the day and year first above written.

  
\_\_\_\_\_  
HAROLD J. ROSS  
  
\_\_\_\_\_  
MABEL M. ROSS



STATE OF IOWA )  
                  ) SS.  
COUNTY OF LINN)

On this 16th day of July, A.D. 1964, before me, a Notary Public, personally appeared Harold J. Ross and Mabel M. Ross, husband and wife, to me known to be the persons named in and who executed the foregoing instrument, and acknowledged that they executed the same as their voluntary act and deed.

  
\_\_\_\_\_  
Notary Public in and for Said County  
James T. Holmes

My Commission Expires:  
July 4, 1966



05

FILED

24 JUL 19 11 0:52

Linn County, Iowa

ENTERED UPON TRANSFER BOOKS  
AND FOR TAXATION

JUL 20 1964

FEE PAID BY RECORDER  
*[Signature]*  
COUNTY AUDITOR

STATE OF IOWA, } SS.  
LINN COUNTY

Filed for Record

July 17 1964 at 9:52 to clock

*[Signature]*  
COUNTY RECORDER

Paged  
Indexed ✓

*West. Engineering  
215 County Eng. West Omaha  
Omaha, Neb*

17.00 Dr

DOCUMENT NO. 11224  
RECORD NO. 2.50  
VOL. 50

Tract: 100

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS:

That Harold J. Ross and Mabel M. Ross, husband and wife, of the County of Linn, State of Iowa, Grantors, for and in consideration of the sum of Twenty-Five Thousand & No/100 Dollars (\$25,000.00), to them in hand paid, the receipt of which is hereby acknowledged, do hereby grant, bargain, sell and convey to the UNITED STATES OF AMERICA, Grantee, of Washington, D. C., and its assigns, the following real estate situate in the County of Linn, State of Iowa, to-wit:

A tract of land situated in the NE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, Iowa, being more particularly described as follows: Commencing at the Northeast corner of said NE $\frac{1}{4}$ NE $\frac{1}{4}$ ; thence Southerly, along the East line of said NE $\frac{1}{4}$ NE $\frac{1}{4}$  for a distance of 400.00 feet; thence Westerly, at right angles to the right, for a distance of 295.00 feet to the point of beginning of said tract; thence Southerly, at right angles to the left, for a distance of 620.00 feet; thence Southwesterly, making an angle of 50°00'00" to the right, for a distance of 260.00 feet; thence Northwesterly, making an angle of 64°00'00" to the right, for a distance of 144.68 feet; thence Northwesterly, making an angle of 45°00'00" to the right, for a distance of 181.00 feet; thence Northerly, making an angle of 21°00'00" to the right, for a distance of 271.00 feet; thence Northeasterly, making an angle of 17°00'00" to the right, for a distance of 301.00 feet; thence Easterly, making an angle of 73°00'00" to the right, for a distance of 308.00 feet, to the point of beginning. The tract of land herein described contains 6.18 acres, more or less.

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

To have and to hold the premises above described, together with all the tenements, hereditaments and appurtenances thereunto belonging unto the said UNITED STATES OF AMERICA and its assigns forever.

And the said Grantors, for themselves, their executors and administrators hereby covenant with the UNITED STATES OF AMERICA and its assigns that said Grantors are lawfully seized of said premises; that said premises are free from encumbrances and that said Grantors have good right and lawful authority to sell the same, and that they will and their heirs, executors and administrators shall warrant and forever defend the same unto the said UNITED STATES OF AMERICA and its assigns forever against the lawful claims and demands of all persons whomsoever.

The said Grantors further quitclaim to the UNITED STATES OF AMERICA and its assigns all right, title, or interest which they may have in any streams, alleys, roads, streets, ways, strips, gores, or railroad rights of way abutting or adjoining said land.

IN WITNESS WHEREOF, the Grantors have hereunto set their hands this 16th day of July, 1964.

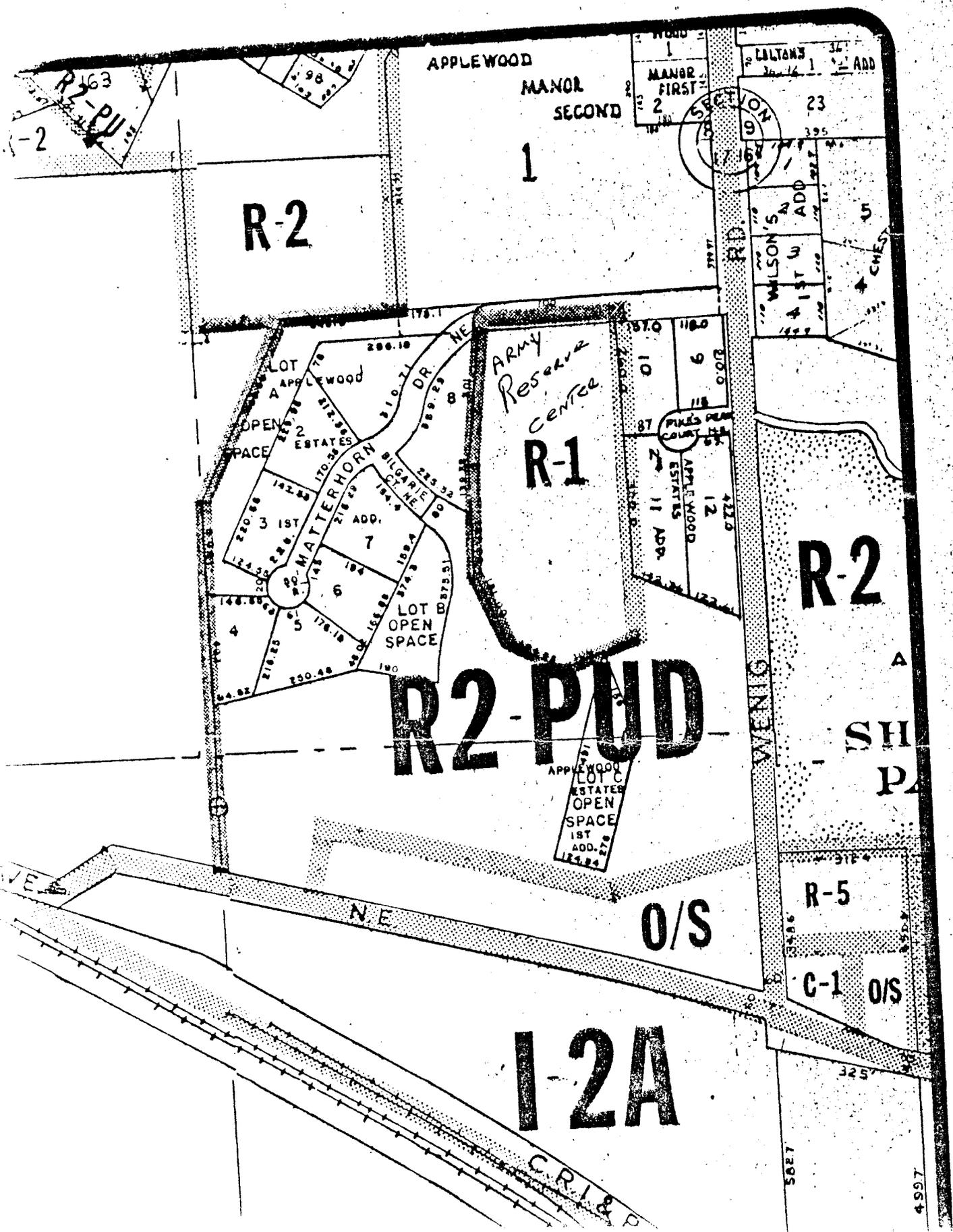
*Harold J. Ross*  
\_\_\_\_\_  
HAROLD J. ROSS

*Mabel M. Ross*  
\_\_\_\_\_



13  
K





APPLEWOOD  
MANOR  
SECOND  
1

R-2

ARMY  
RESERVE  
CENTER  
R-1

R2-PUD

R-2

O/S

12A

R-5

C-1 O/S

C.R.I. & P.

WOOD 1  
MANOR FIRST 2  
LALTONS 34'  
20' 14' 1' ADD  
23  
395

SECTION 8  
SECTION 9

WILSON'S ADD  
1ST W ADD  
5  
CHES

LOT 10  
LOT 6  
LOT 87  
LOT 12  
LOT 11  
APPLEWOOD ESTATES  
1ST ADD

LOT A  
LOT B  
LOT C  
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LOT 99  
LOT 100

OPEN SPACE

LOT OPEN SPACE

APPLEWOOD LOT C ESTATES OPEN SPACE 1ST ADD. 27' 124.84

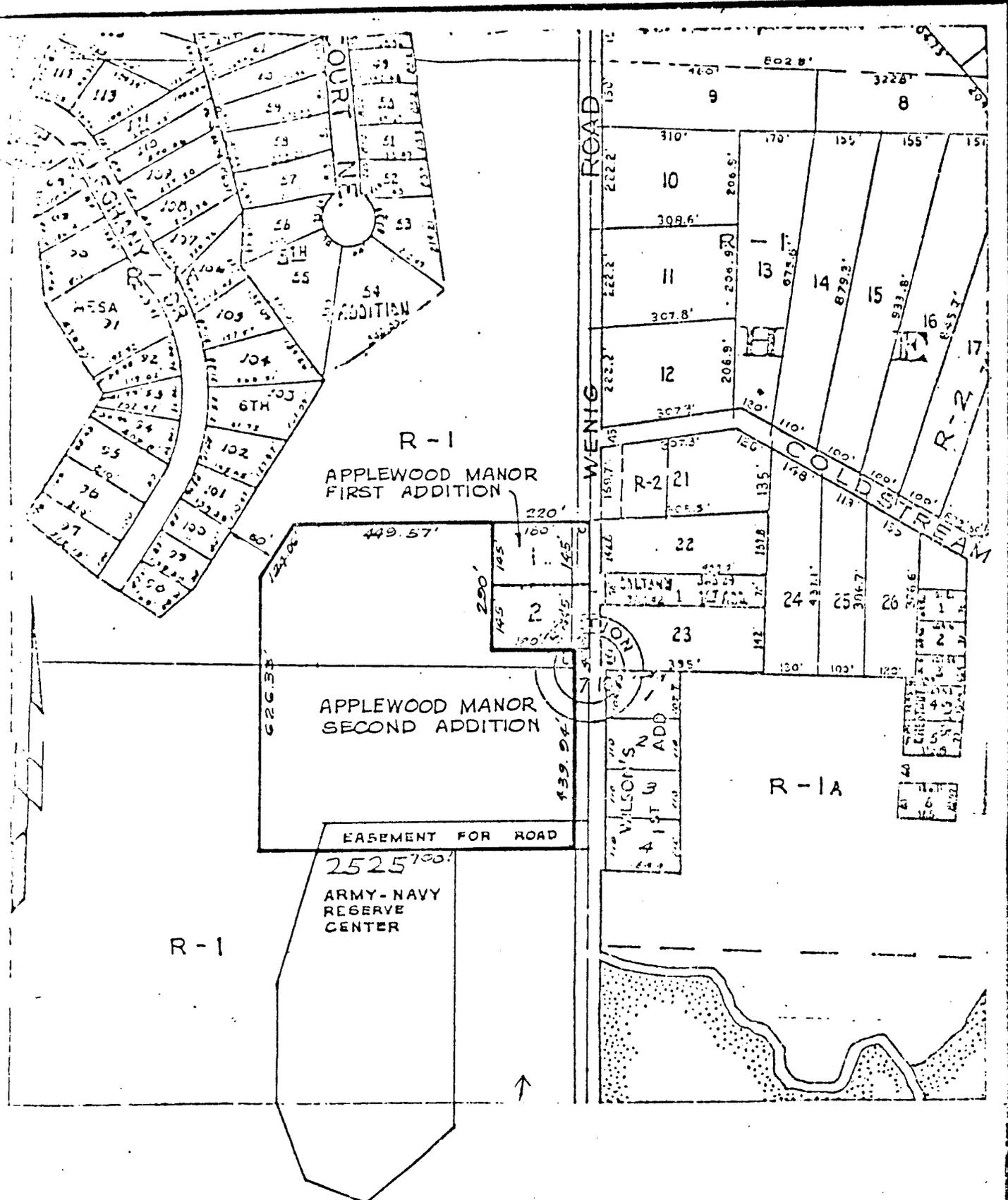
325'

5027

4997

R-2-PU

-2



R-1  
 APPLEWOOD MANOR  
 FIRST ADDITION

APPLEWOOD MANOR  
 SECOND ADDITION

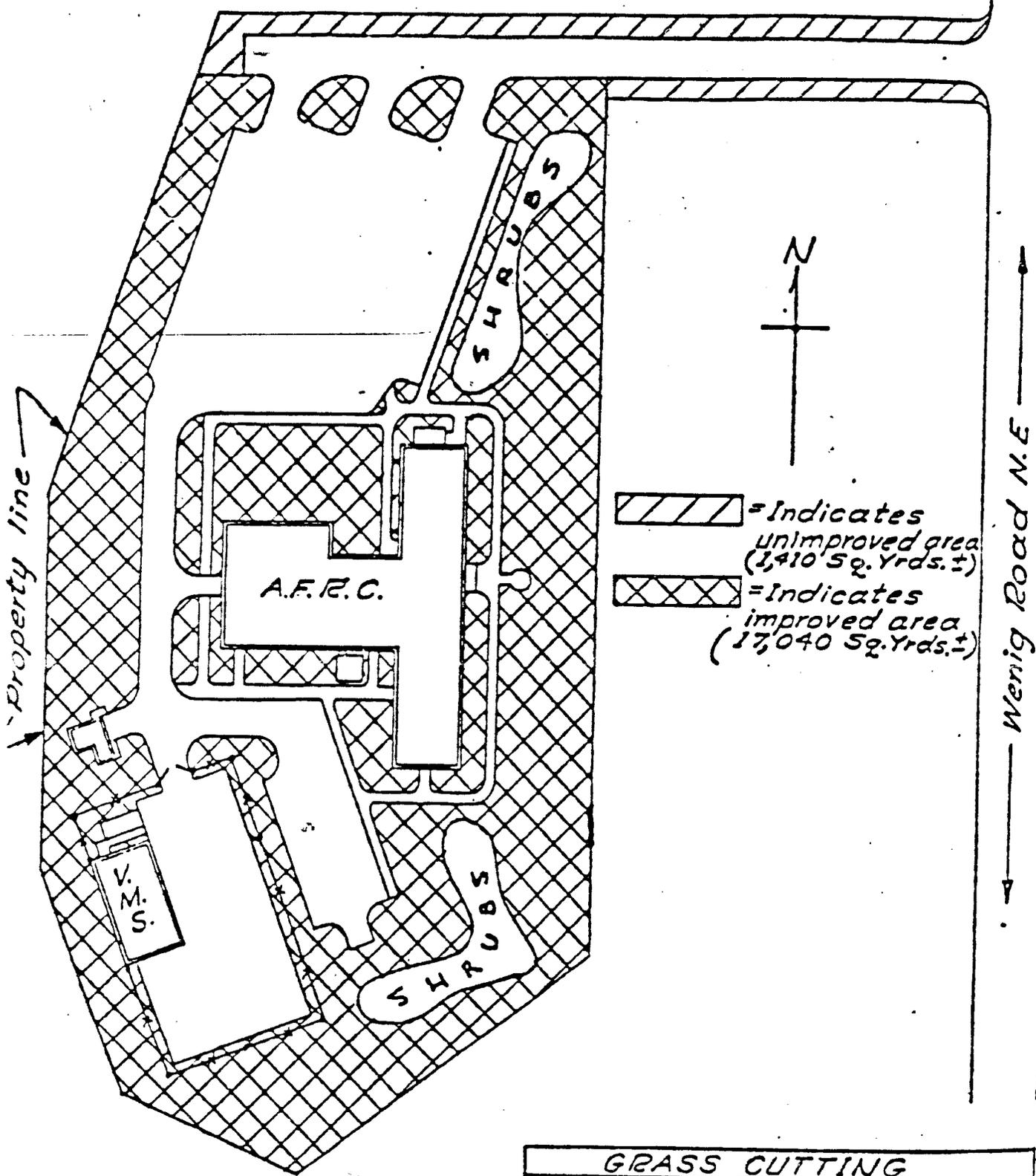
EASEMENT FOR ROAD  
 2525  
 ARMY-NAVY  
 RESERVE  
 CENTER

R-1

R-1







Date Jan, 1967

<b>GRASS CUTTING</b>	
ENGINEER	
XIV UNITED STATES ARMY CORPS	
ARMED FORCES RESERVE CENTER	
1599 WENIG ROAD N. E. 43	
CEDAR RAPIDS. IOWA. 52402	

**CHAIN OF TITLE AND LIEN REPORTS**



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

## **HISTORICAL CHAIN OF TITLE REPORT**

**CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IOWA**

**Submitted to:**

**ENVIRONMENTAL DATA RESOURCES, INC.  
C/O  
FMSM ENGINEERS, INC.  
1901 Nelson Miller Parkway  
Louisville, Kentucky 40223  
(502) 212-5000**

**Attention: Robert Newman**

**Project No. N06-5260**

**Friday, September 08, 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, situated and lying in the Northeast ¼ of the Northeast ¼ of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, State of Iowa

Assessor's Parcel No: 141710200300000

## **1. HISTORICAL CHAIN OF TITLE**

Records were researched at the Linn County Records' Office back to 1940. The following conveyances were found of record:

1. WARRANTY DEED:

RECORDED: 11-17-1955  
GRANTOR: Donald M. Ross & Ruthanna W. Ross, husband & wife  
GRANTEE: Harold J. Ross & Mabel M. Ross, husband & wife  
INSTRUMENT: Bk 939, Pg 78

2. WARRANTY DEED:

RECORDED: 07-17-1964  
GRANTOR: Harold J. Ross & Mabel M. Ross, husband & wife  
GRANTEE: United States of America  
INSTRUMENT: Bk 1224, Pg 339

## **2. LEASES AND MISCELLANEOUS**

### 1. EASEMENT:

RECORDED: 08-03-1981  
GRANTOR: Harold J. Ross & Mabel M. Ross, husband & wife  
GRANTEE: United States of America  
INSTRUMENT: Bk 1224, Pg 341

2. No institutional controls or engineering controls were found of record.

### **3. LIMITATION**

This report was prepared for the use of Environmental Data Resources, Inc., and FMSM Engineers, Inc., 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.



## **The EDR Environmental Lien Search Report**

**CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IOWA**

**Saturday, September 09, 2006**

**Project Number: L06-4532**

## **The Standard In Environmental Risk Management Information**

**440 Wheelers Farm Road  
Milford, Connecticut 06460**

**Nationwide Customer Service**

**Telephone: 1-800-352-0050  
Fax: 1-800-231-6802**

# ENVIRONMENTAL LIEN REPORT

The EDR Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

## TARGET PROPERTY INFORMATION

### ADDRESS

**CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IOWA**

## DEED INFORMATION

Type of Deed: WD  QCD  Other

Title is vested in: United States of America

Title received from: Harold J. Ross & Mabel M. Ross, husband & wife

Deed Dated: 07-16-1964

Deed Recorded: 07-17-1964

Book: 1224

Page: 339

## LEGAL DESCRIPTION

Description: Being that parcel or tract of land, situated and lying in the Northeast  $\frac{1}{4}$  of the Northeast  $\frac{1}{4}$  of Section 17, Township 83 North, Range 7 West of the Fifth Principal Meridian, Linn County, State of Iowa

Assessor's Parcel Number: 141710200300000

## ENVIRONMENTAL LIEN

Environmental Lien: Found  Not Found

1<sup>st</sup> Party:

2<sup>nd</sup> Party:

Recorded:

Book:

Page:

## OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found  Not Found

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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**APPENDIX D**

**CEDAR RAPIDS AFRC**  
**IA003**

**HISTORIC DOCUMENT REVIEW**

ASBESTOS SURVEY(S) AND ASBESTOS MANAGEMENT

# THOMPSON LABORATORIES

510 COPELAND AVENUE - LA CROSSE, WISCONSIN 54603

22 MAY 1987

118

Reported To: Commander, Fort McCoy  
Attn: AFZR-DEH-E  
Sparta, WI 54656-5000

Date: ~~May 19, 1987~~  
Laboratory No: 43440  
Page 1 of 1

## LABORATORY REPORT

Sample Identification: Various material samples, as listed below  
received 4-16-87

Tests and Results:

<u>Sample Identification</u>	<u>Asbestos Content</u>	
	<u>Chrysotile</u>	<u>Amosite</u>
A-13-87 Floor tile, asphalt, U.S.A.R.C. Buffalo, MN	1 %	None Detected
A-14-87 Ceiling Tile, U.S.A.R.C., Buffalo, MN	None Detected	None Detected
A-15-87 Water tank, Boiler room, U.S.A.R.C. Sioux City, IA	15 %	None Detected
A-16-87 Pipe insulation, Garage area, U.S.A.R.C., Iowa City, IA	60 %	None Detected
A-17-87 Steam pipe, Boiler Room, U.S.A.R. Training Center, DesMoines, IA	None Detected	None Detected
A-18-87 Pipe insulation, U.S.A.R. Training Center, Council Bluffs, IA	8 %	None Detected
A-19-87 Boiler Room, U.S.A.R.C., Cedar Rapids	65 %	None Detected

  
Dave Thompson

Thompson Laboratories

of. Doug Rhead - Safety Office  
DEH - OPFD

As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval. Our reports apply only to the samples tested.

## INTRODUCTION

### NAVAL RESERVE CENTER CEDAR RAPIDS, IA

Hall-Kimbrell Environmental Services, Inc. was retained by Northern Division, Naval Facilities Engineering Command, Philadelphia, PA, to perform an asbestos assessment survey to develop a comprehensive inventory to identify all friable and non-friable asbestos-containing materials at Naval Reserve Center Cedar Rapids, IA and all other Reserve Centers located within Region Sixteen.

The survey project is done in several phases as follows:

- Conduct an initial site visit to review building files and drawings and conduct a survey of all buildings to quantify materials suspected as possibly containing asbestos.
- Compile a First Draft Report of the inventory including a Sampling Plan.
- Conduct a second site visit to obtain samples of materials based on the approved Sampling Plan.
- Analyze the materials sampled, incorporating the results into a Second Draft Report of the inventory. Additionally, a final visit is made to the site to post warning labels on materials confirmed as asbestos containing and to post "Asbestos Free" labels on materials confirmed to be asbestos free.
- Complete a Final Report that provides the comprehensive survey of asbestos materials including a prioritization of buildings within the Region from worst condition to best utilizing a Rating/Ranking System provided by Northern Division.

## FINDINGS AND OBSERVATIONS

Hall-Kimbrell personnel conducted the initial site visit at Naval Reserve Center, Dubuque, IA on December 13, 1989. The inspection was based on a walkthrough of all facilities. During the walkthrough, the inspectors identified the locations and approximate quantities of all building materials suspected as possibly containing asbestos either in friable or non-friable form.

The inspection consisted of the following building(s):

Building No.	Square Footage
1	34,164
2	644

The following is a summary of suspect materials identified during the initial site visit:

Building No.	Location	Materials
1	First Floor	Ceiling tile, acoustical tile, mechanical insulations, pipe covering, drvwall, drywall joints, floor tile, baseboard mastic, etc.
	Second Floor	Ceiling tile, acoustical tile, mechanical insulations, pipe covering, floor tile, drywall, etc.
3	First Floor	Ceiling tile, cinder block.

From the information gathered during the initial site visit the First Draft Report was developed including a Sampling Plan which was provided to Northern Division for review and comment on the Report, and approval of the Sampling Plan.

## SUMMARY OF ASBESTOS-CONTAINING BUILDING MATERIALS (ACBM'S)

The second site visit at Naval Reserve Center (AFRC) Cedar Rapids, IA was conducted on July 23, 1990. The samples taken were based on previous quantities of suspect ACBM's for all facilities. The following is a summary of materials found to be asbestos-containing based on laboratory analysis:

BUILDING NO.	MATERIALS
1	Breeching Tank Insulation Mudded Joint Packings on NS PC Roof Flashing Duct Insulation

The following is a list of materials assumed to contain asbestos based on the EPA Purple Book and past findings at the Hall-Kimbrell laboratory:

BUILDING NO.	MATERIALS
1	Vinyl Floor Tile VFT Mastic Vinyl Baseboard Baseboard Mastic Firehose Concrete Block Tile Grout Brick Mortar Vibration Joint Cloth
3	Concrete Block

The following materials were inaccessible at the time of the survey and a Release of Liability form is attached.

1	Condensate Tank
3	Stored Ceiling Tile Roof Tar Roof Flashing

The following material was not found and a Release of Liability form is attached.

1	Interior Duct Insulation
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The following material was found to be non-suspect and a Release of Liability form is attached.

1	Mudded Joint Packing on NS PC
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## OPERATIONS AND MAINTENANCE PROCEDURES AND CODES

### A. MECHANISMS FOR REDUCING EXPOSURE TO ASBESTOS

#### Initial Cleanup

When asbestos-containing materials (ACM) are present on structural steel members or overhead ceilings and mechanical areas, asbestos fibers have probably been released from the ceiling, along with other materials such as perlite or vermiculite, and have settled onto walls, furniture, floors, etc. Because most asbestos-containing ceiling materials contain chrysotile asbestos, a thorough initial cleaning is imperative to remove the contaminants from those surfaces and thereby reduce the possibility for fiber entrainment.

Fibers may be released from the ceiling materials due to convection currents, vibrations from air handlers, and general building settling. The air currents caused by people walking, sweeping, mopping, and other air flows reentrain those once-settled fibers back into the air. The fibers later settle, and the cycle resumes. Those fibers that are small enough to be entrained and suspended in air are the ones which cause serious bodily harm. The following steps should be taken to remove airborne as well as settled asbestos fibers.

#### Use of Water

During asbestos cleanup all references to "wet wiping" or "wet mopping" refer to that activity using nonamended water. However, amended water should be used when wetting the asbestos-containing material before repair or abatement. Amended water is water that has a surfactant added to reduce the surface tension, thereby retarding evaporation and increasing penetrability of the asbestos-containing materials. Most commercial products are a 50-50 mixture of polyoxyethylene esters and polyoxyethylene ethers with approximately three percent emulsifier. The product is purchased in a concentrated form and diluted with water. Approximately one to three tablespoons of concentrated surfactant are added to a five-gallon pail of water, depending on the wetness desired. Refer to specific instructions by the manufacturer of the surfactant.

#### Order of Initial Cleanup of an Area

1. HEPA vacuum all sills, wall protrusions, signs, air vents, suspended light fixtures and other immovable fixtures.
2. Lightly mist the air with water, starting high at the ceiling and ending low to the ground.
3. Wet wipe all areas previously HEPA vacuumed.
4. Wet wipe all walls, excluding areas with sprayed-on asbestos-containing materials.
5. HEPA vacuum all carpets twice.
6. Wet mop the floors.

#### Disposable Mop Heads/Cloths

All wet wiping and wet mopping should be carried out using disposable cloths and/or disposable mop heads. NOTE: All items contaminated with asbestos fibers must be disposed of in six-mil polyethylene bags and properly labeled as per EPA regulations. More information on disposal bags is found below. The most economical method for obtaining disposable cloths/mop heads is to purchase a large roll of muslin or similar cotton type material and to cut out wiping cloths, wet mop covers, and dust mop covers.

- Wet-wipe cloths (approximately 18" x 18")
- Wet-mop covers (40" x 15")
- Dust mop covers (24" x length of mop head)

The covers are folded over the mop head and either stapled or twist-tied. When the cloth becomes full of debris, the cover should be removed and disposed of in six-mil bags. All cloths should be rolled into tight balls for disposal to allow for increased bag capacity.

#### Disposal Bags

Each building should have a location where asbestos disposal bags are kept. These areas should be located on opposite ends of the building and out of the access of building occupants and noncustodial personnel. The six-mil polyethylene bags should be kept closed at all times and twist-tied. When the bag becomes full, it should be twist-tied and placed in another six-mil bag and again twist-tied. The full bags should be placed in a 55-gallon steel or fiberboard drum and disposed of in an approved landfill. Until time for disposal, all full bags and drums should be kept away from extreme heat, wet areas, and areas accessed by noncustodial personnel. If the bags are not punctured or damaged, the drums may be cleaned and reused. Otherwise, they should be disposed of as contaminated waste.

#### HEPA Vacuuming

HEPA vacuum cleaners are to be used for the purpose of cleaning sills, wall protrusions, and carpets. As mentioned in the Use of Water section above, the first stage of an initial cleanup is vacuuming of the above. A HEPA vacuum must be able to filter out 99.97% of all fibers greater than 0.3 microns in length. Most HEPA vacuums have four filters. The initial paper filter must be changed on a basis similar to a non-HEPA, i.e. when it becomes full. The secondary filter should be changed every month, depending on use. The tertiary cloth filter should be cleaned or replaced every six months. The HEPA filter, under normal conditions, needs to be replaced every two years or more, depending on brand, usage, etc. When any one of the filters needs to be changed or cleaned, it must be done outside of the building and removed very slowly to reduce the possibility of a sudden burst of fibers to the breathing zone. An approved respirator and disposable coveralls must be worn during filter changing. Upon removal, all filters must be disposed of as contaminated waste.

#### Personal Protection

The following should be worn during initial cleanup of all buildings with asbestos-containing materials, as well as the times when there is a likelihood of coming into contact with asbestos-containing material.

1. Disposable Coveralls - A "Tyvek" brand or similar disposable coverall should be worn over the clothes to prevent capturing asbestos fibers on the worker's clothing. For ease of movement an extra-large size should be worn.

## B. RESPIRATORY PROTECTION PROGRAM

### Introduction

This written respiratory protection program has been established in accordance with the respiratory requirements of 29 CFR 1910.134 and 29 CFR 1926.58. These are general guidelines which are more stringent than OSHA requirements.

During sampling and inspection of materials suspected of containing asbestos or during renovation activities involving asbestos-containing materials, employees may be exposed to high concentrations of asbestos fibers for short periods of time. When an employee is exposed to concentrations of airborne toxic materials which are above the maximum standards established by OSHA, the law requires implementation of feasible engineering controls and/or administrative controls to reduce employee exposure. For the subject abatement activities, these controls are not feasible. As an alternative, the employer must provide respiratory protection for employees conducting sampling, inspection or abatement work with asbestos-containing materials. In addition to providing respiratory equipment, the employer has the responsibility of implementing a respiratory protection program. The following sections provide for the establishment of standard operating procedures for the respiratory protection of employees.

### Designation of a Program Administrator

A program administrator should be selected to be responsible for the implementation of and adherence to the provisions of the respiratory protection program.

### The Worker is Exposed

For the purpose of this program, the only hazard considered is airborne asbestos fibers. Accordingly, during any sampling or inspection of materials suspected of containing asbestos that directly disturbs the material, an air-purifying respirator should be worn. During any asbestos abatement projects which directly disturb the asbestos-containing material, Type "C" positive pressure air-supplied respirators should be worn. However, during minor operations and maintenance abatement and repair, an air-purifying respirator shall be sufficient. During cleanup and waste removal activities, air-purifying respirators should be worn by all affected personnel.

### Respirator Fit Tests

Each employee determined medically fit to wear a respirator shall be qualitatively fit-tested upon receiving the equipment and semi-annually thereafter. The type of fit test conducted depends on the respirator type. The manufacturer's literature should be consulted to determine the proper fit test.

Problems in fitting a respirator may result if facial hair prevents a good seal from forming between the skin and sealing surface. Corrective lenses that have temple bars or straps may prevent proper sealing and should not be used when a full-face respirator is worn. Contact lenses should not be worn while wearing a respirator. A properly fitted respirator may stretch the skin around the eyes, thus increasing the possibility that the contact lens will fall out.

2. Respirators - A respirator with disposable cartridges approved for asbestos dust by NIOSH should be worn at all times during initial cleanup and during emergency repair operations. The respirator should be fitted according to instructions provided by the manufacturer to prevent excess inhalation of fibers.

All disposable respirator cartridges and coveralls should be rolled and disposed of at day's end in six-mil asbestos disposal bags.

After the wet cleaning of all building areas and removal and disposal of all contaminated material, the building should be relatively asbestos-free, except for that contained in the original material. In order to retain this asbestos-free condition after the initial cleanup, the following routines should be employed.

#### Daily Use of Disposable Mop Heads

To prevent fiber entrapment there should be no dry mopping or sweeping in areas where friable asbestos-containing materials are located. Until all asbestos materials are removed from the ceiling, all daily mopping should be carried out with dampened disposable mop heads. Disposable cloths on mop heads cannot be reused daily and should be changed at day's end. Contaminated mop water should be filtered through a five micron filter and disposed of in a sanitary sewer.

#### Weekly Cleaning

In addition to the regular daily activity of mopping with disposable mop heads, a weekly cleaning of walls and fixtures is to be conducted. All walls and fixtures should be wet wiped and the cloths disposed of in six-mil disposal bags.

#### Custodial Inspection

On a daily basis during routine custodial activity, the building custodians should keep a constant check for signs of contact damage, developing water damage and dislodgment of ceiling material.

#### Water Damage

After a preliminary inspection by the Asbestos Coordinator, all areas of water damage should be noted and marked with a colored spray encapsulant. From that time on, any new water damage area which develops should be brought to the attention of the Asbestos Coordinator. Any new development in water or contact damage should be noted and described on a Change of Status Form. The custodian should look for discoloration of the asbestos material. The first signs of water penetration will show as a discolored brownish ring. The ring will gradually spread to form a complete brown spot. The second stage, and the stage when there is a higher fiber release, will be indicated by a white/brown "snowflake" ring on the perimeter of the spot. The third stage will be a gradual filling of the discolored area with the white "snowflake" appearance. The fourth and final stage will be dislodgment of the material. It is very important to stop the water leakage during the first stage.

#### Contact Damage

Areas of existing contact damage should be noted on the floor plan for each building or other appropriate document. Any signs of continued damage by building occupants, workers, etc., should be called to the attention of the Asbestos Coordinator.

#### Selection and Use of Respiratory Protection Equipment

The contractor shall provide workers with and require the use of respirators approved by MSHA\NIOSH for asbestos in accordance with OSHA Standard 29 CFR 1926.58 (h) (2). The minimum respiratory protection allowable shall be provided by an approved, half-mask, air-purifying respirator with HEPA cartridges. Disposable, single-use respirators are not acceptable. Upgrading of respiratory protection levels shall be the responsibility of the contractor's certified industrial hygienist. Upgrading shall be based upon continued air monitoring and evaluations of work operations and practices. Supplied air and related delivery systems, when utilized, shall supply Grade D breathing air and shall conform to all other requirements contained in OSHA Standard 29 CFR 1910.134, as a minimum. The certified industrial hygienist shall be responsible for ensuring the air intake for air compressors/movers is located so that no hazardous dusts, mists, fumes, or vapors are entrained into the air supply. Testing of supplied air, as required by 29 CFR 1910.134, shall be conducted by the contractor periodically.

#### C. MINOR ABATEMENT AND REPAIR TECHNIQUES

The following are general guidelines; however, all abatement and repair shall be done by certified personnel in accordance with regulations for asbestos control.

During the time from implementation of the Operations and Maintenance Plan until final removal of the asbestos-containing materials, it may become necessary to remove or encapsulate material that has become very friable. There are three primary situations where such action could become necessary:

1. If asbestos ceiling material becomes heavily water damaged from roof leaks, the material will become swollen and lose its bonding capability. During this stage, the material releases many more fibers into the air than undamaged material. To retard fiber release, the material should be encapsulated with a very light bridging encapsulant or the material should be removed. This procedure should only be used for lightly damaged areas. For heavily damaged areas, see 2. below. Although each situation could call for modification of the encapsulation procedure, the basic procedure to encapsulate a small water damaged area is:
  - a. Shut down the HVAC system.
  - b. Move all movable fixtures away from the area with water damage after wet wiping.
  - c. Place six-mil polyethylene on the floor and wall (if damage is within a few feet of the wall).
  - d. Patch the area of the roof where the leakage is occurring. Allow at least 24 hours before proceeding with encapsulation.
  - e. Wearing disposable coveralls and respirators, HEPA vacuum the damaged area, holding the nozzle one-half to one inch from the material. Do not brush the material with the nozzle.
  - f. With an airless sprayer or compressed air sprayer set to a fine mist, lightly coat the damaged area with a colored bridging encapsulant. Apply the encapsulant with the sprayer held eight to twelve inches from the material and apply in several passes over the material.

- g. Allow four to eight hours for fibers to settle. Dispose of plastic and asbestos debris and clean the surrounding area as outlined in the section Mechanisms for Reducing Exposure to Asbestos.
2. In some cases the asbestos-containing ceiling material, through water damage or building vibration, has become dislodged and physically separated from the substrate. The material is then ready to break off and fall to the floor, thereby releasing many fibers into the air. The dislodged material should be removed in the following manner while wearing respirator and disposable coveralls:
- a. Shut down the HVAC system and place plastic over the return air grills.
  - b. As in 1 above, wet wipe and remove furniture and place plastic in the area of the fiber fallout.
  - c. Isolate the work area.
  - d. HEPA vacuum the material as in 1.
  - e. Mist the area to be removed with amended water.
  - f. With a utility knife or other cutter, slice through the material to the substrate around the area which is dislodged.
  - g. While one worker holds the HEPA nozzle equipped with a spread cone close to the material, gently remove the dislodged material using a putty knife and place in the cone and/or disposal bag.
  - h. Revacuum the affected area.
  - i. As in 1 above, spray a light coating of colored encapsulant on and around the area to retard further fiber release.
  - j. Dispose of plastic in disposal bags and wet wipe and HEPA vacuum the area as described in the "Mechanisms for Reducing Exposure to Asbestos" section.
3. In the event that mudded joint packing or pipe covering becomes deteriorated, damaged, or if the material must be removed to allow work on pipes, valves, elbows, etc. the material must be removed by glove bag operations:
- a. After sealing off the work area and HVAC system and donning respirator and coveralls, cut the sides of the glove bag to fit the size pipe to be worked on and insert the tools needed into the attached tool pocket.
  - b. Attach the glove bag to the working area by folding the open edges together and sealing with staples and tape. (Remember, this sealed area will be supporting the weight of the debris; additional support may be necessary.)

- c. Seal the edges of the glove bag around the working area with tape or "Velcro" ties to form a tight seal. Slice open the side port to allow entry of the wetting nozzle and HEPA vacuum hose. Insert the nozzle from the portable sprayer and thoroughly wet the area to be removed. The HEPA vacuum hose may then be inserted into the side port and sealed with tape.
- d. Insert arms into the armholes and glove, and proceed to remove the asbestos from the valve fitting and pipe. Insert a spray nozzle and spray the pipe and any remaining insulation with encapsulant. When the job has been completed, turn on the HEPA vacuum to remove air from the bag.
- e. After the air is removed from the glove bag, squeeze the bag tightly (as close to the top as possible) and twist seal and tape closed to keep the asbestos material safely at the bottom of the bag. Turn off the HEPA vacuum and remove the hose from the side port, taking care to seal the side port with staples and tape.
- f. The glove bag may now be cut and removed from the working area, placed into another plastic bag, and disposed of properly.
- g. Proceed to HEPA vacuum the work area for any residual materials and seal the exposed edges with the proper sealant.
- h. Once all pipe insulation has been removed and disposed of according to these specifications, the entire work area shall be wet cleaned and/or HEPA vacuumed.

Any time an area of asbestos-containing material has to be encapsulated or removed, it must be recorded and the area must be color coded for reference. NOTE: Emergency encapsulation or removal should be performed by a Special Response Team.

#### D. OPERATIONS AND MAINTENANCE CODES AND PROCEDURES

##### OMA - Pipe Insulations and Mudded Joint Fittings

Work area preparation and cleaning shall be in accordance with the requirements previously listed in this section.

Repair minor dents and tears in the protective jacket with duct tape or bridging encapsulant with glass cloth reinforcement. Duct tape should only be used for temporary control until the bridging encapsulant is installed.

If glove bag removal is not feasible, wrap uncovered pipe insulations with protective jackets consisting of a bridging encapsulant with glass cloth reinforcement.

Wrap moderately water damaged or contact damaged pipe insulations with new protective jackets, or replace affected areas. Eliminate the source of the water damage. More severely damaged pipe insulations may require removal by glove bag or gross containment techniques. Request authorization for removal via a work order from the Asbestos Coordinator.

Monitor the condition of the asbestos-containing materials. Color coding of a system's asbestos-containing materials and nonasbestos-containing materials will greatly assist in routine monitoring and detection of problems.

Routinely clean area using procedures covered in the Mechanisms for Reducing Exposure to Asbestos.

#### OMB - Insulations on Boilers, Breeching, Ducts, etc.

Work area preparation and cleanup shall be in accordance with the requirements previously listed in this section.

Repair minor dents and tears in insulation on boilers and breeching with a bridging encapsulant with glass cloth reinforcement. Duct tape or nonasbestos mastic should only be used for temporary control until the protective jacket is applied.

Wrap uncovered insulations with new protective jackets or coverings consisting of a bridging encapsulant with glass cloth reinforcement.

If damage is more severe, cleanup may involve removing the asbestos-containing materials. Consult with your Asbestos Coordinator if removal is necessary. Use proper abatement techniques covered in the section called Minor Abatement and Repair Techniques.

Minor damage to duct work insulated with ACM should be repaired with a bridging encapsulant with glass cloth reinforcement. Duct tape or nonasbestos mastic should only be used for temporary control until the protective jacket is applied.

If insulated duct work exists above drop ceilings which are missing ceiling tiles, replace the tiles to help keep the asbestos-containing material isolated from the building occupants.

Consider replacing perforated drop ceilings with a sealed barrier to prevent exposure to asbestos-containing materials. Good judgement can yield the most cost effective procedure for exposure control in every case. Refer to abatement techniques outlined previously in this section for the consideration of removal and replacement as opposed to the above methods for different situations.

For all areas with ACM, clean using the Mechanisms for Reducing Exposure to Asbestos. Color code or label replaced material to differentiate ACM from nonasbestos-containing material.

#### OMC - Fireproofing

Work area preparation and cleaning shall be in accordance with the requirements listed in this section.

On a temporary basis, the exposure potential of fireproofing can be reduced by constructing airtight walls and ceilings around the ACM, enclosing the exposed area. This process will disturb the ACM through contact, vibration, etc., so the same isolation and control techniques used for removal projects must be incorporated into this type of work. An enclosure project would generally be applicable only to a small area. Enclosure of a large area often requires such effort and expense that removal is more cost effective and practical.

The fireproofing may be sprayed with an encapsulant if the fireproofing is well-bonded to its substrate and is less than one inch thick. This is to be considered a temporary control measure with a life expectancy of five to six years. As with enclosure, isolation and control techniques used for removal projects must be incorporated into encapsulation work. Test results have shown that, due to the impact of the spray, spraying with an encapsulant can entrain into the air more fibers than a gross wet removal project.

If the fireproofing has localized water damage and/or is becoming delaminated in a small area, spot removal of the damaged material may be necessary. Follow techniques outlined on abatement. If the remaining fireproofing is well bonded to its substrate, it can then be encapsulated; however, the source of the water damage must be eliminated.

Use caution when work involves hanging ducts, conduit or pipes, etc., from surfaces sprayed with fireproofing. Avoid disturbing fireproofing whenever possible.

#### OMD - Acoustical Plasters (Sprayed-On or Trowelled-On)

If the plaster is in good condition, with no delamination, deterioration or signs of water damage, it should be left alone but carefully monitored for signs of change in status.

If the plaster is water damaged and/or is becoming delaminated from the substrate, it should be removed rather than encapsulated. Encapsulation can make the condition worse by increasing the rate of delamination. The source of the water damage must be eliminated. Authorization and a work order for spot removal should be obtained from the Asbestos Coordinator. Abatement techniques outlined previously should be followed.

Avoid disturbing acoustical plaster by not hanging plants, drilling holes in the ceiling, moving furniture, etc. Work area preparation and cleanup for all types of maintenance and repair work shall be in accordance with the requirements listed previously in this section. When the plaster must be disturbed, mist the affected area with amended water and use a HEPA vacuum to collect fibers being released.

#### OME - Stored Insulations

Work area preparation and cleanup should be in accordance with the requirements previously listed in this section.

Stored pipe lagging, tank packing, joint compound, fireproofing, and other miscellaneous asbestos-containing materials should be cleaned up and disposed of properly.

If the items are not in a container and there is a potential for exposure, the items should be carefully wet with a light mist and put into an asbestos disposal bag and disposed of properly.

#### OMF - Debris

Work area preparation and cleanup should be in accordance with the requirements previously listed in this section, except the application of floor plastic, which would not be practical.

Small amounts can be cleaned up using a HEPA vacuum and wet wiping or wet mopping. Dispose of larger pieces by misting and carefully moving the pieces to an asbestos disposal bag to be properly discarded.

### OMG - Ceiling Tiles

When ceiling tiles are noted as asbestos-containing materials, precautions can be taken to greatly minimize exposure from the tiles.

Whenever the tiles are cut, broken or damaged, they should be disposed of properly and replaced by new tiles. Tiles should never be broken to fit into an asbestos disposal bag. Six-mil polyethylene or asbestos disposal bags can be used for double wrapping large size ceiling tiles.

If an area is to be renovated or the ceiling totally replaced, the removal should follow site preparation and procedures from minor abatement and repair. Consult with the Asbestos Coordinator and obtain a work order form. Dispose of all tiles as contaminated waste.

Monitor ceiling tiles and report any damage. Maintain condition and follow interim control measures until tiles have been completely replaced.

### OMH - Tape/Woven Paper

Asbestos-containing tape is used primarily for sealing seams on duct work. Loose or frayed ends of the tape should be wetted with amended water, cut, and properly disposed. Care must be taken not to damage the tape by ripping or tearing it during this procedure.

Damaged tape should be carefully painted with a bridging encapsulant with minimal overspray or overbrushing. When the tape must be disturbed, mist it with amended water (unless the disturbance is due to the encapsulation process) and use a HEPA vacuum to collect fibers being released.

### OMI - Miscellaneous/Cementitious Materials

Fiber release from cementitious (nonfriable) materials is normally extremely low, unless these materials are broken, drilled, sanded or otherwise disturbed. During disturbance, the material should be thoroughly dampened and a HEPA vacuum used to collect fibers being released. Follow the work area preparation and cleanup requirements previously listed in this section. Some examples of cementitious and miscellaneous nonfriable materials that may contain asbestos are:

Floor tiles	Tile underlay
Wall plasters	Transite pipes
Scratch coats	Drywall plaster
Transite panelling	Linoleum
Exterior Siding	Roofing felts
Friction products (brake linings, clutches, etc.)	

Vinyl Asbestos Floor Tiles (VAT) - When damaged, vinyl asbestos floor tiles become friable and could present a problem. If spot removal becomes necessary, the following method should be utilized. Seal all doors and grills. Turn off the HVAC system as a safety precaution. Mix amended water to a slightly stronger than normal strength. Spray the entire surface of the tiles to be removed, wait six to eight hours and repeat the spraying. Most vinyl asbestos tile glues are water soluble and the tiles will loosen so that they may be physically removed, placed in a sealed plastic bag, and disposed of as asbestos waste. When the tiles are loose the ends will curl up or under. As a further safety precaution, wear respirator and disposable coveralls. After completion of the project, wet wipe all surfaces in the area. Note: Dispose of the paper-like underlay with the vinyl asbestos tile, as it usually contains asbestos. Vinyl floor tile mastic may contain asbestos, in this case, the mastic should be treated as described above.

### OMZ - Other Materials

This code applies to miscellaneous ACM that rarely creates a significant problem but can pose an exposure risk when being damaged or removed. Listed are some of the asbestos-containing materials that fall into this classification. If an asbestos-containing material is not directly addressed in the operations and maintenance codes, an operations and maintenance procedure may be applied using one or more of the codes that involve similar materials.

Batt insulation - Cutting or tearing the asbestos-layered paper backing can cause fiber release. Wet the backing with amended water and wear a half-face respirator if batting needs to be cut or moved.

Friable Hardboard - Precautions should be taken to minimize exposure from the hardboard. Replace broken or damaged hardboard with a nonasbestos material. If removal is necessary, wet the material and try to remove it in one piece. The hardboard should never be broken up to fit into an asbestos disposal bag. Large hardboard pieces can be double wrapped with six-mil polyethylene or asbestos disposal bags.

Vibration Joint Cloth - Vibration joint cloth is most often found on duct work near air handlers. Loose or frayed ends should be wet with amended water or a diluted encapsulant. Carefully cut and remove the joint cloth and dispose of properly.

Wiring - Care should be taken when cutting or stripping asbestos wire insulation. In general, it is not a safe practice to wet the wire insulation. Dispose of the stripped insulation properly.

Carpet - Carpets normally do not contain asbestos but can become contaminated if located in a room with damaged asbestos-containing ceiling plaster or fireproofing. Always clean with wet methods, while wearing respirators. If carpet is to be replaced, obtain a work order from the Asbestos Coordinator, remove and dispose of it as contaminated waste.

Earth Floors - When mechanical insulations located in crawl spaces or tunnels deteriorate or are damaged, the earth floors beneath them can become contaminated. Often the asbestos materials are broken up and ground into the loose earth by maintenance workers performing work in these areas. If the contamination is found to be limited to the loose, dusty portion of the surface of the floor, cleanup with a HEPA vacuum will normally suffice. If the asbestos is ground into the earth floor by foot traffic or if the floor is dry and cracked, it may be necessary to HEPA vacuum the loose material and then remove the outer two to three inches of the firm soil. In either case, the remaining floor surface should be covered with a thin layer of gunnite (if the area is not too large) or sprayed with a penetrating soil encapsulant made specifically for this purpose such as "EarthKote" by American Coatings Corporation. Apply such soil treatments as per the manufacturer's recommendations.

**ROUTING AND TRANSMITTAL SLIP**

12 SEPTEMBER 2000

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. LTC HUFFMAN		
2. MR. MELTON		
3. MR. FENILI		
4. MAJ FORD		
5. SUBJ: CEDAR RAPIDS INTERIOR REPAIR PROJECT (J03010010J)		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	<input checked="" type="checkbox"/> For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

**REMARKS**

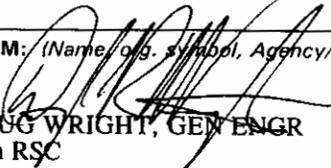
Attached is submittal received yesterday afternoon from Invensys, Huntsville's contractor. I am reviewing along with Marilyn Hatchliff, and will provide a coordinated response today or first thing tomorrow. This is for your info, and you are welcomed to provide me comments.

649th held a Facility Support Planning Board last night. There were issues involved, but I don't think there are any show stoppers. Marilyn says everyone is satisfied with the space they are allocated. Navy made a lot of noise about the disruption, and suggested moving out during the project. This is an option, but I think that it's more disruption than it's worth. We had not planned to do this, and I think that the phasing will minimize the pain. The pain that remains must be sucked up.

Cost estimate is still pending. I will push Huntsville hard to get a good figure as early as possible.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

  
DOUG WRIGHT, GEN ENGR  
89th RSC

Room No.-Bldg.

Phone No.

(316) 681-1759, ext 1470



8 September 2000

U.S. Army Engineering and Support Center, Huntsville  
Attn: CEHNC-PM-CR (Mr. Stan Lee)  
4820 University Square  
Huntsville, Alabama 35807-4301

Ref: DACA87-97-D-0050, Task Order 050, Site Investigation Report; Cedar Rapids AFRC Renovation, Cedar Rapids, Iowa

Sirs:

Enclosed is *Site Investigation and Report* dated 8 September, 2000 for your consideration and approval.

Sincerely,

**Invensys Construction & Engineering**

A handwritten signature in black ink, appearing to read "Laurence J. Maloney", is written over the typed name and title.

Laurence J. Maloney, PE  
Engineering Manager

Cc: Doug Wright, RSC Engineer; Marilyn Hatcliff, Facility Manager



# **SITE INVESTIGATION REPORT**

FOR

**U.S. ARMY ENGINEERING AND SUPPORT CENTER  
HUNTSVILLE**

**ARMED FORCES RESERVE CENTER  
CEDAR RAPIDS, IOWA**

**Building Renovation**

Prepared by

**Invensys Construction & Engineering**

833 Greenview Dr.

Grand Prairie, Texas 75050

[www.invensys-ice.com](http://www.invensys-ice.com)

Contract No. DACA 87-97-D-0050

Task Order #050

Dated 8 August 2000

8 September 2000

## **SITE INVESTGATION AND REPORT**

### **1. GENERAL**

The site of this project is located at the Armed Forces Reserve Center in Cedar Rapids, Iowa. This site is located in an area with good paved road access. The actual work is solely located within the Armed Forces Reserve Center Building.

### **2. ASBESTOS / LEAD –BASED PAINT STATEMENT**

This project will, as part the total work package will abate asbestos tile throughout the building. Samples shall be taken of paint in areas where demolition is required to determine whether lead based paints are present. Finally, the abatement of lead contamination will be required in Room 100 that is the old rifle range.

#### **2.1. HAZARD ANALYSIS**

A Western Technologies Inc. Hazard Analysis Report indicates that there is no asbestos present in the building with the exception of the VAT flooring.

#### **2.2. MATERIAL SAFETY DATA SHEETS (MSDS)**

A hazardous communication book with MSDS sheets will be required on the job site by each individual subcontractor. All MSDS sheets applicable to this project will be submitted to the AFRC Cedar Rapids Facility Manager prior to use.

### **3. SCOPE OF WORK**

The work on this project involves renovation of the Armed Forces Reserve Center in Cedar Rapids. It will be necessary to phase work to allow for smooth flow of construction and the use of the building by the normal inhabitants. Break down of the actual work is listed below.

#### **3.1. GENERAL NOTES**

Mr. Kaltenhauser and Mr. Maloney of Invensys C & E met with Doug Wright 89<sup>th</sup> RCS at the site to discuss user requirements and concerns related to the renovation of the Center. Doug Wright provided ICE personnel copies of building plans, proposed layouts for several rooms, plan that indicated where asbestos floor tiles were located, a copy of specifications for the removal and installation of flooring materials.

#### **3.2. DEMOLITION**

Demolition will include removal and abatement of all existing 9" X 9" asbestos floor tile in the facility, removal of interior ceiling tiles, light fixtures, and rifle range accoutrements in the rifle range. The rifle range work will include lead abatement. Additional demolition will include existing suspended ceilings throughout the building, and removal of lighting fixtures throughout the building. Exterior doors at north and south stairwells will be removed and replaced. Various doors will be replaced throughout the building.

Demolition of electrical work will include fluorescent, incandescent and HID type lighting fixtures throughout the building. A transformer and two panels will be removed along with associated conduit and fittings.

Demolition of plumbing work will include urinals in Room 122, toilet partitions in various restrooms, and toilets and lavatories to be replaced by ADA compliant equipment.

Demolition of mechanical work will include various fin coil units, fan coil units, and miscellaneous chilled and hot water piping.

**3.3. NEW WORK**

See attached Statement of Work, meeting notes and minutes and schedule of general construction work to be accomplished.

See attached general construction work for new electrical, LAN and telephone work. In addition, a 480-120/208 volt K rated transformer shall be installed in the Mechanical Room to serve the LAN panel and LAN outlets in various parts of the building. The LAN facilities shall be designed in accordance with RCAS requirements and specifications.

See attached schedule for mechanical work to be performed in support of the building renovation.

**4. SITE CONTROL**

**4.1. SITE ACCESS**

This site is accessible directly from Matterhorn Drive in Cedar Rapids. Contractor access, trailer, and material storage can utilize the parking lot.

**4.2. EMERGENCY ACTION AND COMMUNICATIONS PLAN**

This procedure outlines an Emergency Action and Communication Plan to be initiated in the event of an emergency. As outlined, this plan will initiate an action for emergencies such as injury, failure of the fire alarm system or a utility system failure. The following procedures are to be followed by our sub-contractors as well as Invensys personnel in the event of an emergency.

**4.2.1. POINTS OF CONTACT IN CASE OF EMERGENCY**

**INVENSYS PERSONNEL**

The following procedure outlines the appropriate points of contact in the event of an emergency. The following personnel are listed in the order in which they are to be called until contact is made.

Invensys Project Manager	TBA	Office	888 660-6287
Invensys Superintendent	TBA	Office	972 660-6287
Invensys QC/Safety Manager	Lamar Hudson	Office	972 647-3221

If, in the unlikely event on of the Invensys project personnel cannot be contacted immediately, call the Invensys 24-hour project office phone number. State the nature of the emergency, the location, who you are and how you can be reached. This procedure will initiate a calling order within the Invensys corporate office. Someone from Invensys will return your call.

Invensys Project Office 24 hour Emergency Number 888 972-6287

Invensys personnel initiating the call will state the nature of the emergency, what action is being taken to correct the emergency, how long emergency is estimated to continue (if issue is time sensitive), what resources are being used, and what support may be required (if any). Invensys personnel will remain on the project site and provide regular updates on corrective measures and time estimates to the Cedar Rapids AFRC point of contact until the crisis terminates.

**4.2.2. INJURY**

In the event of a minor injury, contractor personnel shall treat injury and contact Invensys personnel immediately. If an injury requires treatment by medical personnel, an ambulance can be reached by calling 911, then contact Invensys personnel immediately.

Invensys personnel, upon notification of an injury, shall immediately notify one of the Cedar Rapids Armed Forces Reserve center personnel listed above and the Invensys Corporate Safety Manager. The Invensys Safety Manager shall notify the C.O.E. in Huntsville and advise Cedar Rapids Invensys personnel of what further action and documentation is required.

**4.2.3. FIRE EMERGENCY**

In the event of a fire in the work area, contractor personnel shall rescue anyone in the immediate area. Immediately call 911 and give brief details to the fire personnel as to what has happened and the location of the fire. Extinguish the fire if possible and/or evacuate the area. Immediately evacuate and proceed to a point across the street from the facility in order to determine safe evacuation of all contract personnel.

**Emergency Phone Number**

The following numbers can be dialed from any base facility phone.

EMERGENCY:	911
AMBULANCE	911
FIRE	911
CRIME STOP	911

**4.2.4. SITE ACCESS CONTROL AND SECURITY PROCEDURES**

At present, site access will be limited to job site contractor personnel and authorized Government inspectors. Security will be limited to the security of contractor supplied tools and property. Contractors will be responsible for security of their own items.

## 5. DISRUPTION PLAN

There will be several disruptions of office space during this project which will cause building residents to have to move from their office at least and maybe twice during the duration of the project. These disruptions will allow for the smooth transitions of work from phase to phase. No major utility operations are foreseen on this project at this time. If for some unforeseen reason, a utility outage is required. Invensys will give the government a 72-hour notice of the disruption.

In general, work will proceed in the following sequence:

1. The rifle range will be converted to storage space.
2. Room 120 will be cleared of all storage partitions, and new facilities installed. Various personnel from other parts of the building will be temporarily located in these spaces until work in their respective areas can be completed.
3. Abatement of VAT will necessitate that areas be closed off to occupants until the VAT is removed, disposed of, and the area reclaimed.
4. Should it become necessary, temporary electrical power and LAN/Telephone facilities can be installed in the Assembly Room (101) for temporary assignment of personnel.

## 6. PROPOSED WORK PLAN

Information requested in this section will be contained in the Work Plan, which will be prepared upon approval of this Site Visit Report and a Notice to Proceed from the government for the Work Plan.

## 7. COST PROPOSALS

Work Plan proposal has been previously submitted separately.

GENERAL CONSTRUCTION AND ELECTRICAL WORK														
DEMOLITION											NEW			OTHER
ROOM NO	FUNCTION	FLOOR	CEILING	DOORS	LIGHT FIXTURES	OTHER	FLOOR	CEILING	PAINT	ELECTRICAL OUTLETS	LAN/TEL OUTLETS	DOORS	LIGHT FIXTURES	
100	Storage	VAT	YES	2	YES	LEAD ABATE-MENT	CONC	STRUC T	W, C	6	NO	1 EXT 1 INT 1 DBL	YES	Entire room must be tested for lead, a lead abatement plan devised, and lead abated and disposed of. Existing interior of range to be stripped to structure. Remove sand pit and install concrete floor slab. Remove existing exterior door and door bullet shield. Remove existing bullet deflector. Install double doors to room 100 in center of common wall, solid core, wood (birch) with steel frame. install eight 9' x 16' prefabricated storage cages, allowing for 4' corridor along room north wall. Replace exterior door and frame (ins steel with steel frame)
101	Assembly Hall	NO	NO	NO	YES		NO	NO	W, C	NO	NO	NO	YES	Replace existing MV fixtures with MH low bay fixtures, for 50fcl maintained.
102-109	Storage	NO	NO	Note 3.	NO		NO	NO	NO	NO	NO	YES	NO	Replace existing doors and door hardware as required. (solid core birch)
110	Chaplain	VAT	SUSP	Note 3.	YES		VCT	SUSP	W	1	1	Note 3	YES	
111	Mech Room	NO	NO	NO	NO		NO	NO	NO	NO	NO	Note 1	NO	
112	Armorer	NO	NO	NO	NO		NO	NO	NO	NO	NO	N	NO	
113	Arms Vault	NO	NO	NO	NO		NO	NO	NO	NO	NO	N	NO	
114	Joint Exam Rooms	NO	GYP	YES	YES		NO	SUSP	W	3	1	1	YES	Existing ceramic tile floor. Remove lockers, install door to corridor 115. Close entry from Room 134. Match existing ceramic block and paint all.
115	Corridor	VAT	SUSP	Note 3.	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.
116	Kitchen	VAT	NO	Note 3.	NO		VCT	NO	NO	NO	NO	Note 3	NO	
117	Dayroom	VAT	SUSP	Note 3.	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Remove paneling, refinish walls.
118	Lobby and Vestibule	VAT	SUSP	NO	YES	YES	VCT	SUSP	W	NO	NO	NO	YES	Install emergency lights and new exit lights.

ROOM NO	FUNCTION	DEMOLITION					NEW							OTHER
		FLOOR	CEILING	DOORS	LIGHT FIXTURES	OTHER	FLOOR	CEILING	PAINT	ELECTRICAL OUTLETS	LAN/TEL OUTLETS	DOORS	LIGHT FIXTURES	
119	Admin and Mail Room	VAT	SUSP	YES	YES	YES	VCT	SUSP	W	4	2	1 New	YES	Construct new 240sf mailroom at south west corner of existing room. Remove door to corridor 124, fill with block to match. Install 24 postal mail boxes
119A														
120	Storage	NO	NO	YES	YES	YES								See 120A thru 120F. Construct one 7000sf classroom with folding divider, one 7000sf Library, one 200sf storage room, one 120sf DEERS office, one 80sf mech room and corridor. Remove and palletize all cage and shelving for government disposition, remove door and fill opening between rooms 120 and 122, remove door and frame between rooms 120 and 121, and emergency and exit lighting in new corridor.
120A	Training Aids Storage						VCT	SUSP	W	2	NO	1	YES	
120B	Class-room						VCT	SUSP	W	8	2	1	YES	
120C	Navy Library						VCT	SUSP	W	8	2	1	YES	
120D	DEERS Room						VCT	SUSP	W	3	1	1	YES	
120E	Mech Room						NO	STRUC T	W	3	NO	1	YES	
120F	Corridor						VCT	SUSP	W	2	NO		YES	
121	Vestibule	VAT	SUSP	2	YES	YES	VCT	SUSP	W	NO	NO	NO	YES	Remove both doors to this vestibule, finish out to wall structure.
122	Womens Toilet	NO	NO	Note 3. See room 120	NO	YES	NO	NO	W	NO	NO	Note 3	NO	Close door opening to 120 with ceramic block to match existing. Paint interior walls. Remove urinals, patch walls, paint. Install toilet, partitions, lavatory to ADA. Replace door to corridor 121 with ADA compliant. Replace all partitions.
123	Advisor	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
124	Corridor	VAT	SUSP	Note 3.	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.
125	Lobby	VAT	SUSP	NO	YES	YES	VCT	SUSP	W	NO	NO	NO	YES	Install emergency lights and new exit lights.
126	Reception	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
127	Admin	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
128	C.O.	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
129	Admin	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
130	Gen Shop	VAT	Gyp/Tile	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
131	DLG Shop	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
132	ORD Shop	VAT	GYP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
133	Admin	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	

DEMOLITION							NEW							OTHER
ROOM NO	FUNCTION	FLOOR	CEILING	DOORS	LIGHT FIXTURES	OTHER	FLOOR	CEILING	PAINT	ELECTRICAL OUTLETS	LAN/TEL OUTLETS	DOORS	LIGHT FIXTURES	
134	Restroom	NO	NO	Note 3	NO	YES	NO	NO	W	NO	NO	Note 3	NO	One of the two rooms 134 or 135 shall be made ADA; replace one toilet and partitions, and one lavatory with ADA compliant. Remove shower facilities, rework floor and install VCT if necessary for ADA. Both latrines shall be configured for male. Install new partitions.
135	Restroom	NO	NO	Note 3	NO	YES	NO	NO	W	NO	NO	Note 3	NO	
136	Janitor	NO	NO	Note 3	NO		NO	NO	W	NO	NO	Note 3	NO	
137	Corridor	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.
138	Vestibule	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.
139	Vestibule	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.
140	Corridor	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.
201	960 <sup>n</sup>	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	1	1	Note 3	YES	Remove existing transformer and conduit.
202	Class-room	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	1	1	Note 3	YES	Remove existing stage platform and finish out chalkboard to floor.
203	Class-room	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	1	1	Note 3	YES	Remove existing stage platform and finish out chalkboard to floor.
204	Tech	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
205	Office	VAT	SUSP	Note 3	YES	YES								Construct three new offices and reception area. Each new door solid birch in metal frame. Remove existing double door and replace with single solid birch door in metal frame with glass block side lights on either side. Fur out existing CMU walls (gyp on metal studs)
205A	Office						VCT	SUSP	W	3	1	YES	YES	
205B	Office						VCT	SUSP	W	3	1	YES	YES	
205C	Office						VCT	SUSP	W	3	1	YES	YES	
205D	Reception						VCT	SUSP	W	3	1	YES	YES	
206	Storage	VAT	SUSP	Note 3	YES		VCT	SUSP	W	NO	NO	Note 3	YES	
207	Office	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	1	1	Note 3	YES	Remove existing electrical panel.
208	Office	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
209	Office	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	1	1	Note 3	YES	Remove existing electrical panel.
210	Classroom	VAT	SUSP	Note 3	YES		VCT	SUSP	W	1	1	Note 3	YES	
211	Locker	NO	Gyp	Note 3	NO	YES	NO	NO	C	NO	NO	Note 3	NO	Repair existing gyp ceiling.
212	Dry Room	NO	Gyp		NO	YES	NO	NO	C	NO	NO	Note 3	NO	Repair existing gyp ceiling.

ROOM NO	FUNCTION	DEMOLITION					NEW							OTHER
		FLOOR	CEILING	DOORS	LIGHT FIXTURES	OTHER	FLOOR	CEILING	PAINT	ELECTRICAL OUTLETS	LAN/TEL OUTLETS	DOORS	LIGHT FIXTURES	
212A	Shower	NO	Gyp		NO		NO	NO	NO	NO	NO	Note 3	NO	
213	Toilet	NO	Gyp	Note 3	NO		NO	NO	NO	NO	NO	Note 3	NO	
214	Med Exam	VAT	YES	Note 3	YES	YES	VCT	SUSP	W	4	1	Note 3	YES	Close door openings between 214 and 214A and 214 and 214B. Install ceramic CMU in openings for same appearance. Paint south room wall including ceramic CMU. Paint remainder of walls above ceramic CMU. Install door between 214A and 214B, install door between 214A and corridor 222 making a restroom. Repair ceramic CMU to match and paint entire room. New door shall be solid core birch.
214A	Restroom	VAT	Gyp		NO	YES	VCT	NO	W, C	NO	NO	Note 3	NO	
214B														
215	Server Room	VAT	YES	Note 3	YES	YES	VCT	NO	W	Plug-mold	1	Note 3	YES	Install 4 x 8 plywood on east wall, install punch down. All LAN cables terminate in this room. Install 4" Plugmold horizontally at 24" aff around room. Outlets spaced 12" oc, 2 duplex outlets per circuit. Install surface mounted panelboard on north wall. This panel will serve all new LAN power outlets.
216	Office	VAT	YES	Note 3	YES									Place divider wall to make two offices, with sound insulation. Doors shall be solid core birch in metal frames.
216A	Office						VCT	SUSP	W	3	2	YES	YES	
216B	Office						VCT	SUSP	W	3	2	YES	YES	
217	Office	VAT	YES	Note 3	YES	YES	VCT	SUSP	W	2	2	YES	YES	Remove existing stage platform and finish out chalkboard to floor.
218	Classroom	VAT	YES	Note 3	YES		VCT	SUSP	W	2	2	YES	YES	Remove two existing stage platform and finish out chalkboard to floor.
219	Classroom	VAT	YES	Note 3	YES		VCT	SUSP	W	2	2	YES	YES	Remove two existing stage platform and finish out chalkboard to floor.
220	Office	VAT	YES	Note 3	YES		VCT	SUSP	W	2	2	YES	YES	Remove existing stage platform and finish out chalkboard to floor.
221	Classroom	VAT	YES	Note 3	YES		VCT	SUSP	W	2	2	YES	YES	Remove two existing stage platform and finish out chalkboard to floor.
222	Corridor	VAT	SUSP	Note 3	YES	YES	VCT	SUSP	W	NO	NO	Note 3	YES	Install emergency lights and new exit lights.

DEMOLITION							NEW							OTHER
ROOM NO	FUNCTION	FLOOR	CEILING	DOORS	LIGHT FIXTURES	OTHER	FLOOR	CEILING	PAINT	ELECTRICAL OUTLETS	LAN/TEL OUTLETS	DOORS	LIGHT FIXTURES	
S-1	Stair	NO		YES	YES	YES	NO	NO	TRIM	NO	NO	YES	YES	Install emergency lights and new exit lights in stairwells. Replace exterior door with insulated metal door in new metal door frame. Replace interior doors with hollow core metal in new metal frames.
S-2	Stair	NO		YES	YES	YES	NO	NO	TRIM	NO	NO	YES	YES	
S-3	Stair	NO		YES	YES	YES	NO	NO	TRIM	NO	NO	YES	YES	
Note 1	Repair and repaint all exterior doors except as otherwise noted.													
Note 2	Each room shall have individual occupancy control for lighting.													
Note 3	Replace existing interior doors as needed. Estimated quantity, 25.													
Note 4	All new walls to be constructed with 20ga metal studs, with sound insulation and 5/8" gyp drywall, and shall extend to bottom of structure.													
Note 5	All stair doors and frames shall be replaced, insulated metal exterior, hollow metal interior.													
Note 6	Verify and remediate ADA/Handicapped path from parking lot to restroom 122.													
Note 7	Electrical, LAN and Tel conduit shall be surface mounted 2 compartment Plugmold, down from ceiling on first floor, up from 1st floor ceiling space on second floor, except as otherwise directed for suite 205.													
Note 8	VCT includes matching 4" resilient base.													
Note 9	LAN outlet and cable terminate in Server Room 215 similar to existing in room													
Note 10	All telephone cables terminate on board in Mech Room 111 on new punchboards.													

HEATING, VENTILATION AND AIR CONDITIONING WORK					
ROOM NO	FUNCTION	EXISTING	DEMOLITION	NEW	REMARKS
100	Storage	4 Wall Fin Units 1 FCU serves existing range	Remove existing wall fin units Remove existing FCU (in room 101)	4 Unit Heaters	Existing exh fan EF-6 should be adequate for ventilation. existing 48 x 24 grille reused for relief air.
101	Assembly Hall	2 Heat only FCU, One exhaust fan	None	None	
102-109	Storage	4 Unit heaters	None	None	
110	Chaplain	1 Wall Fin Unit	None	1 Ceiling FCU,	Connect to existing CW, CWR and condensate where previously connected to FCU-1
111	Mech Room	None	None	None	
112	Armorer	1 Wall Fin Unit	None	None	
113	Arms Vault	1 Wall Fin Unit	None	None	
114A 114B	Joint Exam Rooms	1 Wall Fin Unit	Remove existing wall fin unit	2 ceiling FCU, AC and Heat	Exist ventilation via restroom exhaust. OA connect to existing vent from FCU-1. Connect CW and HW to nearest in ceiling space. Connect condensate to nearest exist cond drain in corr 115
115	Corridor	None	None	None	All corridors are cooled, heated and ventilated via return air from rooms thru wall grilles, thence exfiltration.
116	Kitchen	1 Convector	None	None	
117	Dayroom	FCU	None	None	
118	Lobby and Vestibule	None	None	None	See Room 115
119 119A	Admin and Mail Room	2-FCU	None	Install 350cfm fan and transfer grille for new room 119A	

## HEATING, VENTILATION AND AIR CONDITIONING WORK

ROOM NO	FUNCTION	EXISTING	DEMOLITION	NEW	REMARKS
120	Storage	12 Wall Fin Units, two suspended unit heaters	Remove one unit in new mechanical room and install in DEERS room.(120D)	Rework controls	See new work for rooms 120A thru 120F. Existing piping must be repaired for leaks, and insulation repaired to stop condensation.
120A	Training Aids Storage	1 Wall Fin Unit	None	One ducted outlet	
120B	Classroom	5 Wall Fin Units	None	Four ducted outlets	
120C	Navy Library	5 Wall Fin Units	None	Four ducted outlets	
120D	DEERS Room	None	None	Reinstall wall fin unit removed from Mechanical Room. One ducted outlet.	
120E	Mechanical Room	1 Wall Fin Unit	Remove Wall Fin Unit	Evaporator coil and fan unit, with OA provisions for 30 persons (600cfm)	
120F	Corridor	None	None	RA grilles from Rooms 120A, 120B, and 120C	
121	Vestibule	None	None	None	See Room 115
122	Womens Toilet	1 Wall Fin Unit	None	None	
123	Advisor	1-FCU	None	None	
124	Corridor	None	None	None	See Room 115
125	Lobby	None	None	None	See Room 115
126	Reception	1 Wall FCU	None	None	
127	Admin	1 Wall FCU	None	None	
128	C.O.	1 Wall FCU	None	None	
129	Unit Admin	5 Wall FCU	None	None	
130	Gen Shop	2 Wall Fin Units, 1 Split system FCU and exterior condenser	None	None	

## HEATING, VENTILATION AND AIR CONDITIONING WORK

ROOM NO	FUNCTION	EXISTING	DEMOLITION	NEW	REMARKS
131	DLG Shop	4 Wall Fin Units	None	None	
132	ORD Shop	1 Wall Fin Unit	None	None	
133	Sec Quarters	1 Wall FCU	None	None	
134	Restroom	None	None	None	Exhaust fan EF-9 serves both restrooms
135	Restroom	None	None	None	
136	Janitor	None	None	None	Ventilation via EF-9
137	Corridor	None	None	None	See Room 115
138	Vestibule	Convactor	None	None	
139	Vestibule	Convactor	None	None	
140	Corridor	None	None	None	See Room 115
201	960 <sup>th</sup>	1 Wall FCU	None	None	
202	Classroom	2 Wall FCU	None	None	
203	Classroom	1 Wall FCU	None	None	
204	Tech Library	2 Wall FCU	None	None	
205	Office	3 Wall FCU	Remove existing controls		See rooms 205A, 205B, 205C, 206D
205A	Office	1 Wall FCU	None	Add room controls	Return Air via transfer grille and duct to Room 205D
205B	Office	1 Wall FCU	None	Add room controls	
205C	Office	1 Wall FCU	None	Add room controls	
205D	Reception	None	None		Room heating and cooling is via return air from Rooms 205A, 205B, 205C and existing RA grilles to corridor.
206	Storage	1 Wall FCU	None	None	
207	Office	1 Wall FCU	None	None	
208	Office	1 Wall FCU	None	None	
209	Office	1 Wall FCU	None	None	
210	Classroom	2 Wall Fin Units	2 Wall Fin Units	2 Wall FCU, 2 RA grilles to corridor	
211	Locker	1 Wall Fin Unit	None	None	
212	Dry Room	None	None	None	
212A	Shower	None	None	None	

## HEATING, VENTILATION AND AIR CONDITIONING WORK

ROOM NO	FUNCTION	EXISTING	DEMOLITION	NEW	REMARKS
213	Toilet	None	None	None	Exhaust via EF-9
214	Med Exam	1 Wall FCU	None	None	
214A 214B	Restroom	None	None	None	Exhaust via EF-9
215	Server Room	1 Wall FCU	None	None	
216	Office	1 Wall Fin Unit	Remove	None	
216A	Office	None	None	Install Wall FCU with room control	
216B	Office	None	None	Install Ceiling FCU with room control	No outside air.
217	Office	2 Wall FCU	None	None	
218	Classroom	4 Wall FCU	None	None	
219	Classroom	4 Wall FCU	None	None	
220	Office	3 Wall FCU	None	None	
221	Classroom	2 Wall FCU	None	None	
222	Corridor	None	None	None	Second floor corridor is cooled, heated and ventilated via return air from rooms thru wall grilles, thence via Exhaust fans EF-11 and EF-12.
S-1	Stair	1 Wall Fin Unit 1 Convector	None	None	
S-2	Stair	2 Wall Fin Unit	None	None	
S-3	Stair	None	None	None	

FCU Fan Coil Unit, includes Fan, Heating and Cooling coils, and Outside Air.

Fin Unit Includes Fin Coil unit, without fan and without Outside Air.

AFRC-CKS-ENP (420-10a)

1 August 2000

MEMORANDUM FOR U.S. Army Engineering and Support Center, Huntsville, ATTN: CEHNC-PM-CR (Mr. Stan Lee), P.O. Box 1600, Huntsville, AL 35807-4301

SUBJECT: Review Comments on DRAFT Scope of Work, Project J03010010J, Renovate Interior, Cedar Rapids AFRC, Cedar Rapids, IA

1. **Comments on Draft Scope.** Below are comments on the draft scope dated 28 July 2000 for the subject project. These are a result of a site visit made on 27 Jul by the undersigned.

a. Para 3.3 Repair Electrical Service. Added comments:

(1) Most interior walls are CMU. Therefore, outlets for power, LAN, and phone must be run in conduit and surface mounted. Use Wiremold™ or similar product. Also,

(2) Revise switching for hallway lights. Currently, first and second floor lights are on the same circuit, which means that personnel on one floor can be left in the dark when someone turns the lights off on the other. Change hallway and stairwell switches to occupancy motion sensors.

(3) Demolish the following equipment, which is no longer needed (this may provide an opportunity for installation of additional subpanel(s), since wires are apparently already run):

- Transformer in Room 201.
- Panel in Room 207.
- Panel in Room 209.
- Panel in Corridor 137, outside Room 131.

b. Para 3.5 Replace Interior Doors. Change oak to read birch. Existing doors are birch, and some new doors have been recently installed which are also birch. Match hardware on recently replaced doors, and key doors to match existing building key system.

c. Para 3.6 Construct Office Partitions. At this time, we plan to conduct this work in Room 205. Sketch is attached to this document (Encl 1).

d. Para 3.11 Convert Rifle Range. Install floor to ceiling caging, custom built, with sliding doors. Cages shall be 16' deep by 8' wide (128 SF). The remaining space on the north side of the range (parallel to the assembly hall wall) shall be hallway (approx. 6' wide).

e. Para 3.12 Convert Room 120 to Administrative Space. Additional information:

(1) **Current Configuration.** Room 120 is approximately 2250 SF. It has no windows. Floor is smooth concrete, walls are painted CMU, and ceiling is open bar joists with suspended fluorescent fixtures. There are hot water fan-coil heaters suspended from the ceiling, and no air conditioning. There

**AFRC-CKS-ENP (420-10a)**

**SUBJECT: Review Comments on DRAFT Scope of Work, Project J03010010J, Renovate Interior, Cedar Rapids AFRC, Cedar Rapids, IA**

are supply cages erected in the room, which must be dismantled and removed. These shall remain property of the Army and will be stockpiled at a location designated by the Facility Manager.

(2) Construction of partitions. Partition walls shall be constructed to form a hallway down the middle of the space, extending from one door to the other. The space on one side shall be a classroom. The space on the other side (approx. 975 SF) shall have a mechanical room, a storage room, a DEERS room, and a classroom in the space remaining. The mechanical room shall be sized for the new HVAC equipment necessary for the revised occupancy. The storage room shall be approximately 300 SF and used for training aids that serve both these new classrooms and the classrooms directly above on the second floor. The DEERS room shall be approximately 120 SF, and outfitted as an ID card service room. The second classroom will be approximately 400-550 SF.

(3) Finishes. As stated in the draft scope, except for the mechanical room which will have only those finishes appropriate to mechanical space.

(4) Electrical. Outlets shall be provided appropriate to the use of the rooms, and outlets in the hallway shall be provided for maintenance. Lighting shall be new, and meeting the general standards stated elsewhere in the scope.

(5) Mechanical. Provide heating and air conditioning to the newly established spaces. This may be done through installation of a separate forced air system. Designer must evaluate whether the existing hot and chilled water systems can be extended to this area. If not, then a new condenser must be installed, and heat provided via separate furnace. Regardless, recommend that a mechanical space be provided in the Room 120 area.

2. **New Requirements.** As a result of my site visit and an further examination of requirements, request the following work be added to the scope:

a. Replace Interior Ceilings [Contract option or alternate bid item]. Demolish suspended ceilings in selected rooms throughout the AFRC, and replace with new suspended ceilings with 2' x 2' acoustical ceiling tile (ACT), white, deeply fissured, with revealed edge. Fluorescent light openings will be 2'x4'. Replace existing 40WT12 fixtures with 32WT8 meeting same specifications as those in para 3.6c. Ceilings to be replaced are mostly suspended ACT in 1' x 1' tiles, with no revealed ceiling grid. Hallways have 2' x 4' grids and a cheap tile system. Ceiling schedule is attached (Encl 2).

b. Alter Latrine. Combine Rooms 214A and 214B into one restroom. Close up doorway openings into Room 214 with CMU. Demolish wall between 214A and 214B. Create door opening to hallway. Convert space to women's latrine.

c. Construct Mail Room. Construct wall and install mail slots through wall in southwest corner of Room 119. This will create a mailroom which opens onto Corridor 115.

d. Room 117. Demolish paneling and repair wall surfaces to match rest of facility.

e. Room 221. Demolish partitions in Room 221.

**AFRC-CKS-ENP (420-10a)**

**SUBJECT: Review Comments on DRAFT Scope of Work, Project J03010010J, Renovate Interior, Cedar Rapids AFRC, Cedar Rapids, IA**

f. Classrooms 218 and 219. Demolish stages at either end of classrooms, and tile entire floor.

3. **Project Phasing.** The facility will remain occupied, so phasing of work will be important for minimizing disruption to the occupants. In broad terms, work should be accomplished by area, perhaps by floor. The full-time staffs occupying each floor are or will be roughly equivalent. It may be possible to temporarily rotate personnel in and out of the assembly hall while their floor is under construction. This proposal is subject to the Facility Manager's input, as she knows best the impact of disrupting the various elements. However, recommend the following work be accomplished first:

a. Step 1. Clean Indoor Range. This is a prerequisite to conversion.

b. Step 2. Convert Indoor Range to Storage. This makes the space usable and allows equipment in Room 120 to be moved to the former indoor range.

c. Step 3. Convert Room 120 to Administrative Use. During work on the rest of the building, completion of this area will provide some space in which to displace occupants. There is a vestibule between Room 120 and the rest of the first floor, making segregation of the two areas fairly simple during asbestos remediation on the first floor.

4. Request you incorporate the above work into the project scope.

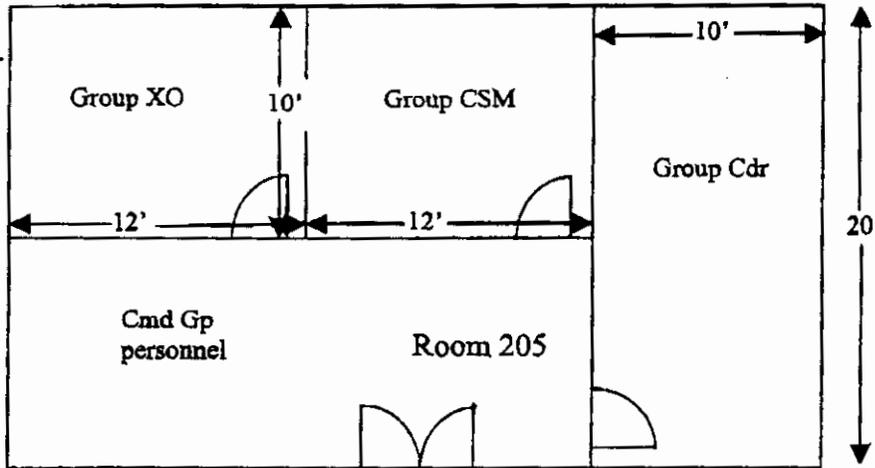
2 Encls  
as

DOUGLAS R. WRIGHT  
General Engineer

CF:  
Facility Manager, Cedar Rapids AFRC  
Facility Management Officer  
Community Planner

Encl 1 - Command Group Layout, Project J03010010J, Renovate Interior, Cedar Rapids AFRC, Cedar Rapids, IA

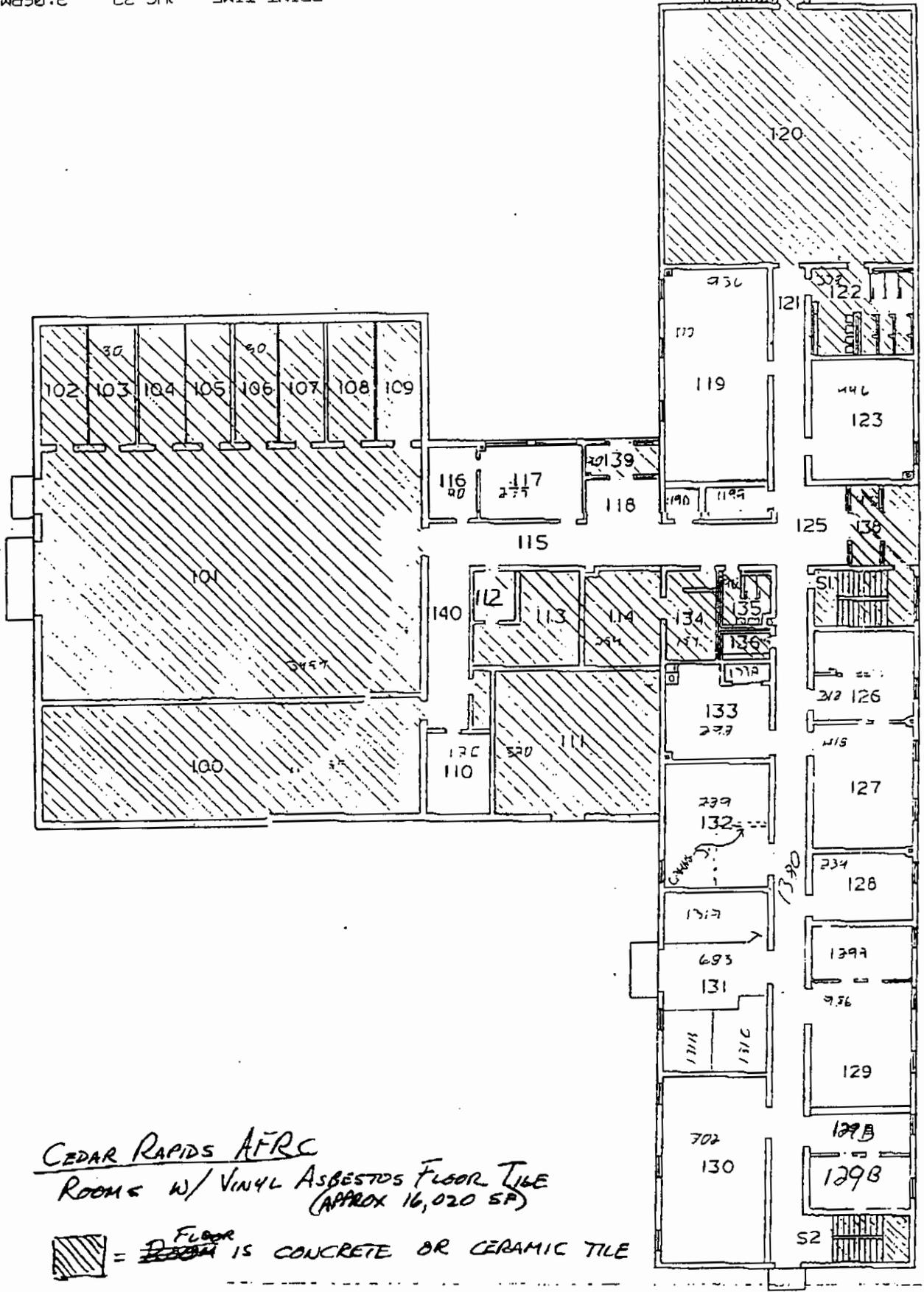
Suggested Command Group Layout



CEDAR RAPIDS AFRC  
SPACE ALLOCATION PROPOSAL

RM NO.	CURRENT USE	SF	USER	EXISTING CEILING	SUSPENDED	OLD SUSPENDED	SHEETROCK, WTILE	SHEETROCK	OPEN JOISTS	CONCRETE
110	OFFICE (FORMERLY RANGE STORAGE)	193	4224TH	SUSPENDED	193	0	0	0	0	0
117	OFFICE	280	4224TH	SUSPENDED	280	0	0	0	0	0
119	OFFICE	938	4224TH	SUSPENDED	938	0	0	0	0	0
123	OFFICE	486	4224TH	SUSPENDED	485	0	0	0	0	0
201	OFFICE	364	649TH	OLD SUSPENDED	0	364	0	0	0	0
202	OFFICE	378	649TH	OLD SUSPENDED	0	378	0	0	0	0
203	OFFICE	342	649TH	OLD SUSPENDED	0	342	0	0	0	0
204	OFFICE	424	649TH	OLD SUSPENDED	0	424	0	0	0	0
207	OFFICE	273	649TH	OLD SUSPENDED	0	273	0	0	0	0
208	OFFICE	288	649TH	SHEETROCK, WTILE	0	0	288	0	0	0
209	CONFERENCE ROOM	286	JOINT	SHEETROCK, WTILE	0	0	286	0	0	0
214	LIBRARY/LEARNING CENTER	267	COMMON	SHEETROCK	0	0	0	267	0	0
215	SERVER	90	COMMON	SHEETROCK	0	0	0	90	0	0
216	OFFICE	286	980TH	SHEETROCK	0	0	0	286	0	0
217	OFFICE	462	980TH	OLD SUSPENDED	0	462	0	0	0	0
220	OFFICE	615	980TH	OLD SUSPENDED	0	615	0	0	0	0
101	ASSEMBLY HALL	3471	JOINT	OPEN JOISTS	0	0	0	0	3471	0
205	OFFICE	700	649TH	OLD SUSPENDED	0	700	0	0	0	0
218	CLASSROOM	842	JOINT	OLD SUSPENDED	0	842	0	0	0	0
219	CLASSROOM	881	JOINT	OLD SUSPENDED	0	881	0	0	0	0
221	OFFICE	632	649TH	OLD SUSPENDED	0	632	0	0	0	0
116	KITCHEN	126	COMMON	SHEETROCK	0	0	0	126	0	0
126	OFFICE (NAVY)	495	USNR	SUSPENDED	495	0	0	0	0	0
127	NAVY ACTIVE DUTY OFFICE	499	USNR	SUSPENDED	499	0	0	0	0	0
129	NAVY OFFICE/FITNESS ROOM	960	USNR	SUSPENDED	960	0	0	0	0	0
131	FORMER NAVY SHOP	663	USNR	SUSPENDED	663	0	0	0	0	0
128	NAVY OFFICE	243	USNR	SUSPENDED	243	0	0	0	0	0
132	NAVY SUPPLY	466	USNR	SHEETROCK	0	0	0	466	0	0
133	NAVY OFFICE	345	USNR	SUSPENDED	345	0	0	0	0	0
130	RECRUITERS	702	USNR	SHEETROCK, WTILE	0	0	702	0	0	0
210	LIBRARY (NAVY)	785	USNR	SHEETROCK, WTILE	0	0	785	0	0	0
100	RANGE	1650	JOINT	CONCRETE	0	0	0	0	0	1650
102	STORAGE	202	4224TH	OPEN JOISTS	0	0	0	0	202	0
103	STORAGE	202	4224TH	OPEN JOISTS	0	0	0	0	202	0
104	STORAGE	202	4224TH	OPEN JOISTS	0	0	0	0	202	0
105	STORAGE	202	4224TH	OPEN JOISTS	0	0	0	0	202	0
106	STORAGE	202	4224TH	OPEN JOISTS	0	0	0	0	202	0
107	STORAGE	202	4224TH	OPEN JOISTS	0	0	0	0	202	0
108	STORAGE	208	4224TH	OPEN JOISTS	0	0	0	0	208	0
109	STORAGE	208	4224TH	OPEN JOISTS	0	0	0	0	208	0
120A	CLASSROOM	978	COMMON	OPEN JOISTS	0	0	0	0	978	0
120B	STORAGE	678	COMMON	OPEN JOISTS	0	0	0	0	678	0
120C	Training aids storage	300	COMMON	OPEN JOISTS	0	0	0	0	300	0
120D	CORRIDOR	300	COMMON	OPEN JOISTS	0	0	0	0	300	0
206	STORAGE	140	649TH	OLD SUSPENDED	0	140	0	0	0	0
111	MECH ROOM	858	COMMON	OPEN JOISTS	0	0	0	0	858	0
114	MALE LOCKER ROOM	257	COMMON	SHEETROCK	0	0	0	257	0	0
122	FEMALE LATRINE	366	COMMON	SHEETROCK	0	0	0	366	0	0
134	MALE LATRINE	147	COMMON	SHEETROCK	0	0	0	147	0	0
136	FEMALE LATRINE	95	COMMON	SHEETROCK	0	0	0	95	0	0
214A,B	FEMALE LATRINE	59	COMMON	SHEETROCK	0	0	0	59	0	0
136	JANITOR CLOSET	39	COMMON	SHEETROCK	0	0	0	39	0	0
211	MALE LOCKERS	318	COMMON	SHEETROCK	0	0	0	318	0	0
212	MALE SHOWERS	147	COMMON	SHEETROCK	0	0	0	147	0	0
213	MALE LATRINES	185	COMMON	SHEETROCK	0	0	0	185	0	0
112	ARMORER	104	980TH	WEAPONS	0	0	0	0	0	0
113	ARMS VAULT	282	980TH	WEAPONS	0	0	0	0	0	0
115	CORRIDOR	527	COMMON	SUSPENDED	527	0	0	0	0	0
118	FOYER	120	COMMON	SUSPENDED	120	0	0	0	0	0
121	VESTIBULE	64	COMMON	SUSPENDED	64	0	0	0	0	0
124	CORRIDOR	338	COMMON	SUSPENDED	338	0	0	0	0	0
125	FOYER	120	COMMON	SUSPENDED	120	0	0	0	0	0
137	CORRIDOR	646	COMMON	SUSPENDED	646	0	0	0	0	0
140	CORRIDOR	253	COMMON	SUSPENDED	253	0	0	0	0	0
222	CORRIDOR	1262	COMMON	SUSPENDED	1262	0	0	0	0	0
				EXISTING SF	8428	6041	2072	2804	8213	1650
				TOTAL	18198					

NOTE: PROPOSED USE OR OCCUPANCY IS SHOWN IN BOLD.  
OTHERWISE, USE/OCCUPANCY IS CURRENT.



CEDAR RAPIDS AFRC  
 ROOMS W/ VINYL ASBESTOS FLOOR TILE  
 (APPROX 16,020 SF)

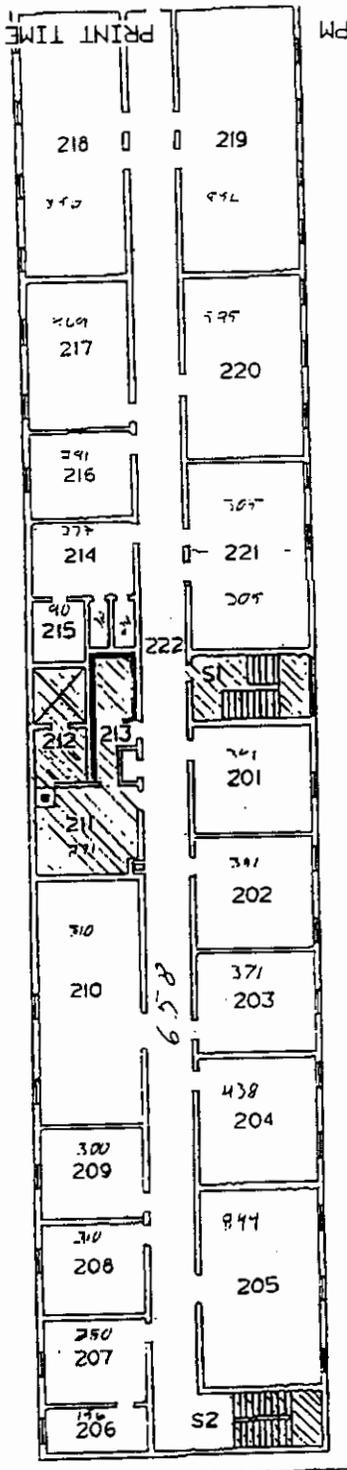
 = ~~FLOOR~~ IS CONCRETE OR CERAMIC TILE

FIRST FLOOR PLAN

RECEIVED TIME  
15 JAN 97

3:02PM

3:06PM



SECOND FLOOR PLAN

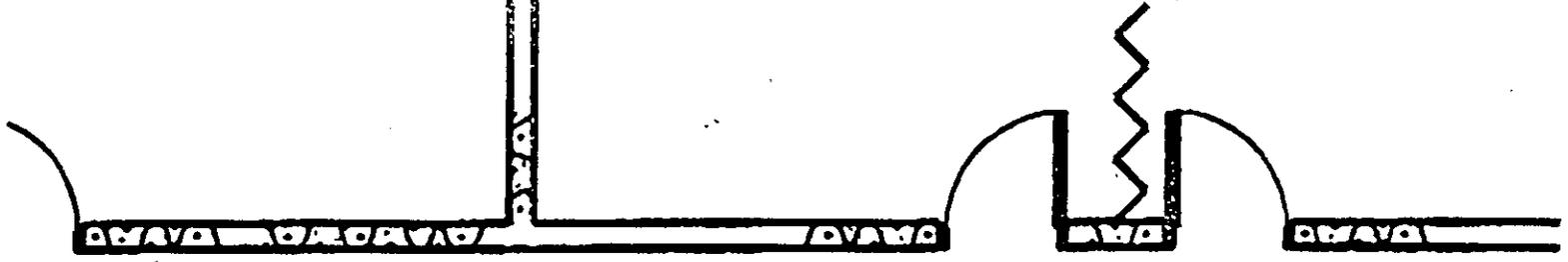
OFFICE

221

SHARED

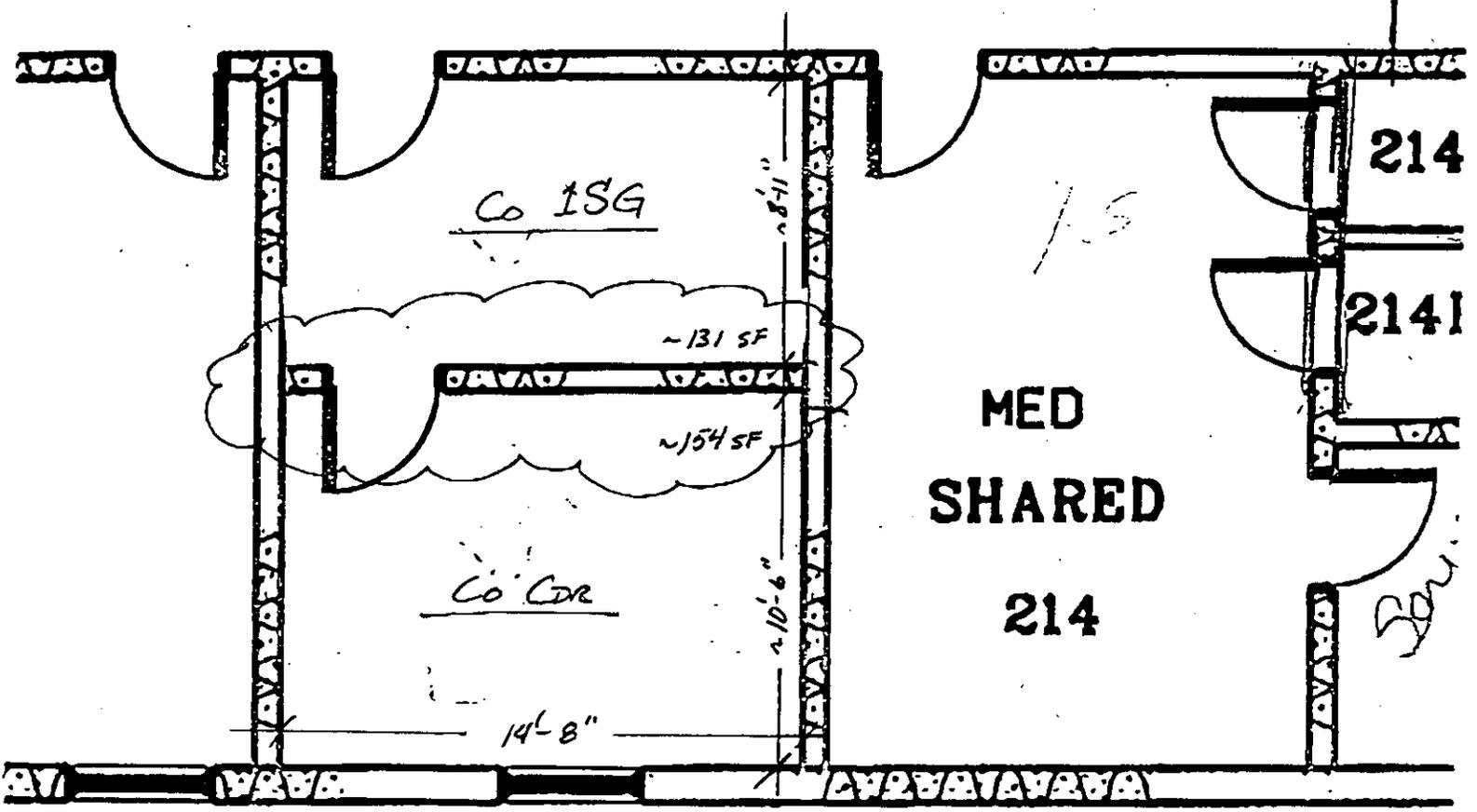
Admin

6449



CORRIDOR

222



CONCEPT FOR OFFICE WALL  
 RM 216  
 CEDAR RAPIDS AFRC

08 Aug 2000

**SCOPE OF WORK**  
**MAINTENANCE, REPAIR AND REHABILITATION (MRR) CONTRACT**  
**CONTRACT NO. DACA87-97-D-0050**  
**REQUEST FOR PROPOSAL 50**  
**TASK ORDER \_\_\_\_\_**  
**CEDAR RAPIDS AFRC RENOVATION**  
**CEDAR RAPIDS, IOWA**

- 1.0 TITLE: In addition to renovation of the Cedar Rapids AFRC, this project is focused toward executing previously backlogged maintenance and repair (BMAR) projects, along with alterations necessary to accommodate the stationing of a new unit in the facility. The work included below supports the reallocation of space and functional alterations, and also disposes of needed repairs.
- 2.0 EXISTING CONDITIONS AND BACKGROUND
- 2.1 A new Area Support Group headquarters (649<sup>th</sup> ASG) has just been organized and assigned to the facility. The 649<sup>th</sup> ASG is in the process of hiring its full-time staff. The Group Commander has been selected and he is charged with establishing his headquarters and assuming his mission as quickly as possible. In order to make room for the unit and its many full-time employees, it is necessary to reallocate space in the facility (to include accelerating the conversion of the rifle range to storage, and the corresponding conversion of Room 120 to administrative space).
- 2.2 The facility will remain occupied, so phasing of work will be important for minimizing disruption to the occupants. In broad terms, work should be accomplished by area, perhaps by floor. The full-time staffs occupying each floor are or will be roughly equivalent. It may be possible to temporarily rotate personnel in and out of the assembly hall while their floor is under construction. This proposal is subject to the Facility Manager's input, as she knows best the impact of disrupting the various elements. However, recommend the following work be accomplished first:
- a. ~~Step 1. Clean Indoor Range.~~ This is a prerequisite to conversion.
- b. Step 2. Convert Indoor Range to Storage. This makes the space usable and allows equipment in Room 120 to be moved to the former indoor range.
- c. Step 3. Convert Room 120 to Administrative Use. During work on the rest of the building, completion of this area will provide some space in which to displace occupants. There is a vestibule between Room 120 and the rest of the first floor, making segregation of the two areas fairly simple during asbestos remediation on the first floor.
- 2.3 In many cases, 89th RSC DCSENGR has floor plans and site plans in Microstation format. The contractor is are encouraged to request these as needed.

*Area I*

3.0 **PROJECT DESCRIPTION:** The objective of this project is for the Contractor to provide all labor, materials and equipment necessary to complete the following requirements in accordance with all installation, state, and Federal codes and laws. To accomplish this objective under the provisions of Section C of Contract No. DACA87-97-D-0050 and the following sections, the Contractor shall:

3.1 Coordinate all remediation activities with facility personnel for access to the necessary areas. Prior to conducting any remediation activities aside from minor repair, the Contractor shall provide advance notice and coordinate with the facility management specialist to ensure continuous uninterrupted operation of the buildings, including relocation of personnel, and to minimize interruption to normal operations.

3.2 Rewire Existing Computer Workstations. With the reallocation of space, the LAN server will be moved to the second floor. Therefore, ~~all LAN drops shall be rewired.~~ Telecommunications outlet at each workstation location shall include both LAN and telephone connections. All female outlets shall be RJ45, wired on the T568B configuration. Telephone as well as LAN shall use Category 5, 4-pair twisted pair cable.

*Locate  
Reruns -*

3.3 Repair Electrical Service. Provide electrical outlets as required. These outlets shall be to the standard established for the original RCAS/ARNET fielding, for new and existing work stations, and the server room. In addition, upgrade old panels where they exist, and retrofit full breaker panels to provide room for future expansion (especially the panels on the second floor). Service into the facility (600A) should be sufficient.

Most interior walls are CMU. Therefore, outlets for power, LAN, and phone must be run in conduit and surface mounted. Use Wiremold™ or similar product. Also,

Revise switching for hallway lights. Currently, first and second floor lights are on the same circuit, which means that personnel on one floor can be left in the dark when someone turns the lights off on the other. Change hallway and stairwell switches to occupancy motion sensors.

Demolish the following equipment, which is no longer needed (this may provide an opportunity for installation of additional subpanel(s), since wires are apparently already run):

- Transformer in Room 201.
- Panel in Room 207.
- Panel in Room 209.
- Panel in Corridor 137, outside Room 131.

3.4 Construct Server Room. Modify Room 215, a room of approximately 90 SF, as required. This shall include any required ventilation or air conditioning. Include shelves or racks to hold automation gear so that equipment does not end up on a table. Apply

RCAS/ARNET standards to the server room, including the standard set-up for the new server location (extra circuit, emergency lighting, etc.).

3.5 Replace Interior Doors. Replace approximately 25 interior solid wood doors with new solid core, birch veneer doors. Repair and refinish the remainder. Repair or replace door jambs as necessary and repaint. Match hardware on recently replaced doors, and key doors to match existing building key system.

*locate by  
RM #*

3.6 Construct Office Partitions. Provide three exclusive-use office spaces by erecting partitions in room 205 (Encl 1). New office spaces shall have necessary lighting, electrical service, telephone, and data connections. Sizes of offices will be a maximum of 200 SF for the Group Commander, and 120 SF each for the Group XO and the Group CSM. Construction and interior finishes shall be suitable for austere executive offices as follows:

a. Wall construction. Gypsum board (sheetrock) walls. Studs shall be C-shaped, roll formed steel. Install 5/8" wallboard.

b. Suspended ceilings. 2'x2' acoustical panels, white, deeply fissured, with revealed edge. Fluorescent light openings shall be 2'x4'.

c. Interior Lighting: Install 2' x 4' fixtures as follows:

1) 32WT8 48" fluorescent lamps

2) Electronic ballast, instant start

3) Luminaire with specular reflectors and parabolic louvers (large cell openings)

4) Occupancy sensors in each new office (Leviton, Mytech, or equal passive IR automatic light switch)

d. Ventilation. New office spaces shall be provided with adequate air circulation, heating, and cooling. This may involve alteration of existing ducts and perimeter fin tube heating.

e. Floor Covering. In the three offices only, install commercial grade carpeting.

f. Doors. Provide doors as indicated. These shall be solid core wooden doors, with appropriate veneer (probably oak) and natural finish or other finish compatible with existing finishes. Door hardware shall include keyed lock cylinders compatible with the master key system for the building. Use no closing hardware. Install appropriate door stops. Door frames shall be steel, primed and painted to match existing surfaces.

3.7 Paint Interior and Exterior. Paint all previously painted interior surfaces except those identified as recently painted. Specific requirements:

a. Offices should be painted white throughout. *as needed.*

*Exterior?  
Sexton's  
interior?  
semi  
doors,  
primed*

- b. Paint all previously painted exterior surfaces to include doors and windows. Perform necessary repair to deteriorated exterior surfaces.
- c. Paint drill hall, rifle range, arms room, and refinish all doors. Paint fancoil units.
- 3.8 Replace Drill Hall Lights. Replace existing incandescent drill hall lighting with metal halide lamps, sufficient to provide a minimum of 50 fc illumination.
- 3.9 Repair Floor Tile. Replace floor tile in Cedar Rapids AFRC. Remove existing vinyl asbestos floor tile. Existing tile shall not be covered/encapsulated. Work shall be performed by certified asbestos removal contractor, in accordance with Federal, state, and local regulations, which will involve isolation of work areas, and appropriate measures to protect workers and government personnel occupying other parts of the facility. Remove old tile mastic, also ACM. Install new vinyl composition tile and vinyl base molding.
- 3.10 Clean Rifle Range. *As of 18 July 2000, the former indoor range at the Cedar Rapids AFRC is to be cleaned by others. Further coordination is required to confirm this. If range cleaning by others cannot be accomplished in an expeditious manner, the Government reserves the option to include the cleaning in the scope of this project. Specifications for cleaning shall be made available.* Clean former indoor rifle range of all lead and other hazardous material. Thoroughly clean indoor firing ranges and stored equipment and material indicated to be cleaned; recycle solid lead waste from the lead/sand mixture in the sand pits; dispose of the contaminated wastewater generated from cleaning; clean firing range equipment specified and indicated on attached figures; transport and dispose of all non-hazardous and hazardous waste.
- 3.11 Convert Rifle Range. Convert former range to storage facility. Demolish any range-related equipment. Prepare all surfaces and paint throughout. Install storage cages. Install floor to ceiling caging, custom built, with sliding doors. Cages shall be 16' deep by 8' wide (128 SF). The remaining space on the north side of the range (parallel to the assembly hall wall) shall be hallway (approx. 6' wide). Provide each cage with quadplex outlet and individually switched fluorescent fixtures. As necessary, modify HVAC to provide appropriate and adequate heating and ventilating to the storage space. Provide new access from drill hall by cutting opening and installing double leaf 7'-0" x 6'-0" door. *Cages dismantled?*
- 3.12 Convert Room 120 to Administrative Space. Room 120 is currently configured for storage. Room 120 is approximately 2250 SF. It has no windows. Floor is smooth concrete, walls are painted CMU, and ceiling is open bar joists with suspended fluorescent fixtures. There are hot water fan-coil heaters suspended from the ceiling, and no air conditioning. There are supply cages erected in the room, which shall be dismantled and removed. These shall remain property of the Army and will be stockpiled at a location designated by the Facility Manager. Remove all cage dividers. Repair interior walls and ceiling. Modify HVAC to accommodate changed occupancy. Install new resilient tile floor covering. Repair interior walls.
- a. Install suspended ceiling and lighting. Ceiling tile shall be a 2'x2' grid system, with

2' x 4' lighting fixtures, and acoustical ceiling tiles, white, deeply fissured, with revealed edge.

b. Construction of partitions. Partition walls shall be constructed to form a hallway down the middle of the space, extending from one door to the other. The space on one side shall be a classroom. The space on the other side (approx. 975 SF) shall have a mechanical room, a storage room, a DEERS room, and a classroom in the space remaining. The mechanical room shall be sized for the new HVAC equipment necessary for the revised occupancy. The storage room shall be approximately 300 SF and used for training aids that serve both these new classrooms and the classrooms directly above on the second floor. The DEERS room shall be approximately 120 SF, and outfitted as an ID card service room. The second classroom will be approximately 400-550 SF.

c. Finishes. As stated in the draft scope, except for the mechanical room which will have only those finishes appropriate to mechanical space.

d. Electrical. Outlets shall be provided appropriate to the use of the rooms, and outlets in the hallway shall be provided for maintenance. Lighting shall be new and shall be Corps of Engineers Type 234, 32WT8 48" fluorescent lamps, with electronic ballast (instant start), specular reflectors and parabolic louvers (large cell openings)

e. Mechanical. Provide heating and air conditioning to the newly established spaces. This may be done through installation of a separate forced air system. Designer must evaluate whether the existing hot and chilled water systems can be extended to this area. If not, then a new condenser must be installed, and heat provided via separate furnace. Regardless, recommend that a mechanical space be provided in the Room 120 area.

- 3.13 Replace Interior Ceilings [Contract option or alternate bid item]. Demolish suspended ceilings in selected rooms throughout the AFRC, and replace with new suspended ceilings with 2' x 2' acoustical ceiling tile (ACT), white, deeply fissured, with revealed edge. Fluorescent light openings will be 2'x4'. Replace existing 40WT12 fixtures with 32WT8 meeting same specifications as those in para 3.6c. Ceilings to be replaced are mostly suspended ACT in 1' x 1' tiles, with no revealed ceiling grid. Hallways have 2' x 4' grids and a cheap tile system. Ceiling schedule is attached (**Encl 2**). *Room*
- 3.14 Alter Latrine. Combine Rooms 214A and 214B into one restroom. Close up doorway openings into Room 214 with CMU. Demolish wall between 214A and 214B. Create door opening to hallway. Convert space to women's latrine.
- 3.15 Construct Mail Room. Construct wall and install mail slots through wall in southwest corner of Room 119. This will create a mailroom which opens onto Corridor 115. *Size?*
- 3.16 Room 117. Demolish paneling and repair wall surfaces to match rest of facility.
- 3.17 Room 221. Demolish partitions in Room 221.
- 3.18 Classrooms 218 and 219. Demolish stages at either end of classrooms, and tile entire

floor.

- 3.19 The Contractor shall be responsible for all damage to adjacent buildings and premises caused by the Contractor during investigation and remediation. Damage shall be repaired to original condition at the Contractor's expense using similar or original criteria.
- 4.0 **TECHNICAL CRITERIA:** Technical criteria for the above described work shall be defined in Section C of the basic contract and EM 385-1-1 (3 September 1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual.
- 5.0 **GENERAL WORK PRACTICE REQUIREMENTS**
- 5.1 **Project and Facility Identifications.** All documents (plans, specifications, correspondence, etc.) will refer to the 89th RSC project number (J03010010J), the Facility ID 5-character code (IA003), and the official designation of the facility (i.e., Cedar Rapids AFRC, vice Cedar Rapids Reserve Center).
- 5.2 **Electronic Media.** Throughout the design and construction process, electronic communications shall be used whenever possible. Communicate via e-mail, send review documents in electronic format (MS Word if possible), use digital photography, and send electronic sketches or scanned images in universally readable formats (JPEG and GIF are preferred due to their compressed file size). Construction drawings shall be in Microstation format. Do not fax drawings and documents when electronic files can be sent via e-mail. However, keep in mind that the Facility Manager and other users do not have CAD software.
- 5.3 Whenever practical, plans will be 8-1/2" x 11", or 11" x 17" for easy local reproduction and distribution. Drawings will be Microstation CAD drawings, which can be used to update as-builts.
- 5.4 Make use of digital photography, both to discuss project requirements via e-mail, and as integral parts of contract documentation, especially plans.
- 6.0 **POINT OF CONTACT:** Huntsville Center Technical Point of Contact is Mr. Kevin Burleson, (256) 895-1864, U.S. Army Engineering and Support Center, Huntsville. Kevin.V.Burleson@HND01.usace.army.mil
- 7.0 **SERVICES TO BE PERFORMED:** Tasks listed below shall be in accordance with Section C of the primary contract except as amended herein.
- 7.1 **Cost Proposals:** Cost proposals for the following tasks shall be submitted in accordance with Data Item No. FRP001.
- a. All cost proposals shall address each major work item, listed above, separately. Particularly, the optional work item shall be addressed separately.
  - b. Estimates shall be distributed FOUO. Show S&A and other in-house costs as a percentage of the total cost as applicable. In other words, if a cost is based on a

percentage of the contract cost, state what that percentage is.

- 7.2 Task 1 Site Investigation: The site investigation shall employ FRP004, Site Investigation (Visit) Proposal and FRP005, Site Investigation - Survey/Report, which shall be as defined in Section C of the contract except as amended herein.
- a. Discuss with the designated facility personnel any impacts to the operation of the building, including utility shutdowns, worker access, material deliveries, work hours and potential interruptions.
- 7.3 Task 2 Work Plan: This project shall employ FRP007A, Major Work Plan, which shall be as defined in Section C of the primary contract except as amended herein.
- a. The work plan shall specifically address required demolition and outages. The contractor shall develop a schedule of activities for replacing the existing systems while retaining, to a practical extent, the cooling or heating to the building throughout remediation.
  - b. The contractor shall submit design calculations, design drawings, shop drawings and product data to the Government for approval prior to material or product delivery or start of construction. The contractor shall certify each submittal as having been reviewed and approved by the contractor prior to submission to the Government. The government will review and approve the shop drawings and certify approval in writing. Review and approval by the Government shall not relieve the contractor of responsibility from the requirements of the Contract. The Government's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make corrections required by the Government, and shall return the required number of corrected copies of submittals and submit as required for review and approval.
- 7.4 Task 3 Remediation Action: Perform the remediation action as detailed in the approved work plan, and as defined in Section C of the primary contract except as amended herein. The remediation action shall include all Items listed under Task 3 of the Activities/Document Schedule.
- a. Provide a finalized work schedule reflecting the schedule approved during the work plan phase and with consideration to system outage restrictions. The project completion date shall be established in accordance with FRP009 and the Activities/Document Schedule. With every revision to the scope of work that effects the schedule, the contractor shall submit an updated work schedule (FRP009).
  - b. As-built plans should be submitted in CAD (Microstation) format.
  - c. Operation and Maintenance Training. In the case of selected electrical and mechanical systems, the contractor or vendor shall provide training to those who will operate and maintain the system. The 89th RSC not only has facility occupants who use the equipment, but usually Preventive Maintenance teams who perform routine

maintenance. The contractor shall include appropriate training requirements to ensure these personnel also receive necessary orientation.

d. Contractor shall be responsible for moving all furniture, equipment, and other encumbrances to his work, unless otherwise specified, and shall return property to its original state after completion of work. The facility personnel will normally not be required to move furniture and other items, but should designate those things that they will move, such as organizational property, automation equipment, loose files, etc.

e. Normal work hours at USAR facilities is generally 0730-1600, Monday through Friday. Contractors must adhere to these hours, as government personnel must be present while facilities are open. The Government will not pay overtime to Government employees for the contractor's convenience.

f. Temporary power is currently available at the Armed Forces Reserve Center. Electricity used will be provided by the Government at no cost to the Contractor.

g. Temporary heating, cooling, ventilation. Contractor shall furnish, install and maintain all temporary systems and equipment required to maintain specified or required environmental conditions during progress of work. Remove upon completion of work.

h. Temporary telephone service. Contractor is responsible for providing and paying for any and all subcontractor's calls. Contractor shall pay for all telephone installation, maintenance removal and usage charges. The Contractor will not use existing telephones owned or rented by the Government under any circumstances for long distance calls.

i. Temporary Water. Contractor shall furnish anti-siphon and backflow prevention devices on all temporary water connections. Contractor shall not cause water to be wasted or left running when not in use. The water used will be furnished by the Government.

j. Temporary Sanitary Facilities. Existing sanitary facilities in government buildings are available for Contractor's personnel. Contractor shall be responsible for keeping facilities clean during usage.

k. Barriers and Fences. Contractor shall provide, install, maintain and remove suitable barriers to prevent entry and to protect the work site. Materials to be used are at the Contractor's option. Barriers and/or vinyl fence shall be posted with appropriate warning signs.

l. Security. Contractor shall provide his own security of material and tools.

m. Refuse Disposal. Contractor shall provide and pay for on-site containers and disposal fees for waste materials, debris and rubbish. These materials, debris, and rubbish shall be disposed of in licensed sanitary landfill, in accordance with State regulations.

n. Recycling. Materials shall not be stockpiled for sale purposes at the Reserve centers.

8.0 **SITE SECURITY AND SAFETY:** Site security shall be in accordance with the primary contract and/or as further instructed by the Contracting Officer. Site safety shall be in accordance with the primary contract and the approved site safety and health plan as modified by the project adapted site safety and health plan.

9.0 **DELIVERABLE DISPERSAL LIST:** The Contractor shall submit the number of copies indicated above and on Form 1664 for all deliverables listed in the Activities/Document Schedule to the following agencies. Data items referring to the Task Order for the copy dispersal shall be provided as follows:

- a. **Project Manager** 3 copies  
U.S. Army Engineering and Support Center, Huntsville  
ATTN: CEHNC-PM-CR (Mr. Stan Lee)  
P.O. Box 1600  
Huntsville, AL 35807-4301  
(256)895-1541
  
- b. **RSC Engineer** 2 copies  
89<sup>th</sup> RSC Engineer  
ATTN: AFRC-CKS-EN-B (Mr. Doug Wright)  
3130 George Washington Blvd.  
Wichita, KS 67210-1598
  
- c. **Facility Manager** 1 copy  
Marilyn Hatcliff

10.0 **ACTIVITIES/DOCUMENT SCHEDULE:** Task completion and deliverables shall be accomplished as listed on the following schedule.

<u>Description</u>	<u>Submittal Schedule</u>	<u>Transmittal No.</u>	<u>Action Code</u>
Cost Proposal (FRP001)			
Monthly Progress Report (FRP018)	In accordance with DD Form 1423		
Telephone Conversation/ Correspondence Records (FRP019)	In accordance with DD Form 1423		
<b>TASK 1 SITE INVESTIGATION</b>	As required to meet the completion schedule listed above		
Site Investigation (Survey or Visit) Proposal (FRP004)			

Site Investigation -  
Survey/Report (FRP005)

**TASK 2 WORK PLAN**

As required to meet the  
completion schedule  
listed above

Major Work Plan  
(FRP007A)

**TASK 3  
REMEDIAATION  
ACTION**

Pre-Maintenance, Repair,  
and Rehabilitation(MRR)  
Action Conference  
(FRP008)  
Work Schedule (FRP009)

Scheduled by the CO

System/Equipment  
Testing (FRP010)

As stated in the approved  
FRP009

Operating and  
Maintenance (O&M)  
Manuals (FRP011)  
Training Program  
(FRP012)

As stated in the approved  
FRP009

As stated in the approved  
FRP009

Equipment and  
Construction Warranties  
(FRP013)

As stated in the approved  
FRP009

List of Standard  
Equipment and Service  
Organizations (FRP014)

As stated in the approved  
FRP009

As-Built/Final Drawings  
(FRP016)

As stated in the approved  
FRP009

Project Specific  
Remediation Report  
(Including Lessons  
Learned) (FRP017)

As stated in the approved  
FRP009

11.0 ENCLOSURES:

- a. Enclosure 1-New Command Group Floor (Room 205) Layout

b. Enclosure 2-Ceiling Tile Schedule

c. Enclosure 3-Microstation Drawings of existing site plan and 1<sup>st</sup> and 2<sup>nd</sup> floor plans



DEPARTMENT OF THE ARMY  
 HEADQUARTERS, FORT McCOY  
 OFFICE OF THE COMMANDER  
 SPARTA, WISCONSIN 54656  
 26 JUN 1991



REPLY TO  
 ATTENTION OF

Environmental Management Office

EMO Comeback Copy M S B C R

Ms. Alice Law  
 U.S. Environmental Protection  
 Agency - Region VII  
 Air and Toxics Division  
 726 Minnesota Avenue  
 Kansas City, Kansas 66101

Dear Ms. Law:

The Army is planning asbestos abatement projects at U.S. Army Reserve Centers located at 1599 Wenig Road, NE, Cedar Rapids and 1689 Burton Avenue, Waterloo, Iowa. These are both federal facilities and it is understood that we are exempt from all fees associated with the permit program in Iowa.

The attached forms contain the information required for notification of an asbestos project in Iowa. Asbestos abatement will be conducted by the Fort McCoy Asbestos Abatement Team.

Please contact Ms. Lynn McIntosh, Environmental Management Office, Directorate of Engineering, at (608) 388-2160 or (608) 388-2363 if you have any questions or need additional information.

Sincerely,

**ORIGINAL SIGNED**

Raymond G. Boland  
 Colonel, U.S. Army  
 Commanding

Attachments

Copy Furnished:

Mr. Rex Walker, Department of Natural Resources, Wallace State  
 Office Building, Des Moines, Iowa 50319  
 Safety Office  
 Off Post Facilities Division  
 Buildings and Grounds Division  
 Asbestos Team

REPRODUCED AT GOVERNMENT EXPENSE

NOTICE OF INTENT TO DEMOLISH OR RENOVATE A BUILDING, FACILITY, STRUCTURE OR INSTALLATION CONTAINING FRIABLE ASBESTOS MATERIAL

Contractor Name Department of the Army, Fort McCoy	Facility Owner or Operator Name Department of the Army, Fort McCoy
Street or Route ATTN: AFZR-DE-E	Street or Route ATTN: AFZR-DE-E
City, State, Zip Code Sparta, WI 54656-5000	City, State, Zip Code Sparta, WI 54656-5000
Telephone Number (include area code) (608) 388-2160	Telephone Number (include area code) (608) 388-2160

<b>ABILITY INFORMATION</b>	
Age of Facility (number of floors, approximate square footage) 1 Floor 34,256 square feet	Age of Facility Built in 1964
Street Address or Location of Facility 1599 Wenig Road Northeast Cedar Rapids, Iowa 52402	Immediate Prior Use of Facility Military Training
	Check One: <input type="checkbox"/> Demolition <input type="checkbox"/> Emergency Demolition <input checked="" type="checkbox"/> Renovation <small>If emergency demolition, attach a copy of order of state or local agency requiring demolition.</small>

<b>ABATEMENT INFORMATION</b>	
Procedure and Method of Project (specify structural and nonstructural components involved) Remove asbestos insulation and replace with non-asbestos insulation.	Approximate Amount of Asbestos Material on Pipes (linear feet; if none, so state) 200 linear feet
Description of Asbestos-Containing Material Pipe and boiler insulation.	Approximate Amount (surface area) of Asbestos Material on Other Facility Components (square feet; if none, so state) 640 square feet
Technique Used to Estimate Amount of Asbestos Material on Pipes and Other Facility Components Physical measurement except in hard to reach areas where visual estimate was used.	Abatement Technique (example: wetting and sealing in leak-tight containers) Asbestos is wetted, removed, sealed in labelled plastic bags, and transported to Jackson County Landfill, Inc. A HEPA vacuum is used during removal process.
Asbestos Removal/Demolition Dates Start: August 5, 1991	Finish: September 13, 1991

<b>DISPOSAL SITE</b>	<b>NOTICE INFORMATION</b>
Landfill Name Jackson County Sanitary Landfill, Inc.	Date of Notice
Street or Route Route 3 Box 95B	Type of Notice (check one) <input type="checkbox"/> 10 Day <input type="checkbox"/> 20 Day <input checked="" type="checkbox"/> Other
City, State, Zip Code Black River Falls, WI 54615	Signature of Contractor
Telephone Number (include area code) (715) 284-2262	

State and Federal Agencies Receiving a Copy of this Notice (please check):

Asbestos Coordinator - Rex Walker, Iowa Department of Natural Resources, Wallace State Office Building, Des Moines, Iowa 50319

U.S. Environmental Protection Agency - Ms. Alice Law, U.S. EPA, Region VII, Air and Toxics Division 726 Minnesota Avenue, Kansas City, KS 66101

REPRODUCED AT GOVERNMENT EXPENSE



DEPARTMENT OF THE ARMY  
 HEADQUARTERS, FORT McCOY  
 OFFICE OF THE COMMANDER  
 SPARTA, WISCONSIN 54656



16 AUG 1991

REPLY TO  
 ATTENTION OF

Environmental Management Office

Ms. Margaret E. Mnich  
 Air Compliance Section  
 U.S. Environmental Protection  
 Agency - Region VII  
 726 Minnesota Avenue  
 Kansas City, Kansas 66101

Dear Ms. Mnich:

This letter is in reference to your two letters of July 9, 1991 requesting additional information on the asbestos abatement projects at Waterloo and Cedar Rapids, Iowa. Attached are new Notification of Renovation forms for the two projects. Forms from the November 20, 1990 Federal Register were used to compile the information.

Please contact Ms. Elisabeth Carey, Environmental Management Office at (608) 388-2160/2363 if you have any questions or need additional information.

Sincerely,

**ORIGINAL SIGNED**  
 William S. Stanley  
 Colonel, U.S. Army  
 Commanding

Attachments

Copy Furnished:

Ms. Christine Spackman, Department of Natural Resources, Wallace  
 State Office Building, Des Moines Iowa 50319  
 Off Post Facilities Division  
 Buildings & Grounds Division (J. Vogt)

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ALL INFORMATION IS CONFIDENTIAL EXCEPT

NOTIFICATION OF DEMOLITION AND RENOVATION

Project #	Postmark	Date Received	Notification #
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TYPE OF NOTIFICATION ( ~~O-Original~~ R-Revised ~~C-Cancelled~~ ) Revised

FACILITY INFORMATION ( Identify owner, removal contractor, and other operator )

PR NAME: Department of the Army, Fort McCoy

Address: ATTN: APER-DE-E

City: Sparta	State: WI	Zip: 54656-5000
--------------	-----------	-----------------

Contact: Elisabeth Carey, Environmental Management Office	Tel: 608-388-2263
---	-------------------

REMOVAL CONTRACTOR: Department of the Army, Fort McCoy

Address: ATTN: APER-DE-E

City: Sparta	State: WI	Zip: 54656-5000
--------------	-----------	-----------------

Contact: Pat Beck, Asbestos Abatement Team	Tel: 608-388-3980
--	-------------------

RE OPERATOR: N/A

Address:

City:	State:	Zip:
-------	--------	------

Contact:	Tel:
----------	------

TYPE OF OPERATION ( ~~D-Demo~~ ~~O-Ordered Demo~~ R-Renovation ~~I-Inter.Renovation~~ ) R

IS ASBESTOS PRESENT? ( Yes/No ) Yes

FACILITY DESCRIPTION ( Include building name, number and floor or room number )

Address: Cedar Rapids Armed Forces Reserve Center

Address: 1599 Wentz Road NE

City: Cedar Rapids	State: IA	County: LINN
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Location: Boiler Room

Building Size: 14356 sq feet	# of Floors: 2	Age in Years: 27 years
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Current Use: Reserve Center	Prior Use: Reserve Center
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PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL:

Facility is surveyed and sampled by the Asbestos Team or the Safety Office. Samples are analyzed by an independent laboratory using NIOSH 7-00 and phase contrast microscopy.

APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING:	RACK To Be Removed	Nonfriable Asbestos Material Not To Be Removed		Indicate Unit of Measurement Below	
		Cat I	Cat II	UNIT	
Regulated ACM to be removed	200	0	0	Ln ft	X
Category I ACM Not Removed	660	0	0	Sq ft	X
Category II ACM Not Removed	0	0	0	Cu ft	X

SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start: Aug 5, 91 Complete: September 13, 91

SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start: Sept. 20, 91 Complete: September 20, 91

REPRODUCED AT GOVERNMENT EXPENSE

III. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND METHOD(S) TO BE USED:

1. Removal of boiler piping in boiler room for maintenance

IV. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EXPOSURE TO ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:

Negative Air, Containment, HEPA Vac and abatement using wet methods. Asbestos is sealed in sealed plastic bags (5 mil).

XII. WASTE TRANSPORTER #1

Name:	Department of the Army, Fort McCoy		
Address:	ATTN: AFER-DE-5		
City:	State:	Zip:	
Sparta	WI	54656-5000	
Contact Person:	Telephone:		
Pat Pack, Asbestos Abatement Team	608-388-1980		

WASTE TRANSPORTER #2

Name:	Jackson County Sanitary Landfill, Inc.		
Address:	Route 1 Box 35 B		
City:	State:	Zip:	
Black River Falls	WI	54615	
Contact Person:	Telephone:		
Tom McNulty	715-284-2262		

XIII. WASTE DISPOSAL SITE

Name:	Jackson County Sanitary Landfill, Inc.		
Address:	Route 1 Box 35 B		
City:	State:	Zip:	
Black River Falls	WI	54615	
Telephone:	715-284-2262		

XIV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:

Name:	Title:
Agency:	Date Ordered to Begin (MM/DD/YY):

XV. FOR EMERGENCY RENOVATIONS

Date and Hour of Emergency (MM/DD/YY):
Description of the Sudden, Unexpected Event:
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:

XVI. DESCRIPTION OF PROCEDURES TO BE FOLLOWED IN THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFRIABLE ASBESTOS MATERIAL BECOMES CRUMBLER, PULVERIZED, OR REDUCED TO POWDER. Negative Air, Containment, HEPA VAC and abatement using WET methods. Worker Protection: hard toe shoes, Cotton gloves, full face masks, Tyvek Suits. Asbestos is bagged in 5 mil plastic. EPA would be notified.

XVII. I CERTIFY THAT AN INDIVIDUAL TRAINED IN THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)

(Signature of Owner/Operator) (Date)

XVIII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

(Signature of Owner/Operator) (Date)

UNOFFICIAL AT GOVERNMENT EXPENSE

JUL 1991

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION VII  
726 MINNESOTA AVENUE  
KANSAS CITY, KANSAS 66101

July 9, 1991

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Colonel Raymond G. Boland  
Environmental Management Office  
Department of the Army  
Headquarters, Fort McCoy  
Office of the Commander  
Sparta, Wisconsin 54656

Dear Colonel Boland:

**LETTER OF DEFICIENCY**

The United States Environmental Protection Agency (EPA) acknowledges receipt of your notification for the following asbestos demolition/renovation project:

**U.S. Army Reserve Center  
1599 Wenig Road Northeast  
Cedar Rapids, Iowa 52402  
Postmarked Date: June 26, 1991**

Any demolition or renovation project subject to the regulations specified in 40 C.F.R. Part 61 must be conducted according to the methods specified therein, including notification, procedures for asbestos emission control, and waste disposal.

Failure to submit a timely and complete notification, prior to the commencement of demolition or renovation, is a violation of the Clean Air Act, as amended 42 U.S.C. Section 7401 et seq., for which EPA can assess and recover civil and criminal penalties from both the building owner and any removal contractor. This advisory letter does not preclude the Agency from taking further action pursuant to the above authority.

Please be advised that the following information must be provided in order for your notices to be complete in accordance with Section 61.145(b)(4).

v. Procedure, including analytical methods, employed to detect the presence of RACM, and Categories I and II nonfriable ACM.

vii. Location and street address (including **building number or name**, and **floor or room number**, if appropriate), city, county, and state of the facility being demolished or renovated.

xi. Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures.

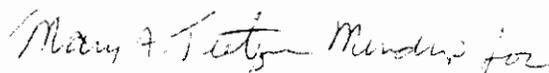
xvi. Description of procedures to be followed in the event that unexpected RACM is found, or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

xvii. Name, address, and telephone number of the waste transporter.

You are encouraged to use a form similar to that shown in Figure 3 of the November 20, 1990, Federal Register, pages 48422 and 48423. If you wish to develop your own form rather than the one shown in the Federal Register, please feel free to do as long as the information required in paragraph (b)(4) of this section is reported.

If you have any questions regarding this letter, please contact Ms. Margaret E. Mnich at (913) 551-7020.

Sincerely,

  
Ms. JoAnn M. Heiman, Chief  
Air Compliance Section  
Air Branch

cc: Ms. Christine Spackman  
Iowa Department of Natural Resources



DEPARTMENT OF THE ARMY  
 HEADQUARTERS, FORT MCCOY  
 OFFICE OF THE COMMANDER  
 SPARTA, WISCONSIN 54656  
 29 JAN 1992



REPLY TO  
 ATTENTION OF

Environmental Management Division

Ms. Margaret E. Mnich  
 Air Compliance Section  
 U.S. Environmental Protection  
 Agency - Region VII  
 726 Minnesota Avenue  
 Kansas City, Kansas 66101

Dear Ms. Mnich:

Fort McCoy abated asbestos at a Reserve Center in Waterloo and Cedar Rapids, Iowa. A notice was filed dated August 16, 1991. Enclosed is a copy of the original notice. The asbestos disposal location was not correctly identified on this notice. Thus we are notifying you and sending a copy of the directions to the actual disposal site, Tork Landfill near Wisconsin Rapids, Wisconsin.

Jackson County Landfill, Inc. stopped accepting asbestos on July 19, 1991. The Environmental Management Division was not advised of this change until December 13, 1991 and as a result reported erroneously that asbestos was disposed of in the Jackson County Landfill. We apologize for this error.

Please contact Ms. Lynn McIntosh at the Environmental Management Division, Directorate of Engineering, at (608) 388-2160 if you have any questions.

Sincerely,

ORIGINAL SIGNED  
 William S. Stanley  
 Colonel, U.S. Army  
 Commanding

Enclosures

Copies Furnished:

THRU XO  
 FOR JA  
 Chief, Buildings and Grounds  
 Asbestos Team

EMD, Comback Copy

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 AB  
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REPRODUCTION AT GOVERNMENT EXPENSE



DEPARTMENT OF THE ARMY  
 HEADQUARTERS, FORT MCCOY  
 OFFICE OF THE COMMANDER  
 SPARTA, WISCONSIN 54656



16 AUG 1991

REPLY TO  
 ATTENTION OF

Environmental Management Office

Ms. Margaret E. Mnich  
 Air Compliance Section  
 U.S. Environmental Protection  
 Agency - Region VII  
 706 Minnesota Avenue  
 Kansas City, Kansas 66101

Dear Ms. Mnich:

This letter is in reference to your two letters of July 9, 1991, requesting additional information on the asbestos abatement projects at Waterloo and Cedar Rapids, Iowa. Attached are new Notification of Renovation forms for the two projects. Forms from the November 20, 1990 Federal Register were used to compile the information.

Please contact Ms. Elisabeth Carey, Environmental Management Office, at (608) 388-2160/2363 if you have any questions or need additional information.

Sincerely,

**ORIGINAL SIGNED**

William S. Stanley  
 Colonel, U.S. Army  
 Commanding

Attachments

Copy Furnished:

Ms. Christine Spackman, Department of Natural Resources, Wallace  
 State Office Building, Des Moines, Iowa 50319  
 Off Post Facilities Division  
 Buildings & Grounds Division (J. Vogt)

UNCLASSIFIED

NOTIFICATION OF DEMOLITION AND RENOVATION

Project #	Postmark	Date Received	Notification #
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TYPE OF NOTIFICATION ( 0-Original R-Reviled C-Cancelled ) Revised

ACTIVITY INFORMATION ( Identify owner, removal contractor, and other operator )

R NAME: Department of the Army, Fort McCoy

ATTN: AFER-DE-E

State: WI Zip: 54656-5000

Address: Elisabeth Carey, Environmental Management Office Tel: 608-388-3363

VAL CONTRACTOR: Department of the Army, Fort McCoy

ATTN: AFER-IE-3

State: WI Zip: 54656-5000

Address: Pac Pack, Asbestos Abatement Team Tel: 608-388-3980

R OPERATOR: N/A

State: WI Zip:

TYPE OF OPERATION ( 0-Demo 0-Ordered Demo R-Renovation I-Order Renovation ) R

ASBESTOS PRESENT? ( Yes/No ) Yes

ACTIVITY DESCRIPTION ( Include building name, number and floor or room number )

Name: Cedar Rapids Armed Forces Reserve Center

Address: 1598 Venix Road NE

City: Cedar Rapids State: IA County: LINN

Location: Boiler Room

Area: 14136 sq feet # of Floors: 2 Age in Years: 27 years

Use: Reserve Center Prior Use: Reserve Center

PROCEDURE, INCLUDING ANALYTICAL METHOD, IF APPROPRIATE, USED TO DETECT THE PRESENCE OF ASBESTOS MATERIAL: Facility is surveyed and sampled by the Asbestos Team or the Labatory Office. Samples are analyzed by an independent laboratory using NIOSH 7400 and phase contrast microscopy.

APPROXIMATE AMOUNT OF ASBESTOS, INCLUDING:	TACX To Be Removed	Nonfriable Asbestos Material Not To Be Removed		Indicate Unit of Measurement Below	
		Cat I	Cat II	UNIT	
Regulated ACM to be removed		0	0	LF: ft	Ln ft
Necessary I ACM Not Removed	200				
Necessary II ACM Not Removed				SQ: sq	Sq ft
Facility Component	660	0	0	CU: cu	Cu ft

SCHEDULED DATES ASBESTOS REMOVAL (MM/DD/YY) Start: Aug 5, 91 Complete: September 12, 91

SCHEDULED DATES DEMO/RENOVATION (MM/DD/YY) Start: Sept 20, 91 Complete: September 20, 91

REPRODUCED AT GOVERNMENT EXPENSE

II. DESCRIPTION OF PLANNED DEMOLITION OR RENOVATION WORK, AND WETWORK(S) TO BE USED:

Removal of ACM from piping in Boiler Room for Maintenance

III. DESCRIPTION OF WORK PRACTICES AND ENGINEERING CONTROLS TO BE USED TO PREVENT EMISSIONS OF ASBESTOS AT THE DEMOLITION AND RENOVATION SITE:

Negative Air, Containment, HEPA Vac and abatement using Wet Methods. Asbestos is sealed in double plastic bags (6 mil) and placed in 55 gallon drums.

WASTE TRANSPORTER #1

Name: Department of the Army, Fort McCoy

Address: MILWAUKEE AFTR-02-B

City: Sparta

State: WI

Zip: 54656-5000

Contact Person: Pac Pack, Asbestos Abatement Team

Telephone: 608-388-1080

WASTE TRANSPORTER #2

Name: Jackson County Sanitary Landfill, Inc.

Address: Route 1 Box 25 B

City: Black River Falls

State: WI

Zip: 54615

Contact Person: Tom McNulty

Telephone: 715-284-2262

WASTE DISPOSAL SITE

Name: Jackson County Sanitary Landfill, Inc.

Address: Route 1 Box 25 B

City: Black River Falls

State: WI

Zip: 54615

Telephone: 715-284-2262

IV. IF DEMOLITION ORDERED BY A GOVERNMENT AGENCY, PLEASE IDENTIFY THE AGENCY BELOW:

Name: Title:

Address:

Date of Order (MM/DD/YY):

Date Ordered to Begin (MM/DD/YY):

V. FOR EMERGENCY RENOVATIONS

Date and Time of Emergency (MM/DD/YY):

Description of the sudden, unexpected event:

Indication of how the event could create conditions or work cause equipment damage or an unreasonable financial burden:

VII. DESCRIPTION OF PROCEDURES TO BE FOLLOWED BY THE EVENT THAT UNEXPECTED ASBESTOS IS FOUND OR PREVIOUSLY NONFIBRILLABLE ASBESTOS MATERIAL BECOMES CRUMBLED, PULVERIZED, OR REDUCED TO POWDER.

Negative Air, Containment, HEPA VAC and abatement using WET methods. Worker Protection: hard toe shoes, Cotton gloves, full face masks, Tyvek Suits. Asbestos is bagged in 6 mil plastic. EPA would be notified.

VIII. I CERTIFY THAT AN INDIVIDUAL TRAINED BY THE PROVISIONS OF THIS REGULATION (40 CFR PART 61, SUBPART M) WILL BE ON-SITE DURING THE DEMOLITION OR RENOVATION AND EVIDENCE THAT THE REQUIRED TRAINING HAS BEEN ACCOMPLISHED BY THIS PERSON WILL BE AVAILABLE FOR INSPECTION DURING NORMAL BUSINESS HOURS. (Required 1 year after promulgation)

(Signature of Owner/Operator)

(Date)

VIII. I CERTIFY THAT THE ABOVE INFORMATION IS CORRECT.

(Signature of Owner/Operator)

(Date)

UNRECORDED BY GOVERNMENT EXPENSE

1990 RADON SURVEY REPORT



DEPARTMENT OF THE ARMY

HEADQUARTERS FORT MCCOY  
SPARTA, WISCONSIN 54656



REPLY TO  
ATTENTION OF

AFZR-DE-E (200-1c)

15 November 1990

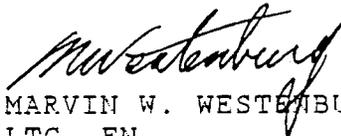
MEMORANDUM FOR FACILITY MANAGER, USARC, 1599 WENIG RD N.E.,  
CEDAR RAPIDS, IA 52402

SUBJECT: Fort McCoy Radon Program

1. This memorandum is in reference to results of the Fort McCoy Radon Program.
2. The radon gas levels found at your facility were below 4.0 picocuries per liter, the Environmental Protection Agency's recommended action level for radon gas. Therefore, no further testing or mitigation will be required at your facility.
3. A copy of your facility's test results are enclosed. If you have any further questions please contact Ms. Elisabeth Carey, Environmental Management Office at (608) 388-2160 or AV 280-2160.

FOR THE COMMANDER:

1 Encl  
as

  
MARVIN W. WESTENBURG  
LTC, EN  
Director, DE

REPRODUCED AT GOVERNMENT EXPENSE

Page No. 1  
08/27/90

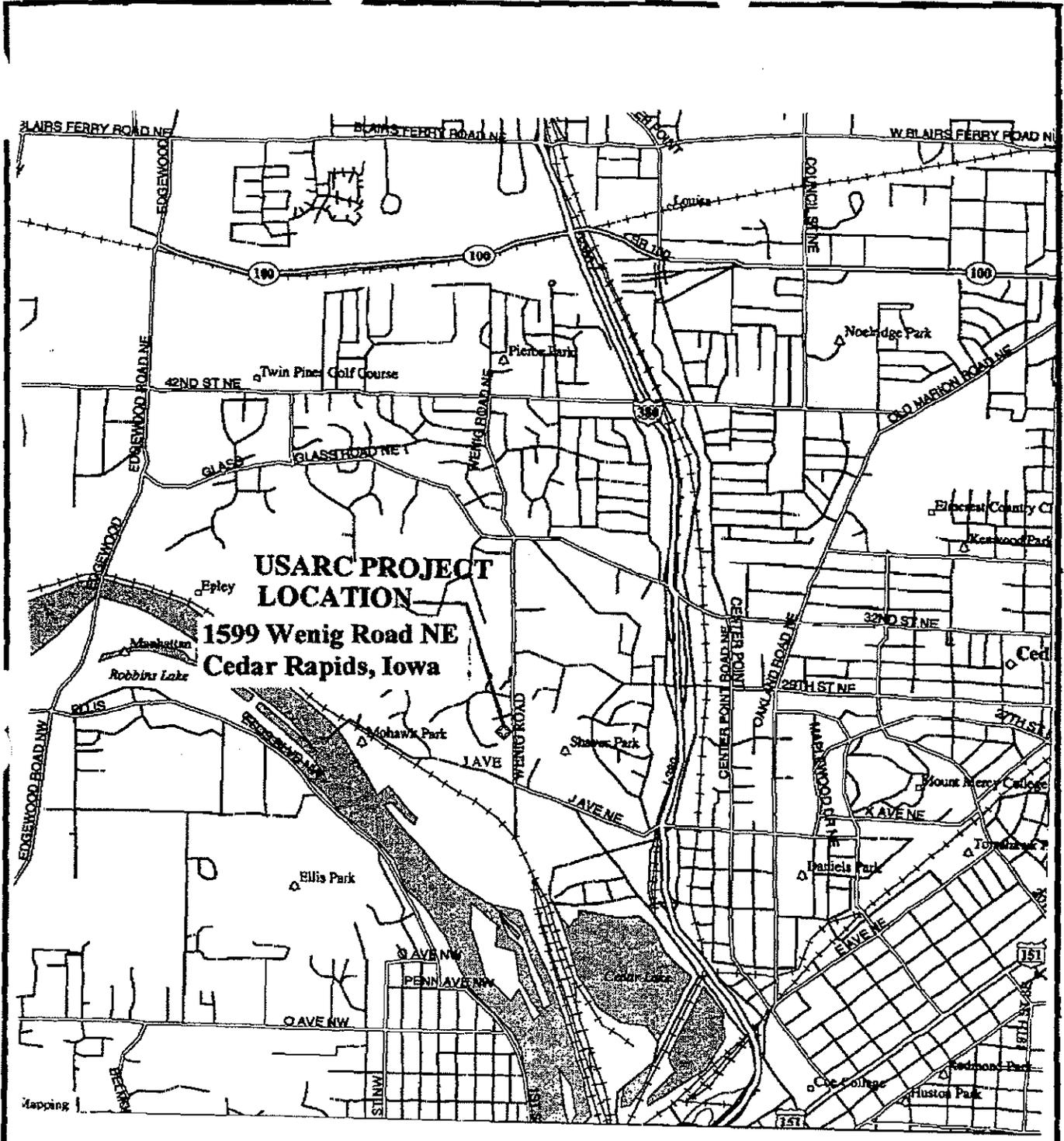
## Average Radon Concentration

Serial Number	Facility	Building Number	Radon Concentration pCi/liter	Floor	ROOM NUMBER	DETECTOR LOCATION
001477353	CEDAR RAPIDS		2.1	1	0	DRILL HALL ON PIPE IN CORNER
001477362	CEDAR RAPIDS		1.9	1	0	MOBILE MINE ASSEMBLY BULLETIN BOARD
001477372	CEDAR RAPIDS		1.8	1	0	ABOVE DRINKING FOUNTAIN
001477376	CEDAR RAPIDS		1.9	1	120	STORAGE ROOM - TOP CAGE NEAR SPRINKLER
001477417	CEDAR RAPIDS		1.9	1	0	DRILL HALL CAGES - UPPER LEFT CORNER
001428173	CEDAR RAPIDS		2.0	1	0	HALLWAY EMERGENCY LIGHTS ACROSS FROM 130
001477405	CEDAR RAPIDS		1.3	1	0	ABOVE DRINKING FOUNTAIN
001477410	CEDAR RAPIDS		2.4	1	0	DRILL HALL ON EXIT SIGN

1996 FIRING RANGE INFORMATION

CAD\USFG23.DWG 09-10-1996 16:14 S

K.



Scale 1:14,063 (at center)

1000 Feet

LOCATION MAP

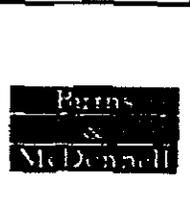
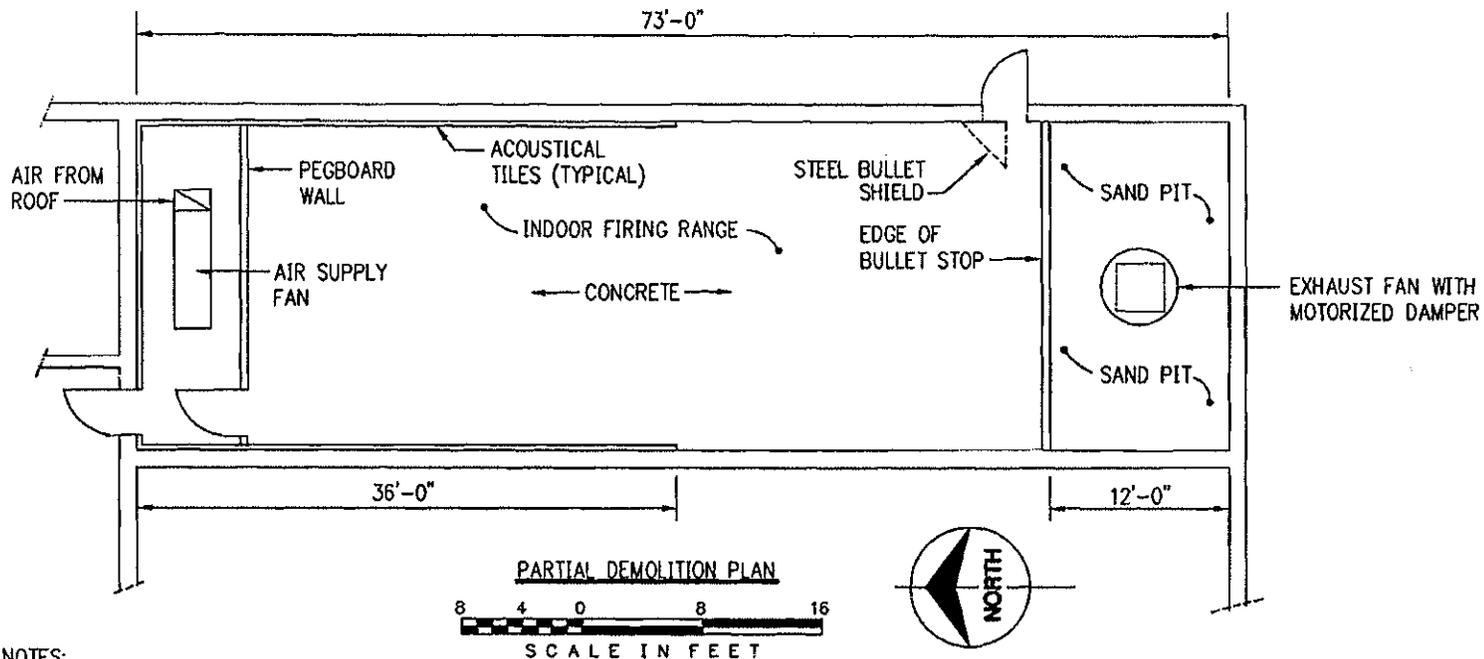


Figure 5-1

INDOOR FIRING RANGE FACILITY  
USARC

CEDAR RAPIDS, IOWA

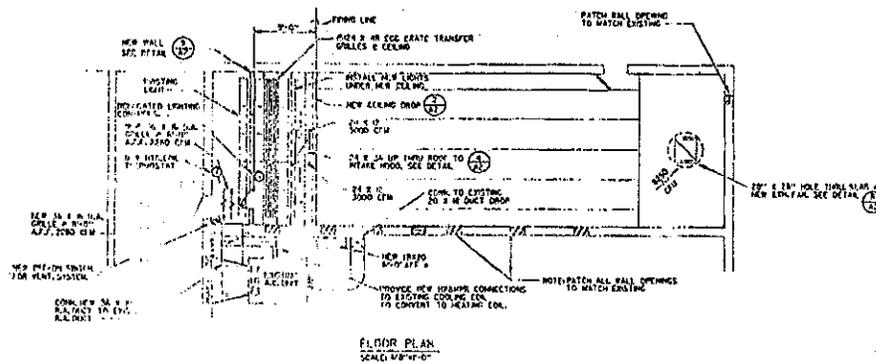
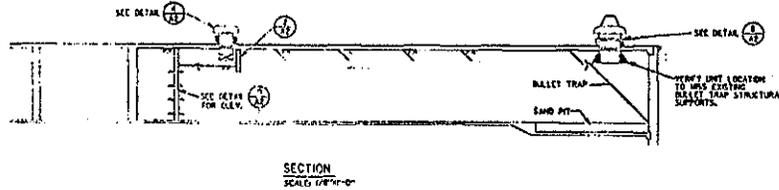
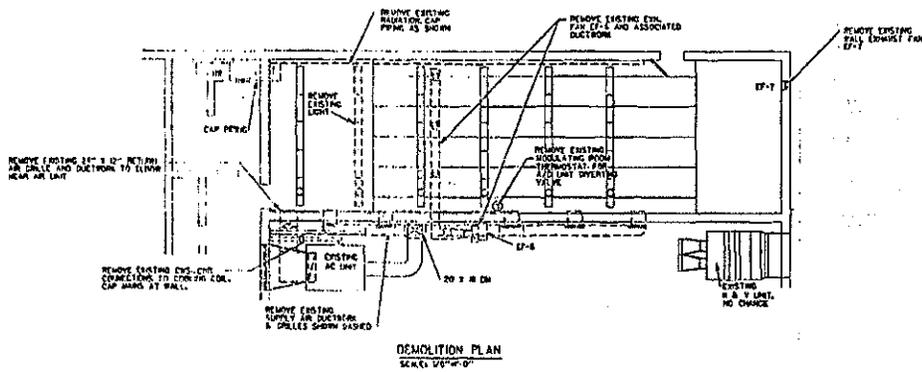


**DEMOLITION NOTES:**

1. SEE REFERENCE DRAWINGS IN APPENDIX B FOR MORE DETAILS.
2. SEE PHOTOGRAPHS DEPICTING CURRENT CONDITIONS IN APPENDIX C.
3. CLEAN AND REMOVE ALL COMPONENTS OF HEATING AND VENTILATION SYSTEM(S) AS SPECIFIED IN SECTION 02090. CLOSE OFF RESULTING WALL AND ROOF OPENINGS WITH PLYWOOD AND SHEET METAL. FLASH AND SEAL ROOF OPENING(S) WATERTIGHT.
4. CLEAN AND REMOVE ALL EQUIPMENT ASSOCIATED WITH THE FIRING FUNCTIONS IN THE INDOOR RANGE INCLUDING BUT NOT LIMITED TO SHELVES, STALL SEPARATORS, BULLET TRAP (STOP) ASSEMBLY, LIGHT SHIELDS (BAFFLES), TARGETS, TROLLEY WIRES WITH GUIDES AND CRANKS, ETC. AS SPECIFIED IN SECTION 02090.
5. REMOVE ALL FIRING RANGE FIXTURES INCLUDING BUT NOT LIMITED TO LIGHT FIXTURES, ACOUSTICAL TILES WITH FURRING STRIPS AND INSULATION, CARPETS, SUSPENDED CEILINGS, ETC. AS SPECIFIED IN SECTION 02090.
6. REMOVE AND DISPOSE OF AS SPECIFIED IN SECTION 02090 COVER AND SAND FROM SAND PIT
7. CLEAN CEILING, WALLS, SAND PIT, AND FLOOR AS SPECIFIED IN SECTION 02090.

	Figure 5-2
	INDOOR FIRING RANGE FACILITY USARC
	CEDAR RAPIDS, IOWA



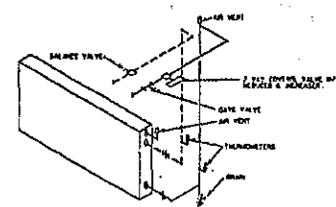


MODE	ITEM	A.C. UNIT MOTOR	A.C. UNIT R.A. DAMP.	A.C. UNIT R.A. DAMP.	INTAKE HOOD	A.C. UNIT HEATING COIL
EXHAUST ON	PISTON CONTINUOUSLY	OPEN	CLOSED	CLOSED	OPEN	CYCLES FROM ROOM TEST
EXHAUST OFF	STOPS FROM ROOM TEST	CLOSED	OPEN	CLOSED	CLOSED	STOPS FROM ROOM TEST

NOTE: EXHAUST MODE CONTROLLED BY NEW START-STOP CONTROL STATION. A.C. UNIT AND DAMPERS TO BE INTERLOCKED AS ACCORD TO FUNCTION AS INDICATED. INSTALL NEW FAN PROTECTOR TESTER IN ALL UNIT OPENINGS TO SWITCH SYSTEM TO EXHAUST OFF MODE IF ROOM TEMPERATURE FALLS BELOW 30 F.

**PLAN NOTES**

- REMOVE EXISTING 1 & 2 LIGHTS FROM ABOVE FINISH LINE AS NOTED ON DEMOLITION PLAN. INSTALL 3 NEW 1 & 2 LIGHT FIXTURES UNDER DROPPED CEILING. NEW RETURN TO BE 2 OVER SQUARE HOUSED. CONNECT TO EXISTING WIRING.
- REMOVE EXISTING EXHAUST FAN EP-1 AND EP-2 AND PATCH OPENINGS IN WALLS. MAKE NEW INTAKE HOOD DAMPER OPERATOR FROM PNEUM. SUPPLY TO FAN. MAKE NEW EXHAUST FAN TO PANEL EP-3.
- REMOVE EXISTING WATER PIPING CONNECTIONS TO A.C. UNIT CEILING COIL. CAP CHILLER WATER PIPING AT WALL. MAKE NEW HOT WATER PIPING CONNECTIONS AT DRINKS AND TYPE TO CEILING COIL TO CONVERT TO HEATING COIL. REMOVE EXISTING CONDENSATE PIPING ETC. AT EP-1. SEE DETAILS. GLOBE VALVES ON C.W. PUMP RD. 2 TO A.C. UNIT. DISCONNECT PIPING AT DISCONNECT.
- REMOVE EXISTING FIN FLOC INSULATION AND CAP PIPING AS SHOWN.
- RELOCATE ALL LIGHTING FIXTURES FOR PISTON RANGE TO NEW WALL NEAR DOOR.
- PAINT ALL NEW PATCHES OR REPAIRED SURFACES TO MATCH EXISTING.



REFERENCE DRAWING FOR INFORMATION ONLY

NO.	110	DATE	12/15/68
REV.		BY	
DIRECTORATE OF FACILITIES ENGINEERING <b>FORT McCOY, WISCONSIN</b> RETROFIT RANGE VENTILATION - U.S.A.F.C. 1599 WENIG RD. N.E. CEDAR RAPIDS, IOWA MECHANICAL AND ELECTRICAL PLANS AND SPECIFICATIONS			
DESIGNED BY	RGS	CHECKED BY	AS
DRAWN BY	RR-GJW	DATE	12/15/68
IN CHARGE	JEL	SCALE	AS SHOWN
PLANS & SPECIFICATIONS DIVISION			

10-00-01

29-00-01

1. For Fan Coil Unit schedule see DWG. 29-00-01, SM. 34.

GENERAL NOTES:

FOR INFORMATION ONLY

REFERENCE DRAWING

ARMED FORCES RESERVE CENTER  
VENTILATION & CHILLED WATER  
FIRST FLOOR PLAN

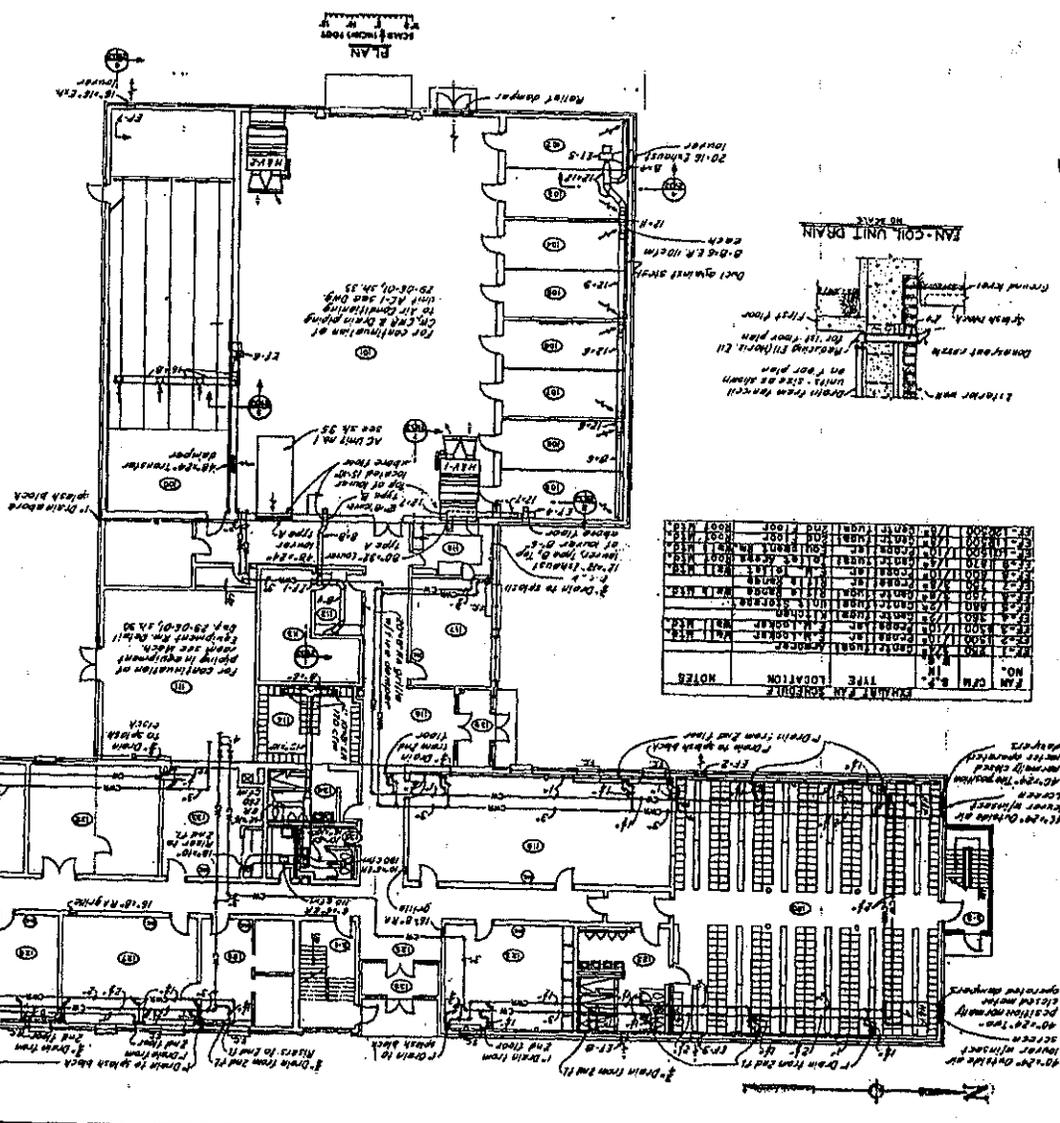
DATE: 10/11/84

BY: [Signature]

PROJECT NO. 29-00-01

SCALE: AS SHOWN

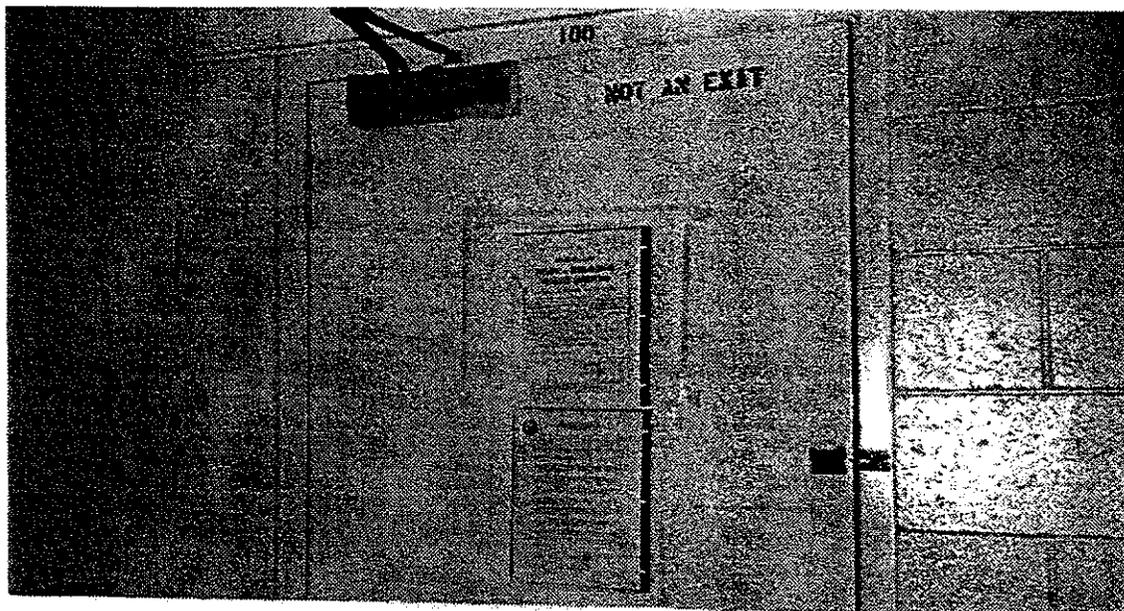
1. U.S. ARMY ENGINEERING BATTALION, BANGALORE  
2. U.S. ARMY ENGINEERING BATTALION, BANGALORE



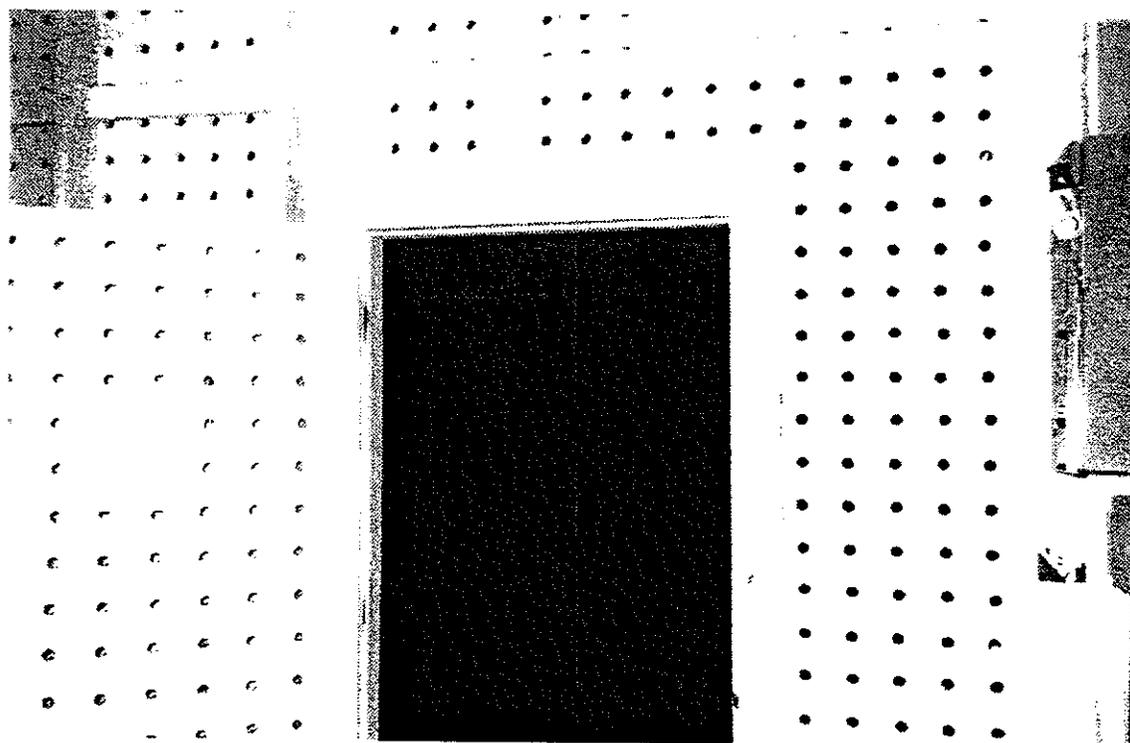
NO.	TYPE	LOCATION	NOTES
1	FAN COIL UNIT	ROOM 101	See DWG. 29-00-01, SM. 34.
2	FAN COIL UNIT	ROOM 102	See DWG. 29-00-01, SM. 34.
3	FAN COIL UNIT	ROOM 103	See DWG. 29-00-01, SM. 34.
4	FAN COIL UNIT	ROOM 104	See DWG. 29-00-01, SM. 34.
5	FAN COIL UNIT	ROOM 105	See DWG. 29-00-01, SM. 34.
6	FAN COIL UNIT	ROOM 106	See DWG. 29-00-01, SM. 34.
7	FAN COIL UNIT	ROOM 107	See DWG. 29-00-01, SM. 34.
8	FAN COIL UNIT	ROOM 108	See DWG. 29-00-01, SM. 34.
9	FAN COIL UNIT	ROOM 109	See DWG. 29-00-01, SM. 34.
10	FAN COIL UNIT	ROOM 110	See DWG. 29-00-01, SM. 34.
11	FAN COIL UNIT	ROOM 111	See DWG. 29-00-01, SM. 34.
12	FAN COIL UNIT	ROOM 112	See DWG. 29-00-01, SM. 34.
13	FAN COIL UNIT	ROOM 113	See DWG. 29-00-01, SM. 34.
14	FAN COIL UNIT	ROOM 114	See DWG. 29-00-01, SM. 34.
15	FAN COIL UNIT	ROOM 115	See DWG. 29-00-01, SM. 34.
16	FAN COIL UNIT	ROOM 116	See DWG. 29-00-01, SM. 34.
17	FAN COIL UNIT	ROOM 117	See DWG. 29-00-01, SM. 34.
18	FAN COIL UNIT	ROOM 118	See DWG. 29-00-01, SM. 34.
19	FAN COIL UNIT	ROOM 119	See DWG. 29-00-01, SM. 34.
20	FAN COIL UNIT	ROOM 120	See DWG. 29-00-01, SM. 34.
21	FAN COIL UNIT	ROOM 121	See DWG. 29-00-01, SM. 34.
22	FAN COIL UNIT	ROOM 122	See DWG. 29-00-01, SM. 34.
23	FAN COIL UNIT	ROOM 123	See DWG. 29-00-01, SM. 34.
24	FAN COIL UNIT	ROOM 124	See DWG. 29-00-01, SM. 34.
25	FAN COIL UNIT	ROOM 125	See DWG. 29-00-01, SM. 34.
26	FAN COIL UNIT	ROOM 126	See DWG. 29-00-01, SM. 34.
27	FAN COIL UNIT	ROOM 127	See DWG. 29-00-01, SM. 34.
28	FAN COIL UNIT	ROOM 128	See DWG. 29-00-01, SM. 34.
29	FAN COIL UNIT	ROOM 129	See DWG. 29-00-01, SM. 34.
30	FAN COIL UNIT	ROOM 130	See DWG. 29-00-01, SM. 34.
31	FAN COIL UNIT	ROOM 131	See DWG. 29-00-01, SM. 34.
32	FAN COIL UNIT	ROOM 132	See DWG. 29-00-01, SM. 34.
33	FAN COIL UNIT	ROOM 133	See DWG. 29-00-01, SM. 34.
34	FAN COIL UNIT	ROOM 134	See DWG. 29-00-01, SM. 34.
35	FAN COIL UNIT	ROOM 135	See DWG. 29-00-01, SM. 34.
36	FAN COIL UNIT	ROOM 136	See DWG. 29-00-01, SM. 34.
37	FAN COIL UNIT	ROOM 137	See DWG. 29-00-01, SM. 34.
38	FAN COIL UNIT	ROOM 138	See DWG. 29-00-01, SM. 34.
39	FAN COIL UNIT	ROOM 139	See DWG. 29-00-01, SM. 34.
40	FAN COIL UNIT	ROOM 140	See DWG. 29-00-01, SM. 34.
41	FAN COIL UNIT	ROOM 141	See DWG. 29-00-01, SM. 34.
42	FAN COIL UNIT	ROOM 142	See DWG. 29-00-01, SM. 34.
43	FAN COIL UNIT	ROOM 143	See DWG. 29-00-01, SM. 34.
44	FAN COIL UNIT	ROOM 144	See DWG. 29-00-01, SM. 34.
45	FAN COIL UNIT	ROOM 145	See DWG. 29-00-01, SM. 34.
46	FAN COIL UNIT	ROOM 146	See DWG. 29-00-01, SM. 34.
47	FAN COIL UNIT	ROOM 147	See DWG. 29-00-01, SM. 34.
48	FAN COIL UNIT	ROOM 148	See DWG. 29-00-01, SM. 34.
49	FAN COIL UNIT	ROOM 149	See DWG. 29-00-01, SM. 34.
50	FAN COIL UNIT	ROOM 150	See DWG. 29-00-01, SM. 34.



PHOTO LOG  
CEDAR RAPIDS, IOWA



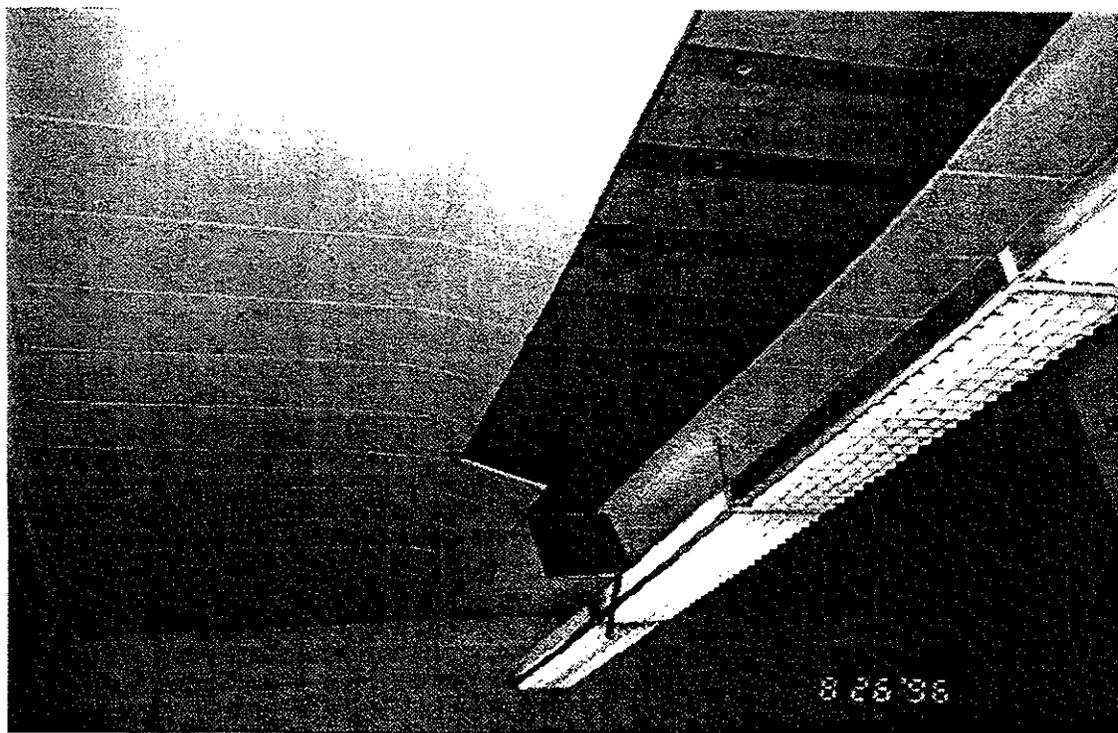
1) Entrance into firing range.



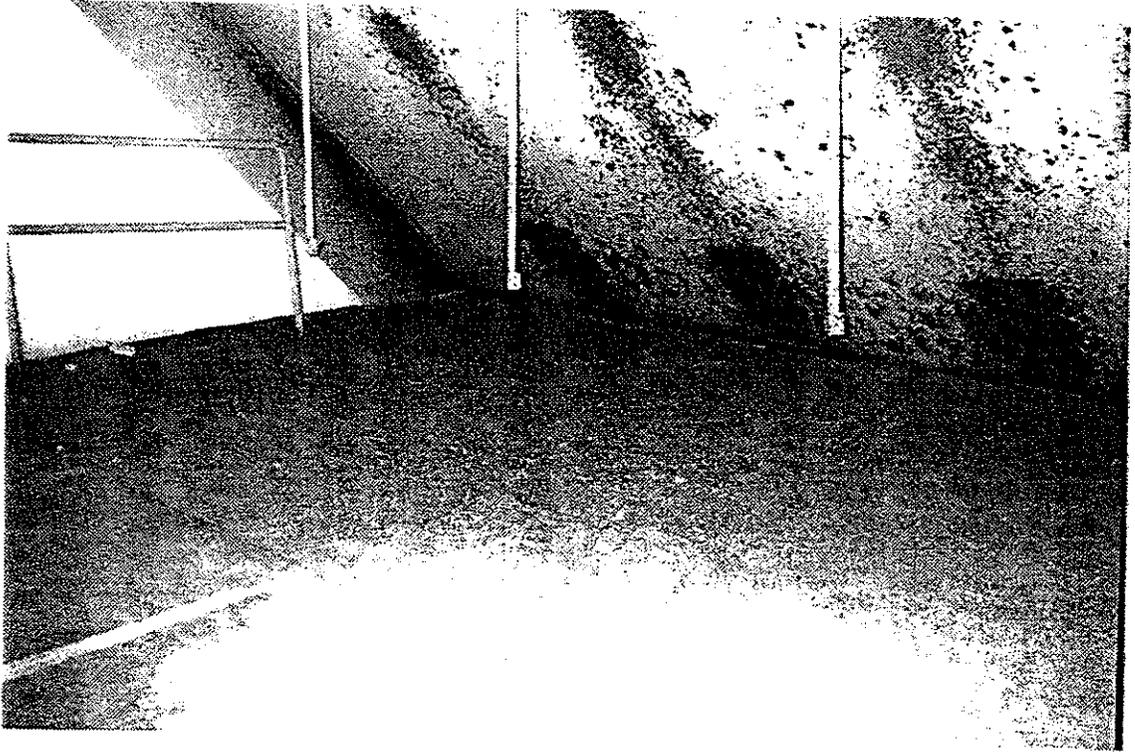
2) Entrance to firing line.



3) Firing range looking west



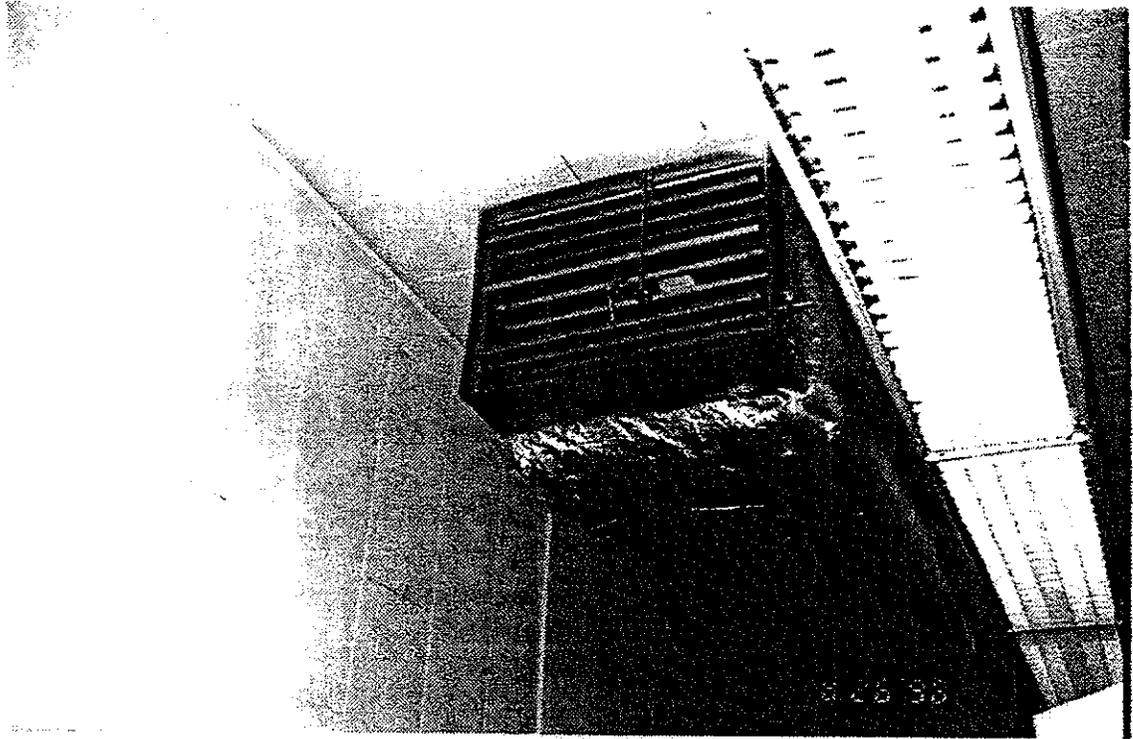
4) Loose ceiling tiles above the firing line.



5) View of sand pit and bullet trap.



6) View of the firing line from down range.



7) Air supply vent located behind the firing line.



8) Nine-inch by nine-inch floor tile located outside of the firing range.



9) Exhaust fan located on the roof.

**Table 5-A  
Lead Wipe Sample Results  
Cedar Rapids, Iowa**

Sample No.	Sample Location	Surface Sampled	Sample Results (micrograms/square feet)
CRL1-A	Firing Range	Floor	1,300
CRL1-B	Firing Range	Floor	3,200
CRL1-C	Firing Range	Floor	24,000
CRL2-A	Firing Range	Wall	1,500
CRL2-B	Firing Range	Wall	6,200
CRL2-C	Firing Range	Wall	180
CRL3-A	Firing Range	Ceiling	<10.0
CRL3-B	Firing Range	Ceiling	<10.0
CRL3-C	Firing Range	Ceiling	<10.0
CRL4-A	Firing Range	Exhaust vent	670,000
CRL4-B	Storage Room	Supply - AHU	10,000
CRL4-C	Storage Room	Supply - AHU	8,200
CRL5-A	Firing Range	Floor	360
CRL6-A	Firing Range	Table Top	1,600
CRL6-B	Firing Range	Radiator Grill	2,100
CRL6-C	Firing Range	Light Fixture	230,000
CRL6-D	Firing Range	Chalkboard Tray	12,000
CRL6-E	Firing Range	Table Top	720
CRL6-F	Firing Range	Exit Sign, Top	1,700,000
CRLQ-A	Blank		170 *
CRLQ-B	Blank		70 *

\* - Total micrograms of lead  
AHU - Air Handling Unit

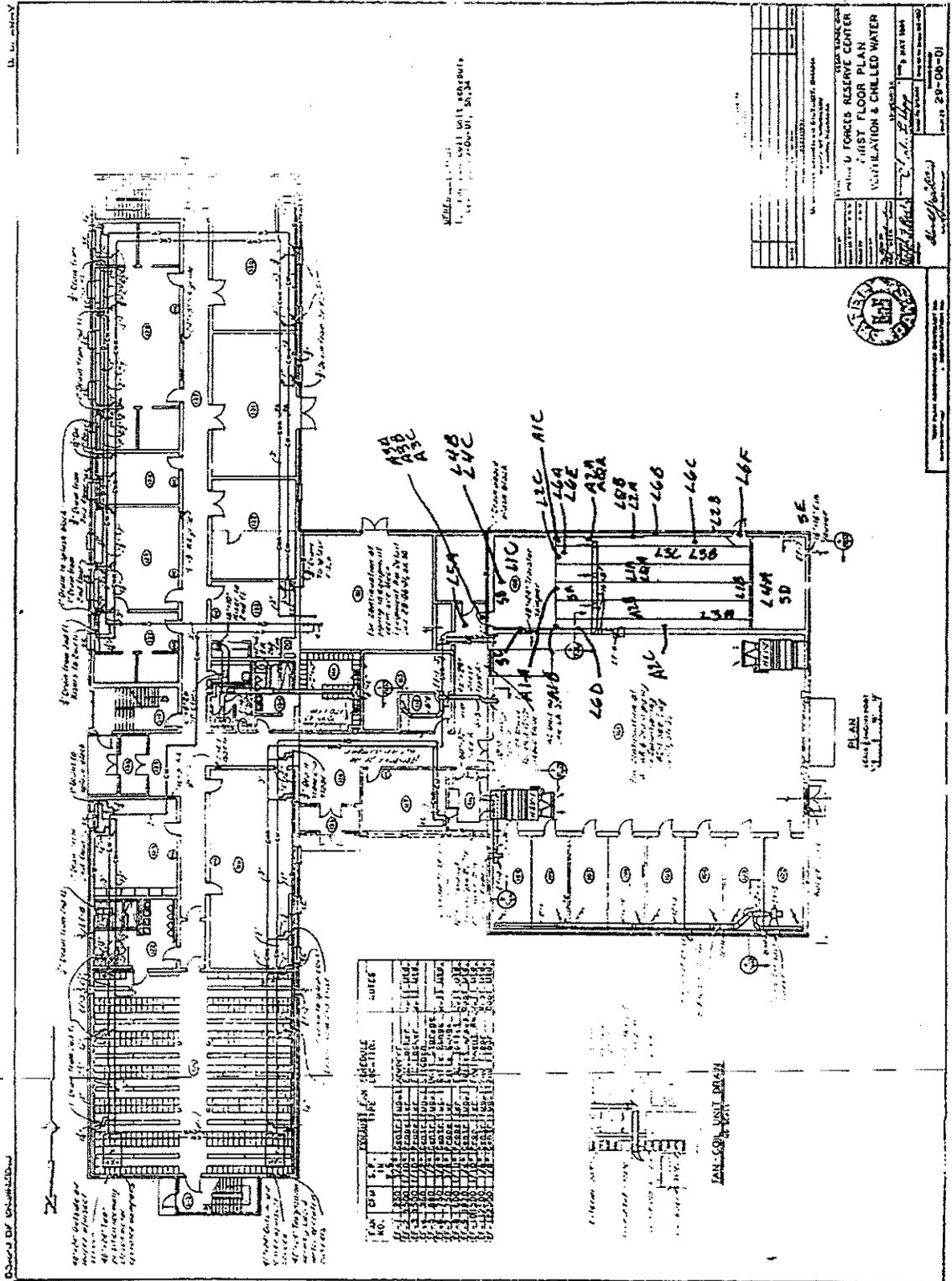
**Table 5-B  
Asbestos Sample Results  
Cedar Rapids, Iowa**

Sample No.	Location	Homogeneous Material	Category	Asbestos Type, %	Quantity (square feet)
CRA1 - A	Firing Range	Baseboard - Brown	N/A	N/D	N/D
CRA1 - B	Firing Range	Baseboard - Brown	N/A	N/D	N/D
CRA1 - C	Firing Range	Baseboard - Brown	N/A	N/D	N/D
CRA2 - A	Firing Range	Ceiling/Wall - Acoustical Material	N/A	N/D	N/D
CRA2 - B	Firing Range	Ceiling/Wall - Acoustical Material	N/A	N/D	N/D
CRA2 - C	Firing Range	Ceiling/Wall - Acoustical Material	N/A	N/D	N/D
CRA3 - A	Firing Range	Ceiling Tile - 2'x4'	N/A	N/D	N/D
CRA3 - B	Firing Range	Ceiling Tile - 2'x4'	N/A	N/D	N/D
CRA3 - C	Firing Range	Ceiling Tile - 2'x4'	N/A	N/D	N/D
CRAQ - A	Firing Range	QC	N/A	N/D	N/D

**Note:** N/A - Not Applicable  
N/D - None Detected

**Table 5-C  
TCLP Lead Sample Results  
Cedar Rapids, Iowa**

Sample No.	Sample Location	Material Sampled	Sample Results (milligrams/liter)
CRS - 01	Firing Range	Ceiling Tile	0.387
CRS - 02	Firing Range	Floor Debris	34.2
CRS - 03	Firing Range	Duct Insulation	0.728
CRS - 04	Firing Range	Sand Pit	1,780
CRS - 05	Exterior - at roof drain	Soil	5.31
CRS - 06	Exterior - at property line	Soil	0.161



LEGEND FOR COILS

NO.	TYPE	DESCRIPTION	UNIT
1	WATER	WATER COIL	100
2	WATER	WATER COIL	100
3	WATER	WATER COIL	100
4	WATER	WATER COIL	100
5	WATER	WATER COIL	100
6	WATER	WATER COIL	100
7	WATER	WATER COIL	100
8	WATER	WATER COIL	100
9	WATER	WATER COIL	100
10	WATER	WATER COIL	100
11	WATER	WATER COIL	100
12	WATER	WATER COIL	100
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18	WATER	WATER COIL	100
19	WATER	WATER COIL	100
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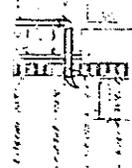
U.S. Army Corps of Engineers  
 1st U FORCES RESERVE CENTER  
 1st FLOOR PLAN  
 VENTILATION & CHILLED WATER

DATE: 28-00-01



PLAN  
 1/4" = 1'-0"

FAN COIL UNIT BRZ



NOTE: See drawing 28-00-01, 28-00-02, 28-00-03, 28-00-04, 28-00-05, 28-00-06, 28-00-07, 28-00-08, 28-00-09, 28-00-10, 28-00-11, 28-00-12, 28-00-13, 28-00-14, 28-00-15, 28-00-16, 28-00-17, 28-00-18, 28-00-19, 28-00-20, 28-00-21, 28-00-22, 28-00-23, 28-00-24, 28-00-25, 28-00-26, 28-00-27, 28-00-28, 28-00-29, 28-00-30, 28-00-31, 28-00-32, 28-00-33, 28-00-34, 28-00-35, 28-00-36, 28-00-37, 28-00-38, 28-00-39, 28-00-40, 28-00-41, 28-00-42, 28-00-43, 28-00-44, 28-00-45, 28-00-46, 28-00-47, 28-00-48, 28-00-49, 28-00-50, 28-00-51, 28-00-52, 28-00-53, 28-00-54, 28-00-55, 28-00-56, 28-00-57, 28-00-58, 28-00-59, 28-00-60, 28-00-61, 28-00-62, 28-00-63, 28-00-64, 28-00-65, 28-00-66, 28-00-67, 28-00-68, 28-00-69, 28-00-70, 28-00-71, 28-00-72, 28-00-73, 28-00-74, 28-00-75, 28-00-76, 28-00-77, 28-00-78, 28-00-79, 28-00-80, 28-00-81, 28-00-82, 28-00-83, 28-00-84, 28-00-85, 28-00-86, 28-00-87, 28-00-88, 28-00-89, 28-00-90, 28-00-91, 28-00-92, 28-00-93, 28-00-94, 28-00-95, 28-00-96, 28-00-97, 28-00-98, 28-00-99, 28-00-100

**APPENDIX E  
CEDAR RAPIDS, IOWA  
U.S. ARMY RESERVE CENTER**

**Inventory of Items to Be Disposed Of**

Item	Approximate Quantity
Chain link fence - 8-foot section	1

**Inventory of Items to Be Cleaned**

Item	Approximate Quantity
Tables	2
12' Chalkboard	1
Wooden doors	6

1999 ENVIRONMENTAL BASELINE STUDY

COVER SHEET ACTION FORM			
For use of this form, see 89TH RSC PAM 25-1; the proponent agency is ODCSIM.			
SUBJECT:	Environmental Baseline Study for AFRC - Cedar Rapids, IA		
FROM:	FREDDIE L. MELTON, JR.		
ACTION REQUIRED			
APPROVAL OF <input type="checkbox"/>	INFORMATION ONLY <input type="checkbox"/>		
SIGNATURE OF <input type="checkbox"/>			
CXO			
CofS			
CSM			
DCG			
CG			
SUMMARY			
<p>1. PURPOSE: To assess any potential environmental impacts from the relocation of the 917th Quartermaster Company from the USARTC in Belton, MO to the AFRC in Cedar Rapids, IA</p> <p>2. DISCUSSION: All troop movements must receive environmental review prior to initiation.</p> <p>3. RECOMMENDATION: JAG review, comment, and/or approve EBS.</p>			
CONCURRENCE/NONCONCURRENCE			
OFFICE	NAME	DATE	ACTION BY APPROVING OFFICIAL
SJA	LTC RUPPER	16 Dec 95	APPROVED _____ DISAPPROVED _____ SEE ME _____ NOTE CHANGES _____
CONSIDERATION OF NONCONCURRENCE IS AT TAB _____			
ACTION OFFICER (Name, Phone No.) STAFF CHIEF APPROVAL			
FREDDIE L. MELTON, JR, EXT 488 JOHN A. FENILL, EXT 223			

89TH RSC FORM 1 Oct 88 1-1

Previous Editions Are Obsolete

**PROPERTY INSPECTION CHECKLIST FOR ENVIRONMENTAL BASELINE STUDIES**  
(The proponent agency is ODCSIM)

LOCATION: AFRC, CEDAR RAPIDS, IA FACILITY ID: IA003 PROJECT NO: \_\_\_\_\_  
 PROJECT NAME: 917TH QM MOVE FROM BELTON (MO) TO CEDAR RAPIDS (IA) OCS  
 PROPOSED ACTION: RELOCATION OF 917TH QM

- I. PROPERTY USE:  
 A. CHECK ALL THAT APPLY.
- |              |   |            |  |       |  |
|--------------|---|------------|--|-------|--|
| RESIDENTIAL  | X | INDUSTRIAL |  | MIXED |  |
| AGRICULTURAL |   | COMMERCIAL |  | OTHER |  |
- B. ADJACENT PROPERTY USE AND TOPOGRAPHIC RELATIONSHIP
- |       |                             |       |
|-------|-----------------------------|-------|
| NORTH | Matterhorn Dr., residential | LOWER |
| SOUTH | Unimproved land             | LOWER |
| EAST  | Wenig Road, residential     | LOWER |
| WEST  | Residential                 | LOWER |

- C. ATTACH COPY OF INSTALLATION MAP SHOWING FOOTPRINT OF AREA UNDER CONSIDERATION.
- II. SITE OWNERSHIP HISTORY AND USE:
- CURRENT OWNER: U.S. Army (since 1964)
  - CURRENT LAND USE: AFRC
  - PREVIOUS OWNER(S): Harold and Mabel Ross
  - PREVIOUS LAND USE: Grazing land (agricultural)

- III. PROPOSED FUTURE USE(S):
- TYPE USE(S): Continued use.
  - USER POPULATION: Addition of one USAR QM unit
  - ANY OBVIOUS USE RESTRICTIONS:

- IV. FEATURES / COMMENTS:
- |  |  |
|--|--|
| NUMBER AND TYPE OF BUILDINGS / STRUCTURES ON PROPERTY: |  |
| P0001  | 17140 Armed Forces Reserve Center 34256 sf (occupied since Jul 66) |
| P0002  | 21409 QMS (USAR/USNR) 3800 sf                                      |
| P0003  | 44240 Flammable Storage Bldg 580 sf                                |
| 6.18 acres of land, POY = 6120 sy, MEP = 1530 sy       |  |

- V. SITE INSPECTION:
- A. ENVIRONMENTAL CONDITIONS OBSERVED (SHOW LOCATION ON FACILITY MAPS).
- |  |     |    |     |         |
|--|-----|----|-----|---------|
|  | YES | NO | N/A | REMARKS |
|--|-----|----|-----|---------|

- |                                  |  |   |  |   |
|----------------------------------|--|---|--|---|
| 1. SUSPICIOUS/UNUSUAL ODORS      |  |   |  |   |
| 2. DISCOLORED SOIL               |  | X |  |   |
| 3. DISTRESSED VEGETATION         |  | X |  |   |
| 4. DIRT / DEBRIS MOUNDS          |  | X |  |   |
| 5. GROUND DEPRESSIONS            |  | X |  |   |
| 6. POL STAINING                  |  | X |  |   |
| 7. ASBESTOS CONTAINING MATERIALS |  | X |  | Need to get new permit show where it is and give them asbestos analysis |

USARC FORM 71-R (TEST)  
1 JUL 96



DEPARTMENT OF THE ARMY

HEADQUARTERS, UNITED STATES ARMY 88TH REGIONAL SUPPORT COMMAND  
2600 NORTH WOODLAWN STREET  
WICHITA, KANSAS 67220-2799

SERVO  
ATTENTION OF

RECORD OF ENVIRONMENTAL CONSIDERATION

TO: 88th RSC Engineering/Planning Section

FROM: 88th RSC Engineering/Environmental Section

PROJECT TITLE: Relocation of the 917th Quartermaster Company

DESCRIPTION OF PROPOSED ACTION: The 917th QM will be moved from the U.S. Army Reserve Training Center (USARTC) in Belton, MO to the Armed Forces Reserve Center (AFRC) at 1599 NE Weng Rd., Cedar Rapids, IA 52402-3799.  
FAC ID#s MO001 and IA003

ANTICIPATED DATE AND/OR DURATION OF PROPOSED ACTION: 1999

REASON FOR USING RECORD OF ENVIRONMENTAL CONSIDERATION: (choose one)

a. Adequately cover in the existing EA \_\_\_\_\_ EIS \_\_\_\_\_ entitled: \_\_\_\_\_ and dated \_\_\_\_\_

OR,

b. Qualifies for categorical exclusion A-13, AR 200-2, Appendix A, because it is routine movement of personnel and no extraordinary circumstance exist and defined in Paragraph 4-2.

Additional supporting documentation Environmental Baseline Study, Relocation of the 917th Quartermaster Company from the USARTC in Belton, MO to the AFRC, Cedar Rapids, IA and dated 2 March 1999.

c. This REC is for the Relocation of the 917th Quartermaster Company from Belton, MO to the AFRC, Cedar Rapids, IA. Any changes, modifications or adjustments to the scope of work, contract or work plan, subsequent to the date on this document makes this REC null and void.

PREPARED BY: Maria Lehner DATE: 3 Mar 99  
MARIA LEHNER  
Environmental Scientist  
Bregman & Company, Inc.

REVIEWED BY: John O'Fallon DATE: 16 Apr 99  
JOHN O'FALLON, JR.  
Supervising Environmental Specialist  
U.S. Army 88th Regional Support Command

APPROVED BY: John O'Fallon DATE: 16 Apr 99  
JOHN A. FALLON  
Facility Management Officer  
U.S. Army 88th Regional Support Command

YES NO N/A REMARKS

8. ABOVE GROUND STORAGE TANK

LOCATION(S): \_\_\_\_\_  
SIZE / PRODUCT: \_\_\_\_\_

9. UNDERGROUND STORAGE TANK

LOCATION(S): \_\_\_\_\_  
SIZE / PRODUCT: \_\_\_\_\_

10. LANDFILLS / WASTE PILES

11. IMPOUNDMENTS / LAGOONS

12. INJECTION WELLS

13. DRUM / CONTAINER STORAGE

PRODUCT: Used ant. freeze. Next to oms

14. INCINERATOR

15. ELECTRICAL TRANSFORMERS

16. STANDPIPES / VENT PIPES

17. DISCHARGES TO SURFACE WATERS / DITCHES

18. POWER OR PIPE LINES

19. MINING / LOGGING ACTIVITY

20. GROUNDWATER MONITORING WELLS

21. OTHERS: \_\_\_\_\_

B. CULTURAL RESOURCES: (HISTORIC PROPERTIES / ARCHAEOLOGY)

None known. This will not affect facility. Unit will occupy only. No renovation associated with relocation. Submit 1904.

C. ENDANGERED / THREATENED SPECIES: (STATE / FEDERAL LIST)

None known. N/A

D. HAS AN EIS, EA, OR EIS BEEN PREVIOUSLY COMPLETED?

Dis. Title for EIS lines

LOCATION: 88th RSC - Cedar Rapids, IA

SOURCE: 88th RSC

DATE: 29 Jul 99

VI. MAPS

VII. OTHER INFORMATION

VIII. RECOMMENDATIONS: Unit request flammable storage cabinets before moving into facility or bring stock with it. They have any flammable materials.

IX. PREPARED BY: Maria Lehner APPROVED BY: \_\_\_\_\_

TITLE: Environmental Scientist TITLE: \_\_\_\_\_

DATE: 3 Mar 99 DATE: \_\_\_\_\_

**ENVIRONMENTAL BASELINE STUDY  
RELOCATION OF THE 917TH QUARTERMASTER COMPANY FROM  
BELTON, MO TO THE ARMED FORCES RESERVE CENTER, (AFRC), CEDAR RAPIDS, IA  
FAC ID#s MO001 AND IA003**

1. An Environmental Baseline Study (EBS) is being completed for the relocation of the 917th Quartermaster Company from the U.S. Army Reserve Training Center (USARTC) in Belton, MO to the AFRC, located at 1589 Weng Rd. NE, Cedar Rapids, IA (Appendix A). There are three buildings located at this site. There is a two story brick administrative building that is 34,256 square feet, a brick, three bay Organizational Maintenance Shop (OMS) that is 3,800 square feet and a small brick storage building that is 580 square feet. There is also a 6,120 square yard Privately Owned Vehicle (POV) parking lot and a 1,530 square yard Military Equipment Parking (MEP) lot. The facility was built in 1964. Company A of the 308th Quartermasters, Detachment 1 of the 4224th USA Hospital and the Navy Reserves currently occupy the facility.

2. There are no environmental concerns noted with this relocation.

4. Recommendation: Recommend the new unit submit requests for flammable storage cabinets to store any flammable items they be required to keep on hand, since the availability of these cabinets is minimal. Also, that since this unit is being reorganized, that they assign a unit hazardous waste manager and send them to the 89th RSC 40 hour Hazardous Waste Course.

5. This EBS is for the Relocation of the 917th Quartermaster Company from Belton, MO to the AFRC, Cedar Rapids, IA. Any changes, modifications or adjustments to the scope of work, contract or work plan, subsequent to the date on this document, makes this EBS null and void.

**ENVIRONMENTAL BASELINE STUDY (EBS) INFORMATION CHECKLIST**

**SITE NAME:** Armed Forces Reserve Center  
**PROJECT:** Relocation of the 917th Quartermaster Company  
**ADDRESS:** AFRC  
 1599 Weng Rd. NE  
 Cedar Rapids, IA 52402-3799  
**DATE:** 2 March 1999

**ENDANGERED RESOURCES**

There are no known threatened or endangered species located at this site. The facility is located in a residential area which has been in undergoing development. The addition of this unit should affect endangered resources that may be in the area.

**CULTURAL RESOURCES**

The facility was built in 1964. There will be no renovation or construction associated with this relocation. Therefore, no impact on cultural or historical resources is expected.

**WETLANDS, FLOODPLAINS, AND WATERBODIES**

The property is located approximately one half mile from the Cedar River. The Iowa Department of Natural Resources (IDNR) was contacted to determine if the facility was located within the floodplain of the Cedar River. Mr. Jeff Mumm, of the IDNR, responded that the facility was not located within the floodplain. There are no wetlands located on or in close proximity of the facility or project area. There is no impact expected on any wetland, floodplain or waterbody from this relocation.

**UNEXPLODED ORDNANCE**

There may be some unexploded bullets located in the indoor firing range. This range has been closed since 1985 with a warning sign posted on the door limiting entry. Any unexploded ordnance will be removed once the range is either cleaned and converted to a storage area or is cleaned for reuse.

**HAZARDOUS MATERIALS AND/OR WASTE SPILLS**

There have been no spills reported or documented on or near the project area. Currently there are organizational level maintenance being conducted in the OMS. Organizational maintenance includes oil changes, replacement and cleaning of parts and addition of fluids to vehicles. Currently, there are some cleaning, training and painting materials, along with various petroleum products located at the facility. The new unit will have some vehicles, NBC equipment and additional petroleum products. The new unit should acquire flammable storage cabinets for any flammable items they may bring into the facility since there is limited storage for flammable materials. Any waste oil, antifreeze or oil filters may be combined with the other unit located there provided appropriate confirmation with the 960th.

**ASBESTOS**

There is not a complete asbestos survey for this facility. This action will not involve the disturbance of any asbestos containing materials. Personnel in the new unit will be required to have asbestos awareness training.

PREPARED BY: Maria Lehner DATE: 2 Mar 99

MARIA LEHNER  
 Environmental Scientist  
 Bregman & Company, Inc.

REVIEWED BY: Freddie L. Melton, Jr. DATE: 16 Apr 99

FREDDIE L. MELTON, JR.  
 Supervising Environmental Specialist  
 U.S. Army 89th Regional Support Command

APPROVED BY: John A. Fenili DATE: 16 Apr 99

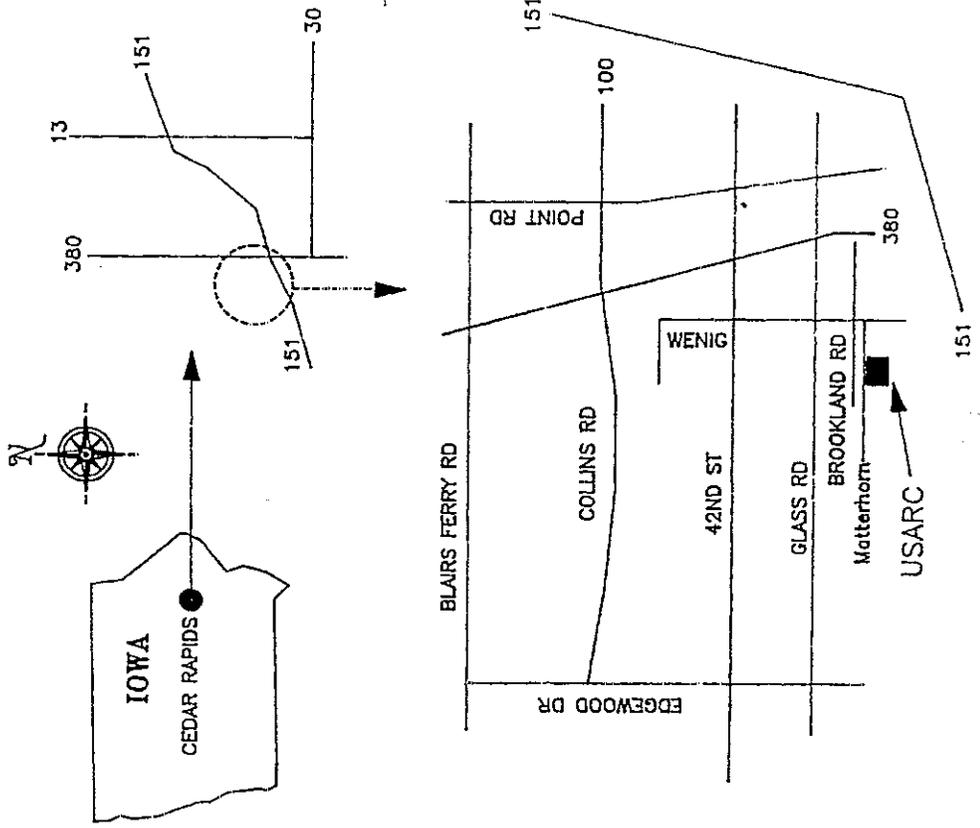
JOHN A. FENILI  
 Facility Management Officer  
 U.S. Army 89th Regional Support Command

# CEDAR RAPIDS AFRC

1599 Wenig Road NE  
Cedar Rapids, IA 52402-3799

319-362-6620

FACID - IA003



APPENDIX A  
SITE MAP  
RELOCATION OF THE 917TH QM TO CEDAR RAPIDS, IA  
2 MARCH 1999

## ATMOSPHERIC LEAD PARTICLES IN INDOOR SHOOTING RANGES

There is an indoor firing range on site that has been closed temporarily. This range will remain closed until it can be cleaned for reuse or closure. The new unit will not be allowed in the firing range for any reason until the time that it is cleaned and cleared for reuse.

## ON SITE OF OLD LANDFILL

There is no evidence that the project area is built on or near a former landfill of any type.

## RADON

This facility was tested for radon and results fell below the Environmental Protection Agency's (EPA) action level of 4.0 picocuries/liter.

## PCBs/DEHPs

There is no inventory of PCB containing items in this facility. It is likely that the light ballasts contain either PCBs and DEHPs. If any ballasts are leaking or damaged, they should be tested for PCBs, unless labeled otherwise, and disposed of in accordance with state and federal regulations. There are no plans to repair, remove or modify any item that may contain either of these compounds.

## LEAD-BASED PAINT

Due to the age of the building it is possible that a base layer of paint contains lead. However, the interior of the building was repainted with a latex paint. There are no plans to disturb any painted surfaces as part of this action.

## UNDERGROUND STORAGE TANKS (UST)

No underground storage tanks exist on site or are believed to exist on site.

## NOISE

The facility has negligible noise levels. This relocation may increase noise levels, but those levels are not expected to be significant. All noise complaints will be logged in and dealt with case by case.

## CLEAN AIR

The facility is not located within a non-attainment area. Also, a 1995 survey of the facility by Earth Tech, determined that the facility falls below any Title V reporting requirements. There will be no significant increase in air emissions with this project.

## OZONE DEPLETING CHEMICAL (ODC) PHASE OUT

There is no inventory of ODC containing equipment in the facility. However, this action will not involve work, repair or removal of any possible ODC containing equipment.

## BACKFLOW PREVENTION

Backflow prevention devices were placed on the main water line and boiler in 1988. The backflow devices are checked annually.

## STORMWATER

Currently, there are no stormwater permits associated with this facility. There is no additional stormwater requirements associated with movement of this unit. A few vehicles will be added to the parking lot, but no stormwater patterns will be changed or affected.

## POLLUTION PREVENTION OPPORTUNITIES

There are generally four areas of concern in considering pollution prevention opportunities at the Cedar Rapids AFRC. They are: Hazardous materials, hazardous waste, solid waste and ozone depleting substances.

## Hazardous Materials:

- Turn over to RXA or DRMO all materials not currently used in facility operations.

- Don't order limited use items until existing stock is depleted and ensure that the quantity ordered is in proportion to the amount required for the job.
- Keep amount of hazardous materials to a minimum and properly store materials so that they don't become unusable.
- When ordering a material, substitute a less hazardous material when available.
- Replace solvent based paint with water-based paint
- Replace conventional lead-acid vehicle/equipment batteries with sealed, starved electrolyte, gas recombination batteries (Gel batteries)
- Recycle lead-acid batteries

**Hazardous Waste**

- Reduce the number of times that parts washers solvent has to be replaced, by replacing current parts washers with washers that filter solvents, thereby, increasing the life of solvent
- Recycle spent antifreeze.
- Recycle burned out fluorescent bulbs rather than disposing of them in the trash.
- Recycle light ballasts labeled as containing PCBs.

**Solid Waste**

- The facility should recycle paper, aluminum cans, scrap metal, corrugated cardboard, and non-PCB light ballasts.
- Biodegradable waste (grass clippings, brush etc.) should be composted.
- Wash and reuse oily, dirty rags.
- Separate all waste POL products prior to disposal. Contract to have waste oil and other POL products collected for recycling.
- Replace the use of disposable alkaline batteries with rechargeable alkaline batteries.
- Recycle used tires.
- Drain all oil filters and turn in for recycling as scrap metal.
- Place fluids drained from equipment for purposes other than replacement, in clean containers such that they can be reused.

**Ozone-depleting Substances**

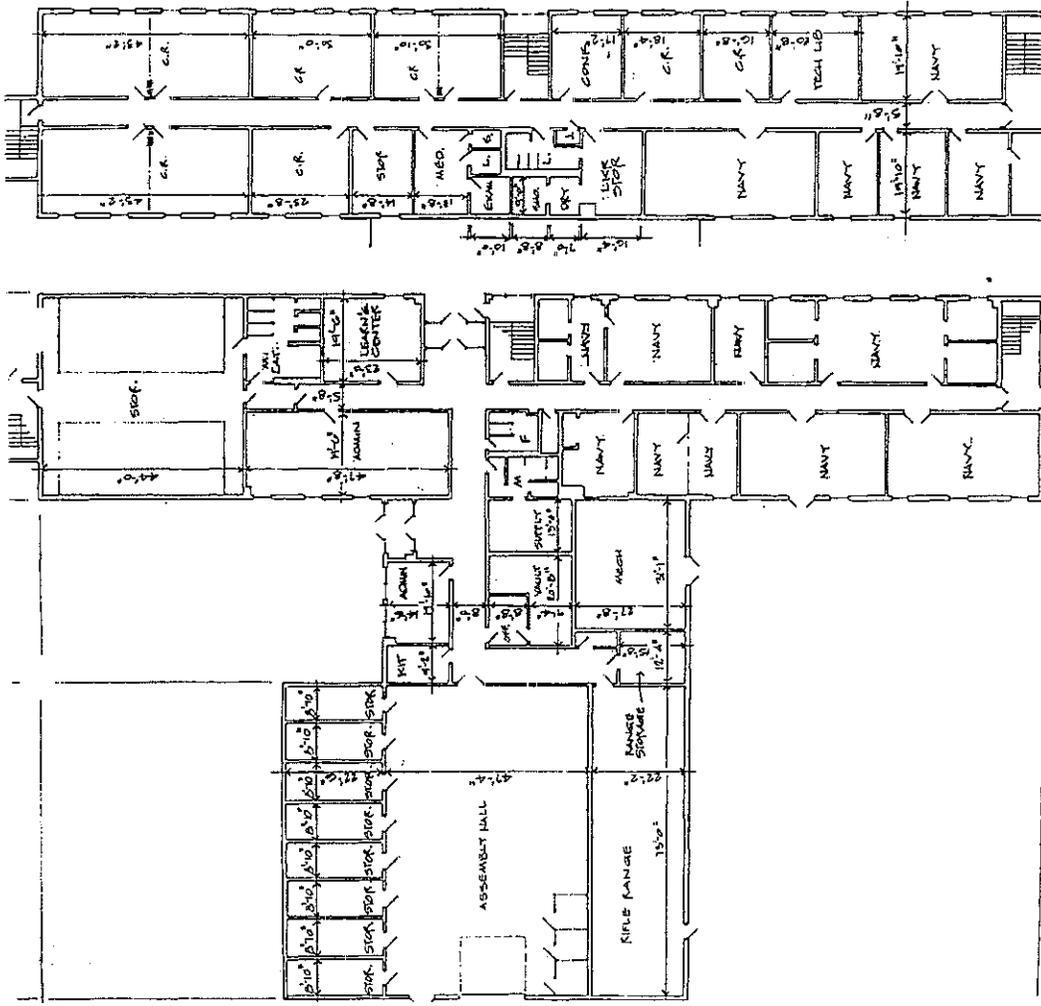
- ODS identified in the facility should be replaced with acceptable substitutes.

**ENERGY CONSERVATION CONTROLS**

Not applicable.

**PERMITS REQUIRED (OTHER THAN CONSTRUCTION)**

None.



UPPER FLOOR PLAN

LOWER FLOOR PLAN



FLOOR PLANS  
UNITED STATES ARMY RESERVE  
CENTER  
CEDAR RAPIDS, IOWA

APPENDIX A (cont)  
SITE MAP  
RELOCATION OF THE 917TH QM TO CEDAR RAPIDS, IA  
2 MARCH 1999



2003 PHASE I ARCHAEOLOGICAL SURVEY

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**ARCHAEOLOGICAL SURVEY SHORT REPORT FORM**

**PHASE I ARCHAEOLOGICAL SURVEY OF THE  
UNITED STATES ARMY RESERVE TRAINING  
CENTER**

**CEDAR RAPIDS, LINN COUNTY, IOWA**

**Prepared for**

**89<sup>th</sup> Regional Readiness Command  
Army Reserve Headquarters  
Wichita, Kansas**

**Prepared by**

**THE CULTURAL RESOURCE GROUP  
THE LOUIS BERGER GROUP, INC.  
Marion, Iowa**

**FINAL  
October 2003**

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**ARCHAEOLOGICAL SURVEY SHORT REPORT**

State Historical Society of Iowa  
The Historical Division of the Department of Cultural Affairs  
600 E. Locust  
Des Moines, Iowa 50319-0290

R & C# : \_\_\_\_\_  
Reviewer: \_\_\_\_\_  
Date: \_\_\_\_\_  
ASSR Accepted: Yes ( ) No ( )

**Locational Information and Survey Conditions**

County(ies): Linn  
Quadrangle(s): Cedar Rapids North, Iowa (7.5) Date(s): 1994  
Project type/title: Phase I Archaeological Survey of the U.S. Army Reserve Training Center (USARTC), Cedar Rapids, Linn County, Iowa

Responsible federal/state agencies: 89<sup>th</sup> Regional Readiness Command, U.S. Army Reserve

Legal Location: \_\_\_\_\_ NE 1/4 \_\_\_\_\_ NE 1/4 \_\_\_\_\_ NE 1/4, Sec. 17 T. 83N R. 7W  
(if needed) : \_\_\_\_\_ SE 1/4 \_\_\_\_\_ NE 1/4 \_\_\_\_\_ NE 1/4, Sec. 17 T. 83N R. 7W  
(if needed) : \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4, Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_  
UTM coordinates: N 4650850 to 4651085, E 609350 to 609445  
(if needed) : N \_\_\_\_\_ to \_\_\_\_\_, E \_\_\_\_\_ to \_\_\_\_\_

Project description: The undertaking entails installation of perimeter fencing at USARTC in Cedar Rapids, Iowa (Figure 1 and 2). Since installation is proposed for unspecified portions of the facility perimeter, the entire property is included in the area of potential effects (APE). The APE is approximately 235 meters north-south (771 feet) and 95 meters east-west (312 feet), encompassing 19,950 square meters or 4.9 acres. Ground disturbance will be limited to auger holes at individual post locations. No trenching, grading, or other large scale ground disturbance is anticipated.

**Topography**

Soil associations: Fayette-Downs-Chelsea association (gently sloping to very steep, well-drained to excessively drained soils formed in silty and sandy uplands); Fayette Silt Loam ranging from 5% slope at landform summit to 30% slope at periphery, moderately eroded.  
Reference: Schermerhorn et al. 1975

Landform: Southern edge of the Iowan Surface (see inset, Figure 1). The project area is situated on an upland summit in steeply dissected terrain overlooking the outside of a bend of the Cedar River. The summit was probably quite narrow in its natural state, but there was extensive site preparation for the existing facility and the summit is now a broad, artificially leveled surface with steep (artificial) slopes on the east and parts of the south and west sides.  
Reference: Prior 1991

Drainage name: Cedar River, 370 meters (1220 feet) to the southwest.

Land use/ground cover/percent visibility: Project area is occupied by the USARTC training facility, built ca. 1965 (Figure 3). The facility includes a two-story office/classroom building with attached garage in the center of the property, and a vehicle maintenance building in the southwest corner. An asphalt parking lot occupies much of the north half of the property with an access drive and additional parking area along the west and south sides of the building. All construction is slab-on-grade. Approximately 44% of the property is occupied by buildings, parking lots, access drives, and concrete sidewalks. The remainder of the property is landscaped with grass and tree cover that provides no ground surface visibility. Multiple city and private are buried utilities throughout the project area.

Survey limitations: None

**ARCHAEOLOGICAL SURVEY SHORT REPORT**

State Historical Society of Iowa  
The Historical Division of the Department of Cultural Affairs  
600 E. Locust  
Des Moines, Iowa 50319-0290

R & C# : \_\_\_\_\_  
Reviewer: \_\_\_\_\_  
Date: \_\_\_\_\_  
ASSR Accepted: Yes ( ) No ( )

**Archaeological and Historical Information**

Previously reported sites: There are no previously recorded archaeological sites within the current survey area. Eight archaeological sites have been recorded within approximately one mile of the project area on upland summits and ridges north of the Cedar River. Sites 13HN2, 13HN3, 13HN4 and 13HN658 are prehistoric mounds or mound groups; sites 13HN183 and 13HN184 are prehistoric artifact scatters; Site 13HN131 is a prehistoric open habitation; and Site 13HN609 has two components including a prehistoric open habitation and a Euro-American site including building and other structural remains.

Previous surveys: No previous archaeological surveys in the project area.

Citation(s): OSA Site Files  
Regional archeologist contacted: Randall Withrow Phone number: (319) 373-3043

Investigation techniques: Investigations consisted of archival background research and field investigations within the project area. Background research include review of the Iowa Site Files at the University of Iowa Office of the State Archaeologist, and of historic maps available at the State Historical Society of Iowa in Iowa City. Field investigation included pedestrian reconnaissance followed by systematic and selective shovel testing. *(continued on page 6.)*

Historical sources consulted: Illustrated Historical Atlas of the State of Iowa (Andreas 1875); The History of Linn County, Iowa (Western Historical Company 1878); Atlas of Linn County, Iowa (Bergendahl 1895); Atlas of Linn County, Iowa (The Iowa Publishing Company 1907); Atlas and Directory of Rural Taxpayers of Linn County, Iowa (Wingert and Leefer's Publishing Company 1914); Atlas of Linn County, Iowa (Midland Map and Engineering Company 1921); Kenyon's Plat Book of Linn County, Iowa (The Kenyon Company, Inc. 1930); New Atlas of Linn County, Iowa (Wood Atlas Co. 1938); aerial photograph "3A-152" (University of Iowa Map Collection 1940).

Time expended: 1 day Person hours: 16 hours  
Area surveyed: 4.9 acres; 19,950 square meters

**Contractor and Surveyor Information**

Archeological contractor: The Louis Berger Group, Inc.  
Address: 950 50<sup>th</sup> Street  
Marion, Iowa 52302

Surveyor's names: Laura Elsinger and Francis Nix

Date(s) surveyed: August 18, 2003  
ASSR completed by: Laura Elsinger  
Submitted by: Thomas J. Chadderdon (title) Senior Archaeologist Signature: \_\_\_\_\_

Address (if the address is not the same as the Contractor Address): Same

**ARCHAEOLOGICAL SURVEY SHORT REPORT**

State Historical Society of Iowa  
The Historical Division of the Department of Cultural Affairs  
600 E. Locust  
Des Moines, Iowa 50319-0290

R & C# : \_\_\_\_\_  
Reviewer: \_\_\_\_\_  
Date: \_\_\_\_\_  
ASSR Accepted: Yes ( ) No ( )

**Attachments Check List**

- X   1. Project location map depicting general location, scale, and north arrow.
- X   2. U.S.G.S. topographic map depicting project limits, scale, north arrow, and date of map.
- X   3. Sketch map(s) depicting project limits, scale, north arrow, date of map, all subsurface test, shovel probes, soil cores, and soil profiles.
- 4. Copies of historical plat map(s) consulted.
- X   5. Relevant depiction(s) of soil profiles and soil description(s).
- X   6. References cited section.
- X   7. Additional information sheets as necessary.

**Contractor and ASSR Assurance Control**

I (We), the (Co-) Principal Investigator(s) Thomas J. Chadderdon

\_\_\_\_\_ (sign here),  
do hereby assure that the Phase I archeological reconnaissance has located no archeological materials or no historic properties (sites over 50 years of age from the date of this report); project clearance is recommended.

Address of agency to whom SHPO comment should be mailed: Attn: Kate Ellison, Environmental Coordinator  
Omaha U.S. Army Reserve Center  
2101 Woolworth Avenue  
Omaha, Nebraska 68108

Comments: No cultural resources were identified as a result of the investigations. Historical plats and atlases were reviewed with the following results: For the years 1875, 1878, 1895 and 1907, no structures are represented within the project area, although the land appears to have been cleared of vegetation early with respect to the surrounding landscape. In 1914, the owner is identified as G.K. Wenig, however, the project area is still absent any structures. The historic map of 1921 indicates a change of ownership to John W. Griffith and a structure does appear at the approximate location of the current facilities' main building. The historic structure was probably a private dwelling. By 1930, the structure was no longer depicted and ownership had been modified to John W. and E. Griffith. An aerial photograph dated 1940 shows what appears to be a dense clump of trees in the approximate location of the former structure, but no structure is visible. There appears to be an access drive extending north and east from the grove linking this location to Wenig Road.

*(continued on page 6)*

Reviewers' comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ARCHAEOLOGICAL SURVEY SHORT REPORT**

State Historical Society of Iowa  
 The Historical Division of the Department of Cultural Affairs  
 600 E. Locust  
 Des Moines, Iowa 50319-0290

R & C# : \_\_\_\_\_  
 Reviewer: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 ASSR Accepted: Yes ( ) No ( )

**Attachments****RESULTS OF SUBSURFACE TESTING**

Note: NCM=No Cultural Material

TEST #	DEPTH (CM)	SOIL HORIZON/ SEDIMENT PACKAGE	DESCRIPTION	RESULTS (ALL MATERIAL DISCARDED IN FIELD)
1	0-25	Imported fill; Top dressing	Mixed, dirty, primarily 10YR 4/3 Sandy Loam	bottle glass, brick, plastic, coal
	25-32	Imported fill; Dressing/Leveling	Mixed, clean, primarily 2.5Y 6/4 Silt	NCM
	32-40	B horizon; truncated	10YR 4/4 Silty Clay Loam, blocky	NCM
	40-57	B horizon	10YR 4/4 Heavy Silty Clay Loam, blocky	NCM
2	0-30	Imported fill; Top dressing	Mixed, dirty, primarily 10YR 4/3 Sandy Loam	aluminum sheeting, brick, concrete, bottle glass
	30-40	Imported fill; Dressing/Leveling	Mixed, clean, primarily 2.5Y 6/4 Silt	NCM
	40-49	Fill	Mixed, primarily 2.5Y 4/2 Silt Loam	coal, clear glass shards
	49-55	Fill	Mixed, primarily 10YR 5/4 Heavy Silt Loam	NCM
	55-66	Fill	Mixed, primarily 2.5Y 4/2 Silt Loam	NCM
	66-110	Fill	Mixed, primarily 2.5Y 4/2 Heavy Silt Loam	NCM
3	0-16	Imported fill; Top dressing	Mixed, dirty, primarily 10YR 4/3 Sandy Loam	clear bottle glass, brick, coal
	16-20	Imported fill; Dressing/Leveling	Mixed, clean, primarily 2.5Y 6/4 Silt	bottle glass
	20-38	Imported fill; Grade raising	Mixed, primarily 2.5Y 4/2 Silt Loam	NCM
	38-54	Imported fill; Grade raising	Mixed, primarily 10YR 5/4 Heavy Silt Loam	NCM
	54-65	B horizon; truncated	10YR 4/4 Silty Clay Loam, blocky	NCM
4	0-20	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	coal, brick, concrete
	20-30	Imported fill; Dressing/Leveling	Mixed, clean, primarily 2.5Y 6/4 Silt	NCM
	30-44	Imported fill; Grade raising	Mixed, primarily 10YR 5/4 Heavy Silt Loam	coal, sheet plastic, Styrofoam
	44-55	C horizon; deeply truncated landform	10YR 5/4 Silt Loam, massive, sheets apart	NCM
5	0-23	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	Brick
	23-28	Imported fill; Dressing/Leveling	Clean 2.5Y 5.1 Silt Loam	NCM
	28-32	Imported fill; Grade raising	Crushed concrete rubble	Concrete construction tile
	32-46	Imported fill; Grade raising	Mixed, primarily 10YR 5/4 Heavy Silt Loam	NCM
	46-50	C horizon; deeply truncated landform	10YR 5/4 Silt Loam, massive, sheets apart	NCM
6	0-10	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	coal
	10-38	Imported fill; Grade raising	Mixed, primarily 10YR 5/4 Heavy Silt Loam	sheet plastic, concrete, glass
	38-55	B horizon; truncated	10YR 5/4 Silty Clay Loam, prismatic to blocky	NCM
7	0-7	Sod layer	10YR 5/2 Silt Loam	NCM
	7-40	Probable BE horizon; truncated	10YR 5/3 Silt Loam with white mineralization	NCM
	40-50	B horizon	10YR 5/4 Silty Clay Loam, blocky, increase Mn	NCM
8	0-10	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	slag
	10-40	Imported fill; Dressing/Leveling	Clean 2.5Y 6/4 Silt	coal
	40-45	Imported fill; Grade raising	Mixed, clean, primarily 2.5Y 5/4 Silt	NCM
	45-56	C horizon; deeply truncated landform	10YR 5/4 Silt Loam, massive, sheets apart	NCM
9	0-17	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	brick, steel pipe, plastic tape, concrete
	17-34	C horizon; deeply truncated landform	2.5Y 5/4 Silt Loam, massive, red-ox staining	NCM
	34-65	C horizon	10YR 5/4 Loamy Silt, massive, red-ox staining	NCM
10	0-12	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	NCM
	12-15	Imported fill; Dressing/Leveling	Discontinuous layer of fill gravels	NCM
	15-50	B horizon; truncated	10YR 5/4 Silty Clay Loam, blocky	NCM
11	0-12	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	brick
	12-40	B horizon; truncated	10YR 5/4 Silty Clay Loam, blocky	NCM
12	0-12	Imported fill; Top dressing	Mixed, primarily 2.5Y5/2 Silt Loam	NCM
	12-29	B horizon; deeply truncated	10YR 5/4 Silt Loam, blocky	NCM
	29-40	C horizon	10YR 5/4 Loamy Silt, massive	NCM
13	0-6	Sod layer	10YR 5/2 Silt Loam	NCM
	6-25	Probable BE horizon; truncated	10YR 5/3 Silt Loam with white mineralization	NCM
	25-37	B horizon	10YR 5/4 Silty Clay Loam, blocky, increase Mn	NCM

**ARCHAEOLOGICAL SURVEY SHORT REPORT**

State Historical Society of Iowa  
 The Historical Division of the Department of Cultural Affairs  
 600 E. Locust  
 Des Moines, Iowa 50319-0290

R & C# : \_\_\_\_\_  
 Reviewer: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 ASSR Accepted: Yes ( ) No ( )

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 Date: \_\_\_\_\_  
 ASSR Accepted: Yes ( ) No ( )

**Attachments (Cont.)****Investigation techniques (continued from page 2):**

Thirteen shovel tests were excavated in the project area in order to determine the degree of disturbance and the potential for buried surfaces that could contain archaeological deposits. Tests 1 through 6 (see Figure 3) were placed systematically at 15 or 30-meter interval along the eastern side of the project area, close to the break for the slope. Tests 8 through 12 were placed in selected locations that appeared relatively undisturbed in the north, west, south and central portions of the project area. Tests 7 and 13 were placed 15 meters apart on what appeared to be a small (approximately 15 by 25 meters) remnant of the natural landform in the extreme southeastern corner of the survey area. The location of all tests were recorded with a professional grade global positioning system unit (GPS). All subsurface tests were excavated in natural or cultural levels, and all soils and sediments excavated were screened through ¼-inch mesh hardware cloth. Test depths ranged from 37-110 centimeters.

**Comments (continued from page 3):**

Because the upland surface soil is very old, archaeological deposits can be expected at or near the natural ground surface. The initial visual assessment of the project area strongly suggested that the entire summit of the landform had been razed, presumably when the project vicinity underwent development beginning in the 1960s that included construction of the USARTC. Subsurface tests substantiated this initial impression (see Results of Subsurface Testing, attached). With the exception of the extreme southeast corner, the entire project area has been graded such that the top soil, and in the central part of the project area the entire solum, has been removed.

The modern surface package consists of several lifts of fill evident in Tests 1 through 6 and 8 through 13. The fill typically contained modern construction debris including crushed concrete and sheet plastic. While it is possible the construction debris was derived from structures that were formerly located in the project area, is just as likely to have been brought in with imported fill. In either case, the debris is in secondary context and does not constitute an archaeological site. In Test 2, the fill extended to 110 centimeters below surface. In other tests the fill ranged between 12 and 54 centimeters thick and was underlain by a dark yellowish brown or yellowish brown (10YR 4/4 or 5/4) silty clay loam B-horizon, or a yellowish brown (10YR 5/4) silt loam C-horizon. Tests 7 and 13 were placed in the southeast corner of the project area where there appeared to be a potentially intact portion of the landform. Both tests showed that the sod layer rested on what appeared to be a BE-horizon consisting of brown (10YR 5/3) silt loam, underlain by a yellowish brown (10YR 5/4) silty clay loam C-horizon. There was no evidence of a partially or completely intact A-horizon in the project area. There was no evidence of historic structures that may have predated the USARTC facility, and it is unlikely that foundations, cellars, or other subsurface features associated with a dwelling or farmstead would have survived the extensive leveling that is evident across the project area.

Therefore, no further archaeological investigations are recommended in association with the project as currently designed. However, it is important to note that no archaeological technique is completely adequate to locate all cultural resources or historic properties. Therefore, should artifacts or other evidence of unrecorded cultural resources be discovered during construction, the Iowa State Historic Preservation Office at the Community Programs Bureau, State Historical Society of Iowa, must be notified.

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2. Authors: Laura Elsinger

Year of Publication: 2003

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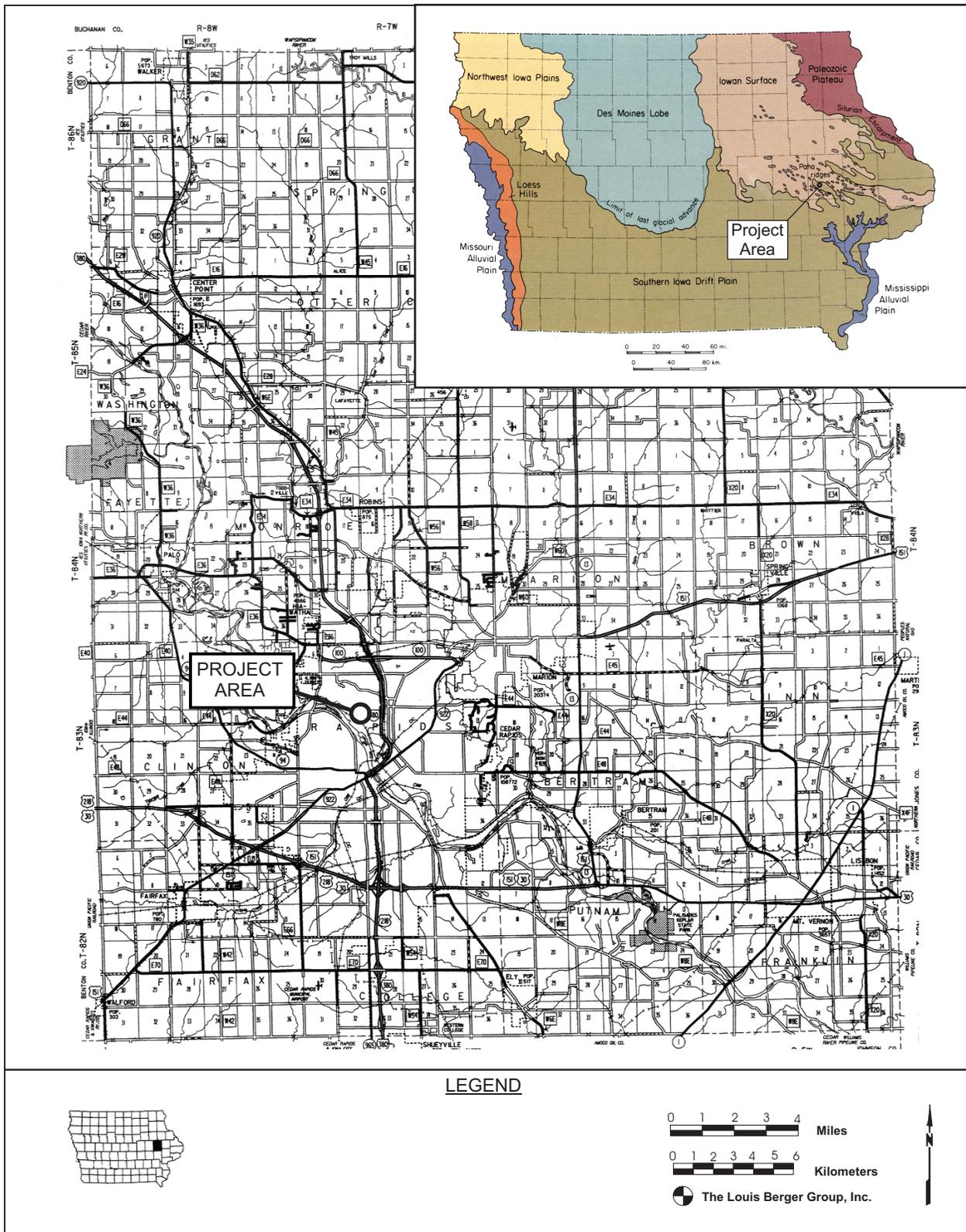
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9. Keyword: 0-Types of Resources/Features 1-Generic Terms/Research Questions  
2-Taxonomic Names 3-Artifact Types/Material Classes  
4-Geographic Names/Locations 5-Time Periods  
6-Project Names/Study Unit 7-Other Key Words  
Approximately 4.9 acres [ 7 ] \_\_\_\_\_ [ ]  
Iowan Surface Paha zone [ 4 ] \_\_\_\_\_ [ ]  
Cedar River Basin [ 4 ] \_\_\_\_\_ [ ]  
No resources [ 0 ] \_\_\_\_\_ [ ]  
\_\_\_\_\_ [ ] \_\_\_\_\_ [ ]  
\_\_\_\_\_ [ ] \_\_\_\_\_ [ ]  
\_\_\_\_\_ [ ] \_\_\_\_\_ [ ]

10. UTM Zone: 15 Easting: \_\_\_\_\_ Northing: \_\_\_\_\_  
15 Easting: \_\_\_\_\_ Northing: \_\_\_\_\_  
15 Easting: \_\_\_\_\_ Northing: \_\_\_\_\_  
15 Easting: \_\_\_\_\_ Northing: \_\_\_\_\_

11. Township: T83N  
Range: R7W





**FIGURE 1: Project Location**

SOURCE: Highway and Transportation Map of Linn County, Iowa 1995; INSET: Prior 1991



**FIGURE 2: Project Area**

SOURCE: USGS, Cedar Rapids North, 1994, 7.5' Series

2003 PHASE II OIL/WATER SEPARATOR INVESTIGATION

# Phase II Oil/Water Separator Investigation at U.S. Army Reserve Facility, Cedar Rapids, Iowa

Prepared by:  
Kent D. Becher and Jason J. Smith  
U.S. Geological Survey  
Iowa City, Iowa

For

U.S. Army Reserve  
89<sup>th</sup> Regional Support Command  
Wichita, Kansas

March 2003

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## Abbreviations

BTEX	Benzene, Toluene, Ethylbenzene, Xylene
DRO	Diesel Range Organics
GPS	Global Positioning System
GRO	Gasoline Range Organics
ID	Identification
LNAPL	Light nonaqueous phased liquid
MP	Measuring point
OMS	Organizational Maintenance Shop
PVC	Polyvinyl chloride
PID	Photo-ionization detector
QA/QC	Quality Assurance and Quality Control
RP	Reference point
RSC	Regional Support Command
TPH	Total Petroleum Hydrocarbons
TVOC	Total Volatile Organic Compounds
USAR	U.S. Army Reserve
USGS	U.S. Geological Survey
VOC	Volatile organic compound
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
µg/L	micrograms per liter

## EXECUTIVE SUMMARY

The U.S. Army Reserve 89<sup>th</sup> Regional Support Command (RSC) is responsible for the management of U.S. Army Reserve (USAR) facilities within the four-state region which includes Iowa, Kansas, Missouri, and Nebraska. In Iowa, there are USAR facilities that conduct maintenance on military vehicles and equipment in support of various Reserve Units. Most all of these maintenance facilities have oil/water separators as part of their liquid waste management equipment. Many of these separators have been in place since the facility was originally constructed and have deteriorated over time. Also, some separators may have design problems that have affected their operational integrity. The 89<sup>th</sup> RSC is concerned that these oil/water separators may be leaking or overflowing to the environment. Therefore, the 89<sup>th</sup> RSC requested in the summer of 2000 the U.S. Geological Survey (USGS) to investigate the status of all of its current oil/water separators, sand traps, and grease traps in Iowa. The USGS reported soil, grit chamber, and separator outflow data to the 89<sup>th</sup> RSC in March of 2001 in the report entitled "*Oil/Water separator investigations at U.S. Army Reserve Centers in Iowa*". Based on the results of the initial Phase I investigation, the 89<sup>th</sup> RSC decided to complete a more thorough investigation (Phase II) at selected sites to determine if the minimal soil contamination that was observed in 2000 was affecting ground-water quality. This report documents the Phase II data collected at the USAR facility in Cedar Rapids, Iowa.

The Cedar Rapids facility includes an oil/water separator that is connected to a sanitary sewer lift station. An outside wash rack with a center drain is the only connection to the separator. In the Phase I report, there were no diesel range organics (DRO) or gasoline range organics (GRO) detected in the soils around the oil/water separator and the lift station. However, total volatile organic compounds (TVOC) were detected in the soils with a portable gas chromatograph. The TVOC ranged from less than 1.0 to 184 milligrams per kilogram. The outflow from the wash rack drain to the oil/water separator appeared to be lower in volume than the inflow to the wash rack drain. The wash rack drain is constructed of cinder blocks and appeared to be leaking. The 89<sup>th</sup> RSC was concerned that there could be ground-water contamination originating from the wash rack drain or the oil/water separator and initiated a follow-up Phase II investigation.

Three soil boreholes were drilled and converted to wells. One well was drilled in the parking lot up gradient of the separator. Two of the soil boreholes were drilled down gradient of the wash rack and oil/water separator on City of Cedar Rapids property. An attempt was made to drill as close to the wash rack as possible, but the wash rack was located on the edge of a steep slope necessitating the location of the down gradient wells to more distant, stable locations. Soil samples were collected at various depths from each borehole. A split-spoon steel core sampler was used to investigate soils while the wells were being installed. Soil samples were analyzed for GRO, benzene, toluene, ethylbenzene, total xylenes (BTEX), and DRO at various depths to the water table. No GRO, BTEX, or DRO were detected above the method detection limits in any of the soil samples that were collected.

The three soil boreholes were converted to wells to determine if any ground-water contamination was occurring from the oil/water separators and to determine the ground-water flow direction. The generalized ground-water flow direction is to the southwest towards the Cedar River. Ground-water samples were collected from each well and were analyzed for GRO, BTEX, and DRO. Well IA03-3 had small detections of toluene (2.2 µg/L) and total xylenes (2.7 µg/L). Well IA03-2 had an estimated value of DRO (0.17 mg/L) that was below the reporting limit (0.25 mg/L). In addition, wells IA03-1 and IA03-2 had estimated values of total xylenes of 0.47 and 0.49 µg/L respectively (reporting limit 0.5 µg/L). No GRO was detected in any of the water samples collected. Well IA03-2 had a higher specific conductance value and a lower dissolved-oxygen concentration than the up gradient well IA03-1. This lower dissolved oxygen and higher specific conductance in well IA03-2 could be an indication of some organic contamination.

The Phase I report indicated that the outflow of water into the oil/water separator from the wash rack drain was smaller in volume than the inflow to the wash rack drain. In addition, during the collection of grit from the grit chamber, yellow paint was observed intermixed with the grit. Total xylenes and toluene are used in many types of fuels, but they are also used in paints and solvents. The detection of total xylenes and the estimated values of xylenes may be another indication in addition to observed reduced outflow from the wash drain that the wash rack drain is leaking. However, the up gradient well had an estimated value of total xylenes that would indicate that there could be an up gradient source as well. Vehicles that are stored in the parking lot maybe the source of this estimated value of total xylenes. None of the samples collected from the wells had any detections of total xylenes or toluene that exceeded any State criteria.

Based on the visual observations of the reduced outflow in the Phase I study and the detection of toluene and total xylenes in a down gradient well it appears that the wash rack drain is leaking. The wash rack drain is leaking, but the soils and ground water adjacent to the wash rack drain are not being impaired based on State criteria and the wash rack drain has a low volume of use. Periodic sampling of the monitoring wells is recommended to ensure that there is no additional ground-water contamination occurring until the wash rack drain is repaired. The monitoring wells that were installed at the facility include dedicated bailers that have been attached to the bottom of the well cap. These bailers can easily be used for future sampling of the monitoring wells.

## INTRODUCTION

The U.S. Army Reserve 89<sup>th</sup> Regional Support Command (RSC) is responsible for the management of U.S. Army Reserve (USAR) facilities within the four-state region which includes Iowa, Kansas, Missouri, and Nebraska. In Iowa, there are USAR facilities that conduct maintenance on military vehicles and equipment in support of various Reserve Units. Most all of these maintenance facilities have oil/water separators as part of their liquid waste management equipment. Many of these separators have been in place since the facility was originally constructed and have deteriorated over time. Also, some separators may have design problems that have affected their operational integrity. The 89<sup>th</sup> RSC is concerned that these oil/water separators may be leaking or overflowing to the environment. Therefore, the 89<sup>th</sup> RSC requested the U.S. Geological Survey (USGS) in the summer of 2000 investigate the status of all of its current oil/water separators, sand traps, and grease traps in Iowa. The USGS reported soil, grit chamber, and separator outflow data to the 89<sup>th</sup> RSC in March of 2001 in the report entitled "Oil/Water separator investigations at U.S. Army Reserve Centers in Iowa". Based on the results of the initial Phase I investigation, the 89<sup>th</sup> RSC decided to complete a more thorough investigation (Phase II) at selected sites to determine if the minimal soil contamination that was observed in 2000 was affecting ground-water quality. This report documents the Phase II data collected at the USAR facility in Cedar Rapids, Iowa (figure 1).

The Cedar Rapids facility includes an oil/water separator that is connected to a sanitary sewer lift station. An outside wash rack with a center drain is the only connection to the separator. In the Phase I report, there were no diesel range organics (DRO) or gasoline range organics (GRO) detected in the soils around the oil/water separator and the lift station. However, total volatile organic compounds (TVOC) were detected in the soils with a portable gas chromatograph. The TVOC ranged from less than 1.0 to 184 milligrams per kilogram. The outflow from the wash rack drain to the oil/water separator appeared to be lower in volume than the inflow to the wash rack drain. The wash rack drain is constructed of cinder blocks and appeared to be leaking. The 89<sup>th</sup> RSC was concerned that there could be ground-water contamination originating from the wash rack drain or the oil/water separator. Figure 2 shows the facility's layout and oil/water separator location.

## Objectives

The Phase II objectives are to determine if soil or ground-water contamination may be resulting from leakage of the oil/water separator or wash rack drain and to determine the ground-water flow direction in the area around the oil/water separator and wash rack. Data collected from this study will be used by the 89<sup>th</sup> RSC to determine if the oil/water separators can continue to be used to support the mission of the 89<sup>th</sup> RSC USAR and to determine if any remedial action is needed.

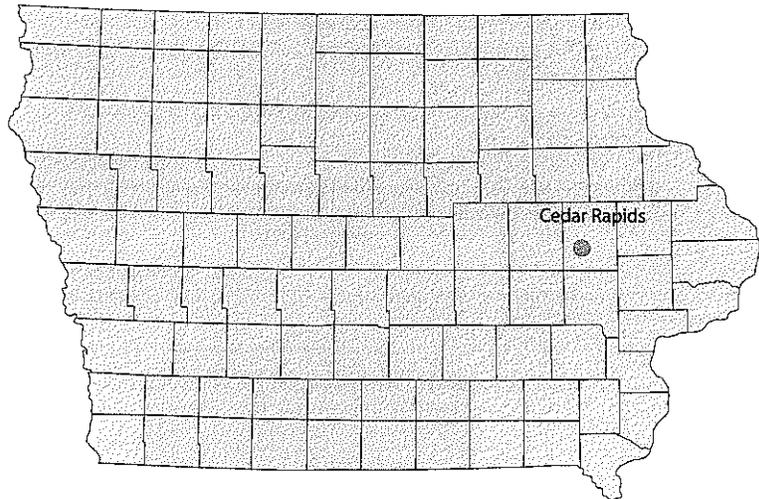


Figure 1: Map showing location of U.S. Army Reserve Center, Cedar Rapids, Iowa

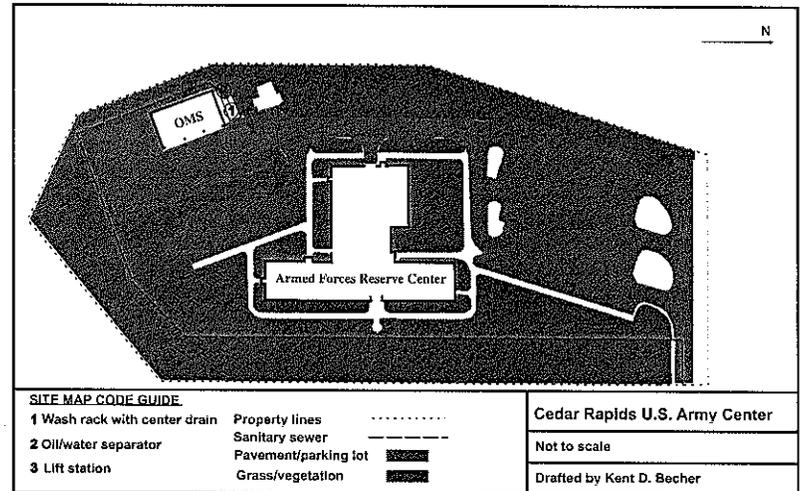


Figure 2: Schematic of U.S. Army Reserve Center in Cedar Rapids, Iowa

## Hydrogeology

The Cedar Rapids USAR facility is located in a landform region called the Iowan Surface. The Iowan Surface is characterized by gently rolling topography with long slopes and low relief. Drainage is well developed, although streams generally have slight gradients. Surficial material consists of pre-Illinoian-age (500,000 to 700,000 year old) glacial till covered by a thin veneer of windblown loess that transitions from little to none in the north to thicker deposits on the ridges in the south with alluvium near the streams. The deposits within this alluvial plain consist of clay, silt, sand, and gravel. Figure 3 shows the location of the Cedar Rapids USAR facility on a portion of the USGS 7.5-minute topographic map. The facility lies on top of a bluff above the Cedar River.

(base: USGS 7.5 Minute Topographic Map, Cedar Rapids North (1994) and Cedar Rapids South (1994))



Figure 3: Map showing topography and location of U.S. Army Reserve Center, Cedar Rapids, Iowa

## METHODS

This section describes the procedures and analytical methods used for soil sampling, well installation, and ground-water samples that were collected at the USAR facility at Cedar Rapids, Iowa.

## Soil Sample Collection

Soil borehole/well locations and target depths were selected at each site based on the results from the Phase 1 study. Iowa One Call, the underground utility checking service for all of Iowa, was contacted at least 48 hours prior to each site visit, and they coordinated with local utility companies who marked electric, gas, phone, sewer, and water lines near each drilling location. In addition, a city permit was obtained from the Cedar Rapids City Engineer's office to get permission to drill several of the soil boreholes and wells on City property.

Soil cores were collected from various depth intervals with a 2-foot long steel split-spoon sampler that was inserted into an 8.25-inch outside diameter hollow-stem auger that was powered by a drill rig. The split spoons, hollow-stem augers, and soil sampling equipment were thoroughly decontaminated before each use to ensure potential contamination from previous use was not introduced. The decontamination procedure was conducted as follows: high-pressure hot water spray, washed with Liquinox solution, rinsed using a high-pressure hot water sprayer, and finally rinsed with de-ionized water. New latex gloves were always used while handling the split spoons for each interval to ensure that no cross-contamination could occur. Once the split spoon was cleaned, it was attached to the drill rig rod and forced into the ground by using the weight of the rig or from a 150-pound slide hammer. The split spoon was pushed or pounded to a pre-selected depth in 2-foot intervals.

After each target depth and sample interval was reached, the split spoon was then brought to the surface and removed from the drilling rods. The split spoon was opened upwind of the drill rig on a clean table to avoid any contamination from exhaust fumes from the rig. A photo-ionization detector (PID) capable of detecting volatile organic compounds (VOC's) in parts per billion was then scanned across the open core barrel to determine if there was any VOC contamination within the core. A clean stainless-steel knife was used to transfer a composite soil sample from the 2-foot core to the appropriate sample bottles, thus avoiding contact with the gloves. A soil sample was collected from selected cores and placed in a 4-ounce glass jar and 16-ounce glass jar, chilled on ice, and sent to Severn Trent Laboratories in Arvada, Colorado using an overnight air carrier. The laboratory analyzed samples for GRO including BTEX compounds and DRO. Detailed descriptions of laboratory methods are described in the laboratory methods section of this report. An onsite geologist described detailed lithologies of the soil cores and drill cuttings in a logbook. Sediment type, color, size, sorting, and moisture content were documented as well as any visual staining of the soil or obvious odors. Drill cuttings and left over cores were placed onto tarps and stored onsite until soil test results assured the soil was considered non-hazardous. All tools that were used to handle the soil samples were properly decontaminated before use on the next core sample.

A laboratory chain-of-custody form was completed by project personnel to ensure that samples were analyzed for the correct constituents. The sample ID, date, time, analytical method, and name of sample collector were written on sample bottle labels and placed on the chain-of-custody form. The chain-of-custody form also included the proper contacts at the lab and at the USGS, the type of sample matrix, and any preservatives

used for the samples. Appendix A includes copies of all of the chain-of-custody forms that were submitted to Severn Trent Laboratories.

### Well Construction

An 8.25-inch outside diameter hollow-stem auger powered by a drill rig was used to drill to a target depth of about five feet into the water table. In some cases, a specialized carbide bit was used to drill through concrete. Well screens, casing, sand, and bentonite were installed with the augers in place unless the conditions allowed the hole to stay open (high clay content) in which case the entire auger assembly was removed before well installation. The drill bit and auger flights were decontaminated between holes following the procedures that were stated previously. No lubricants (with the exception of vegetable oil spray) were used on the joints of the drilling rods or on the augers to avoid any contamination from the drilling process.

A generalized monitor-well construction diagram is shown in figure 4. The total depth of each well was determined by the onsite geologist who based the depth on previous investigations at the site and moisture content of the drill cuttings and cores. The wells were designed to have at least a 2-foot screen interval above the water table to capture the presence of potential light nonaqueous phased liquids (LNAPL's) and to allow for water-table fluctuations. All wells consisted of a screen and casing of 2-inch-diameter flush-jointed polyvinyl chloride (PVC) pipe. Iowa shallow geology usually consists of very-fine grained material; so 10-slot PVC screens were used in the construction of these wells to keep out as many fines as possible in the wells. A 2-inch PVC threaded well cap was attached to the bottom of each screen. PVC well casing was threaded onto the top of the screen to about 6 inches below land surface. A PVC well cap with an air vent was then screwed on top.

A sand pack consisting of fine to medium sand was placed around the screen to at least 2-feet above the screen. The sand pack was coarse enough, so it would not clog the screen and would act as permeable material to keep formation sediments from entering the well and keep the well centralized within the original borehole. A 2-foot bentonite environmental seal was placed on top of the sand pack to create an impermeable layer. In some cases, natural formation material was backfilled from the top of the bentonite seal to a depth of about 2-feet below the surface. Concrete was placed into the remaining space in the annulus and was used to support a 9-inch diameter steel capped flush mount that was placed over the well. Flush mount installations were used to protect the wells from areas of high traffic in parking lots.

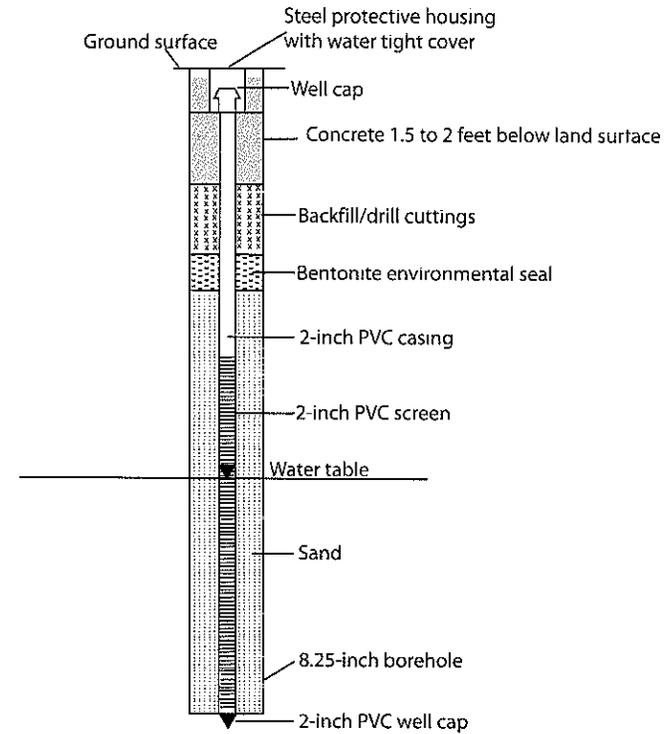


Figure 4: Generalized well-construction diagram

During drilling activities the formation walls are often smeared and clogged with fines, so well development is needed to open up the formation to conditions that represent the natural material. In addition, fines are often introduced to the sand pack and the actual well during construction. A suction pump was used to develop the wells unless the depth of the well was too deep for the suction pump. A bailer was used in the cases where the suction pump was not capable of lifting the well water. The water within the well was agitated with both methods to cause water to go in and out of the sand pack thus removing fines from the sand pack and the well itself. The overall process produces a lower turbidity in the well water.

## **Surveying the Wells**

To determine the ground-water flow direction at the site, a common vertical datum survey point was established to obtain relative differences in ground-water levels between wells. There were no readily available benchmarks in the vicinity, so a temporary reference point (RP) was established with an arbitrary value of 100 feet. Measuring points (MP) were marked on the top of each well casing. These MP's are the point from where water-level measurements should be made. A transit level was used to determine the vertical elevation of each ground-water measuring point (MP) by calculating the value of the MP from the newly established RP of 100 feet. A global positioning system (GPS) unit was used to obtain horizontal coordinates for each well. All vertical elevations and horizontal coordinates were recorded in a field notebook.

## **Water Sample Collection**

An electronic calibrated measuring tape was used to measure the static water level inside the well which was recorded in a field note book. A new and clean dedicated bailer with clean bailer rope was lowered into the well until it was partially submerged at the top of the water column. The bailer was then removed and a visual observation was used to determine if there were any LNAPL's within the bailer. Latex gloves were used while bailing to ensure that no cross contamination would occur. Care was taken to ensure that the sampling rope only touched gloved samplers or the inside of the well casing. Based on the depth of the well, static water level within the well, and the diameter of the well, a single well volume could be calculated. Before sampling began, three well volumes were removed from the well using the dedicated bailer to assure fresh formation water in the well. The well was allowed to recover before sampling would begin.

After recovery, a multi-probe down hole measuring device was lowered into the well to the top of the water table to collect the following parameters: pH, specific conductance, water temperature, dissolved oxygen, and oxygen percent saturation. The parameter readings were recorded in the field notebook after the parameters were allowed to stabilize.

The dedicated bailer was also used as the sampling device. Once a full-dedicated bailer was brought to the surface a low-flow sampler tip was gently inserted into the bottom of the bailer and the sample was allowed to flow into three 40-mL volatile organic acidified bottles. The bottles were filled slowly at an angle to reduce agitation of the water to minimize loss of the VOC's. After the VOC samples were collected, two 1-liter glass bottles were filled from bailer retrievals for GRO and DRO. All of the sample bottles were chilled on ice, and sent to Severn Trent Laboratories in Arvada, Colorado using an overnight air carrier. The samples were analyzed for BTEX compounds (benzene, ethylbenzene, toluene, and xylenes), GRO, and DRO. Upon completion of sampling, the dedicated bailer and bailer rope were inserted back in the well. The top of

the nylon rope was then tied to a hook on the well cap, which suspended the bailer in the well. The well cap was installed and the flush mount cover was bolted on to ensure water from the land surface would not penetrate into the well.

## **Laboratory Analysis**

Soil and water samples that were collected were delivered to Severn Trent Laboratories for analysis. A quality assurance and quality control (QA/QC) specialist verified that the proper analyses were conducted on each sample. In addition, the QA/QC specialist verified that all of samples that were sent to Severn Trent Laboratories met various QA/QC criteria. The QA/QC specialist also noted if the analytical holding times were exceeded. The following sections describe the methods used by the laboratories for analysis for GRO (including BTEX) and DRO.

### **Gasoline Range Organics**

Soil samples from each selected soil core were analyzed for GRO using U.S. Environmental Protection Agency method modified 8015. This method includes the analysis of BTEX compounds. GRO consists of organic compounds with the following general characteristics: alkane range of C<sub>6</sub> to C<sub>10</sub> and a boiling point range between 60 to 170 degrees Celsius. This method uses a purge and trap procedure. GRO quantification by this method is based on the flame ionization detector response to a gasoline-component standard or commercial gasoline. GRO concentrations are the sum of all the compounds detected within the method range. A photo-ionization detector is used in conjunction with this method to analyze for BTEX compounds that are commonly found in gasoline.

### **Diesel Range Organics**

Modified method 8015 is used to determine the concentration of DRO in soils and water samples. DRO consists of organic compounds with the following general characteristics: alkane range of C<sub>10</sub> to C<sub>28</sub> and a boiling point between 170 and 430 degrees Celsius. This method uses extraction with methylene chloride for sample preparation and only uses a flame ionization detector. DRO quantification is based on average flame ionization detector response determined from ten components in a diesel-component standard. DRO concentrations are the sum of all of the compounds detected within the method range.

**Quality Assurance and Quality Control**

Typically, field replicates are collected during sampling. The objective of a replicate sample is to estimate the precision of concentration values from sample processing and analysis. No field replicates were collected at this site, but there were replicates collected at another site that has been reported in a separate report.

In addition, the contract laboratory includes internal QA/QC checks. Matrix spikes and matrix duplicates are typically conducted at the laboratory. Laboratory blanks are also conducted within the laboratory whereby contaminant-free samples are placed within the analytical instruments to determine if the instrument is free of any compounds. The data tables in this report include laboratory-flagged values. Explanations of each flagged value are described in the header or footer for each table.

**RESULTS OF SITE INVESTIGATION**

**Soil**

Three soil boreholes were drilled and converted to wells. Soil samples were collected at various depths from each borehole. A PID that is capable of detecting VOC's in parts per billion was used to determine if there was any obvious contamination in each core. No VOC's were detected on site with the PID. Lithologic descriptions of soil cores and drill cuttings were noted in field notebooks. Lithology within this area consisted mostly of silt, loess, and some clay. Table 1 lists the lithology encountered from soil cores and drilling for each well.

No DRO, GRO, or BTEX were detected above the method detection limits in any of the soil samples that were collected. Table 2 lists the results of DRO, GRO, and BTEX for each borehole and sample interval.

**Table 1: Lithology of wells drilled at U.S. Army Reserve Center, Cedar Rapids, Iowa**  
[ft; feet]

Depth (ft)	Thickness (ft)	Lithology
<b>Well- IA03-1</b>		
0.0-0.4	0.4	Asphalt
0.4-2.5	2.1	Sand and gravel, tan, fill
2.5-4.0	1.5	Silt, tan, tight, dry
4.0-6.5	2.5	Silt, slightly clayey, dark brown to black
6.5-20	13.5	Silt, tan, dry, loess
20-32	12.0	Silt, slightly clayey, brown, moist, last two feet more clayey, hit bedrock at 32.0
<b>Well-IA03-2</b>		
0.0-0.4	0.4	Topsoil, grass, brown
0.4-6.0	5.6	Silt, brown to tan, tight, dry
6.0-13	7.0	Silt, brown to tan, loose, dry
13-18	5.0	Silt, tan, loose, dry
18-23	5.0	Silt, brown, loose, dry
23-36.3	13.3	Silt, slightly clayey, moist
<b>Well-IA03-3</b>		
0.0-0.4	0.4	Topsoil, grass, root zone
0.4-4.0	3.6	Silt, tan, dry
4.0-6.0	2.0	Silt, tan, slightly moist, some small black marks in upper .2 feet of core
6.0-6.5	0.5	Silt, tan, slightly moist
6.5-22	15.5	Loess, tan, dry, oxidation stains from 10 to 12 feet
22-32.8	10.8	Silt, clayey, moist

**Table 2: Analytical results for DRO and GRO of soils at various depths collected at U.S. Army Reserve Center, Cedar Rapids, Iowa**

(ND: no detection, mg/kg: milligrams per kilogram, R: replicate sample)

Soil sample ID (sample depth interval)	Date	Compounds	Result	Units	Reporting limit
IA03-1-2.5-4.5	11/13/2002	Diesel Range Organics	ND	mg/kg	13
IA03-1-2.5-4.5	11/13/2002	Gasoline Range Organics	ND	mg/kg	0.63
IA03-1-2.5-4.5	11/13/2002	Ethylbenzene	ND	mg/kg	0.063
IA03-1-2.5-4.5	11/13/2002	Toluene	ND	mg/kg	0.063
IA03-1-2.5-4.5	11/13/2002	Xylenes (total)	ND	mg/kg	0.063
IA03-1-2.5-4.5	11/13/2002	Benzene	ND	mg/kg	0.063
IA03-1-4.5-6.5	11/13/2002	Diesel Range Organics	ND	mg/kg	13
IA03-1-4.5-6.5	11/13/2002	Gasoline Range Organics	ND	mg/kg	0.63
IA03-1-4.5-6.5	11/13/2002	Ethylbenzene	ND	mg/kg	0.063
IA03-1-4.5-6.5	11/13/2002	Toluene	ND	mg/kg	0.063
IA03-1-4.5-6.5	11/13/2002	Xylenes (total)	ND	mg/kg	0.063
IA03-1-4.5-6.5	11/13/2002	Benzene	ND	mg/kg	0.063
IA03-1-6.5-8.5	11/13/2002	Diesel Range Organics	ND	mg/kg	12
IA03-1-6.5-8.5	11/13/2002	Gasoline Range Organics	ND	mg/kg	0.6
IA03-1-6.5-8.5	11/13/2002	Ethylbenzene	ND	mg/kg	0.06
IA03-1-6.5-8.5	11/13/2002	Toluene	ND	mg/kg	0.06
IA03-1-6.5-8.5	11/13/2002	Xylenes (total)	ND	mg/kg	0.06
IA03-1-6.5-8.5	11/13/2002	Benzene	ND	mg/kg	0.06
IA03-2-4-6	11/19/2002	Diesel Range Organics	ND	mg/kg	12
IA03-2-4-6	11/19/2002	Gasoline Range Organics	ND	mg/kg	0.59
IA03-2-4-6	11/19/2002	Ethylbenzene	ND	mg/kg	0.059
IA03-2-4-6	11/19/2002	Toluene	ND	mg/kg	0.059
IA03-2-4-6	11/19/2002	Xylenes (total)	ND	mg/kg	0.059
IA03-2-4-6	11/19/2002	Benzene	ND	mg/kg	0.059
IA03-2-6-8	11/19/2002	Diesel Range Organics	ND	mg/kg	12
IA03-2-6-8	11/19/2002	Gasoline Range Organics	ND	mg/kg	0.61
IA03-2-6-8	11/19/2002	Ethylbenzene	ND	mg/kg	0.061
IA03-2-6-8	11/19/2002	Toluene	ND	mg/kg	0.061
IA03-2-6-8	11/19/2002	Xylenes (total)	ND	mg/kg	0.061
IA03-2-6-8	11/19/2002	Benzene	ND	mg/kg	0.061
IA03-2-8-10	11/19/2002	Diesel Range Organics	ND	mg/kg	13
IA03-2-8-10	11/19/2002	Gasoline Range Organics	ND	mg/kg	0.66
IA03-2-8-10	11/19/2002	Ethylbenzene	ND	mg/kg	0.066
IA03-2-8-10	11/19/2002	Toluene	ND	mg/kg	0.066
IA03-2-8-10	11/19/2002	Xylenes (total)	ND	mg/kg	0.066
IA03-2-8-10	11/19/2002	Benzene	ND	mg/kg	0.066
IA03-3-4-6	11/18/2002	Diesel Range Organics	ND	mg/kg	13
IA03-3-4-6	11/18/2002	Gasoline Range Organics	ND	mg/kg	0.63
IA03-3-4-6	11/18/2002	Ethylbenzene	ND	mg/kg	0.063

Soil sample ID (sample depth interval)	Date	Compounds	Result	Units	Reporting limit
IA03-3-4-6	11/18/2002	Toluene	ND	mg/kg	0.063
IA03-3-4-6	11/18/2002	Xylenes (total)	ND	mg/kg	0.063
IA03-3-4-6	11/18/2002	Benzene	ND	mg/kg	0.063
IA03-3-6-8	11/18/2002	Diesel Range Organics	ND	mg/kg	13
IA03-3-6-8	11/18/2002	Gasoline Range Organics	ND	mg/kg	0.67
IA03-3-6-8	11/18/2002	Ethylbenzene	ND	mg/kg	0.067
IA03-3-6-8	11/18/2002	Toluene	ND	mg/kg	0.067
IA03-3-6-8	11/18/2002	Xylenes (total)	ND	mg/kg	0.067
IA03-3-6-8	11/18/2002	Benzene	ND	mg/kg	0.067
IA03-3-8-10	11/18/2002	Diesel Range Organics	ND	mg/kg	12
IA03-3-8-10	11/18/2002	Gasoline Range Organics	ND	mg/kg	0.6
IA03-3-8-10	11/18/2002	Ethylbenzene	ND	mg/kg	0.06
IA03-3-8-10	11/18/2002	Toluene	ND	mg/kg	0.06
IA03-3-8-10	11/18/2002	Xylenes (total)	ND	mg/kg	0.06
IA03-3-8-10	11/18/2002	Benzene	ND	mg/kg	0.06

**Ground-water flow direction and quality**

Table 3 lists each well number, well location, well construction, measuring point surveyed elevation, and well depth. Three wells were installed and sampled. One well was installed up gradient of the wash rack within the parking lot of the maintenance facility. Two of the wells were installed on City of Cedar Rapids property down gradient of the wash rack and oil/water separator on Bilgare Court. The general ground-water flow direction is to the southwest (figure 5) towards the Cedar River.

**Table 3: Location, physical characteristics, and water depth for three wells at U.S. Army Reserve Center, Cedar Rapids, Iowa**

Well number	GPS well location	Total depth (feet below land surface)	Screen length, 10-slot (feet)	Top of sand (feet below land surface)	Top of bentonite seal (feet below land surface)	Elevation of measuring point from 100 feet surveyed base (feet)	Depth of water table below measuring point (feet)	Elevation of water table based on 100 foot arbitrary reference point
IA03-1	N 42° 00' 16.8" W 91° 40' 46.2"	32.4	7.5	22.75	21.5	98.61	27.1	71.51
IA03-2	N 42° 00' 16.5" W 91° 40' 48.4"	36.3	7.5	26.7	25.7	84.30	28.0	56.30
IA03-3	N 42° 00' 16.6" W 91° 40' 48.2"	32.8	7.5	22.2	21.2	82.37	30.2	52.17

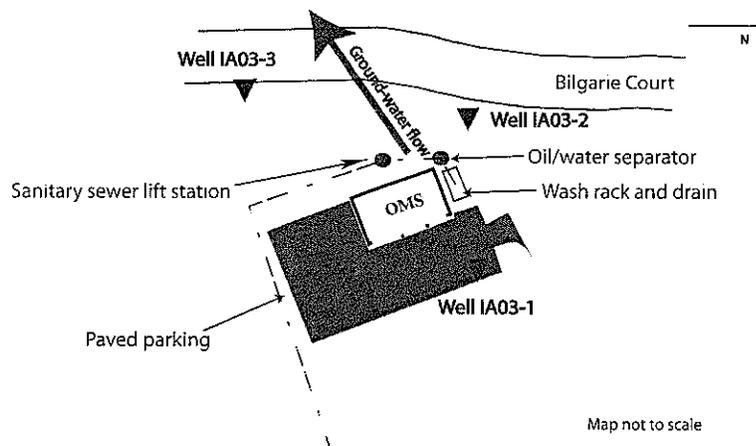


Figure 5: Map showing the location of monitor wells, oil/water separator, sanitary sewer lift station and the general direction of ground-water flow.

Field parameter data collected (table 4) from the three wells indicated that there were no major differences in water quality between the wells. Well IA03-2 had a higher specific conductance value and a lower dissolved-oxygen concentration than the up gradient well IA03-1. This lower dissolved oxygen and higher specific conductance in well IA03-2 could be an indication of some organic contamination. Bacteria will consume organic compounds and in the process consume the dissolved oxygen in the water.

Well IA03-3 had small detections of toluene (2.2 µg/L) and total xylenes (2.7 µg/L). Well IA03-2 had an estimated value of DRO (0.17 mg/L) that was below the reporting limit (0.25 mg/L). In addition, wells IA03-1 and IA03-2 had estimated values of total xylenes of 0.47 and 0.49 µg/L respectively (reporting limit 0.5 µg/L). No GRO was detected in any of the water samples collected. The Phase 1 report indicated that the outflow of water into the oil/water separator from the wash rack drain was lower than the inflow to the wash rack drain. In addition, during the collection of grit from the grit chamber, yellow paint was observed intermixed with the grit. Total xylenes and toluene are components in many types of fuels, but they are also components in paints and solvents. The detection of total xylenes and the estimated values of total xylenes may be another indication besides observed reduced outflow from the wash rack drain that the drain is leaking. However, the up gradient well had an estimated value of total xylenes that would indicate that there could be an up gradient source. Vehicles that are stored in the parking lot may be the source of this estimated value of total xylenes. None of the samples collected from the wells had any detections of total xylenes or toluene that exceeded any State criteria.

Table 4: Field parameters collected at wells sampled at U.S. Army Reserve Center, Cedar Rapids, Iowa

(mg/L, milligrams per Liter; NA: not applicable)

Well number	pH	Temperature (degrees Celsius)	Specific conductance (microsiemens)	Dissolved oxygen (mg/L)	Dissolved oxygen (percent saturation)	Remarks
IA03-1	7.63	12.9	673	7.22	69.2	NA
IA03-2	7.50	11.9	812	6.74	63.2	NA
IA03-3	7.34	12.4	744	7.46	70.6	NA

Table 5: Analytical results for BTEX, GRO, and DRO of ground-water samples collected at U.S. Army Reserve Center in Cedar Rapids, Iowa

(µg/L: micrograms per Liter, mg/L: milligrams per Liter, J: estimated result, results less than reporting limit)

Ground water sample ID (well number)	Date	Compounds	Result	Units	Reporting limit
IA03-1	11/14/2002	Diesel Range Organics	ND	mg/L	0.25
IA03-1	11/14/2002	Gasoline Range Organics	ND	µg/L	10
IA03-1	11/14/2002	Ethylbenzene	ND	µg/L	0.5
IA03-1	11/14/2002	Toluene	ND	µg/L	0.5
IA03-1	11/14/2002	Xylenes (total)	0.47 J	µg/L	0.5
IA03-1	11/14/2002	Benzene	ND	µg/L	0.5
IA03-2	11/20/2002	Diesel Range Organics	0.17 J	mg/L	0.25
IA03-2	11/20/2002	Gasoline Range Organics	ND	µg/L	10
IA03-2	11/20/2002	Ethylbenzene	ND	µg/L	0.5
IA03-2	11/20/2002	Toluene	ND	µg/L	0.5
IA03-2	11/20/2002	Xylenes (total)	0.49 J	µg/L	0.5
IA03-2	11/20/2002	Benzene	ND	µg/L	0.5
IA03-3	11/20/2002	Diesel Range Organics	ND	mg/L	0.25
IA03-3	11/20/2002	Gasoline Range Organics	ND	µg/L	10
IA03-3	11/20/2002	Ethylbenzene	ND	µg/L	0.5
IA03-3	11/20/2002	Toluene	2.2	µg/L	0.5
IA03-3	11/20/2002	Xylenes (total)	2.7	µg/L	0.5
IA03-3	11/20/2002	Benzene	ND	µg/L	0.5

Table 6 lists the soil and ground water BTEX, GRO, and DRO action level criteria from regulations of the Iowa Department of Natural Resources. There were no soil or ground-water samples that exceeded any requirements for clean up.

**Table 6: State of Iowa contaminant corrective action levels for soils and ground water according to underground storage tank criteria**  
 (Iowa Department of Natural Resources, Underground Storage Tank Section, DNR Tanks, Volume 6, April 1997)

Contaminant	Action level for soils (mg/kg)	Number of soil samples greater than action level	Ground water action levels (µg/l)
Benzene	0.54	0	5.0
Toluene	42	0	1,000
Ethylbenzene	15	0	700
Xylene	No limit	0	10,000
Total Extractable Hydrocarbons (Comparable to DRO)	3,800	0	--
Total Extractable Hydrocarbons (Waste Oil)	--	--	400

**SITE PICTURES**



Plate 1: USGS drill rig at well IA03-1

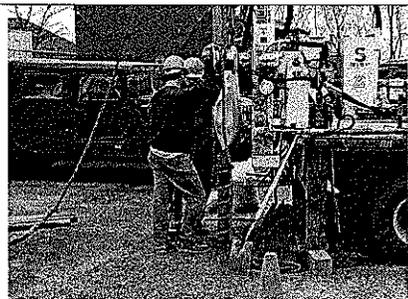


Plate 2: Drilling with hollow-stem auger at well IA07-1



Plate 3: Drilling at well IA07-1



Plate 4: Water sample collection with dedicated bailer at well IA03-3

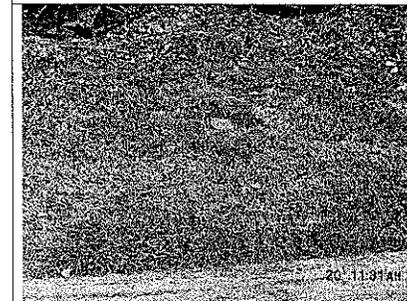


Plate 5: Flush mount completion of well IA03-2

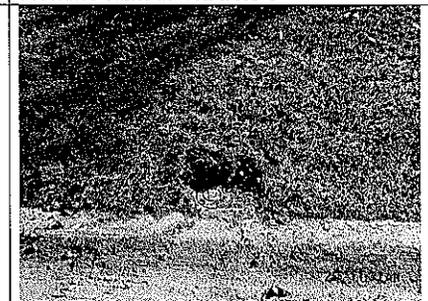


Plate 6: Flush mount completion of well IA03-3

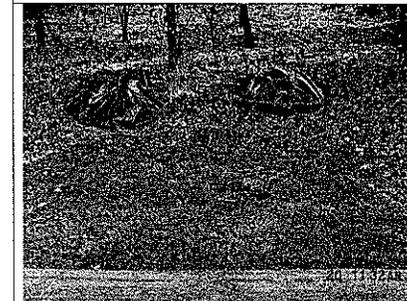


Plate 7: Drill cuttings from wells IA03-2 and IA03-3. Drill cuttings have been removed and properly disposed at a sanitary landfill in Cedar Rapids.

## SUMMARY AND CONCLUSIONS

The Cedar Rapids facility includes an oil/water separator that is connected to a sanitary sewer lift station. An outside wash rack with a center drain is the only connection to the separator. In the Phase I report, there were no diesel range organics or gasoline range organics detected in the soils around the oil/water separator and the lift station. However, total volatile organic compounds were detected in the soils with a portable gas chromatograph. The total volatile organic compounds ranged from less than 1.0 to 184 milligrams per kilogram. The outflow from the wash rack drain to the oil/water separator appeared to be lower in volume than the inflow to the wash rack drain. The wash rack drain is constructed of cinder blocks and appeared to be leaking. The 89<sup>th</sup> RSC was concerned there could be ground-water contamination originating from the wash rack drain or the oil/water separator and initiated a follow-up Phase II investigation.

Three soil boreholes were drilled and converted to wells. One of the soil boreholes was drilled up gradient of the wash rack on U. S. Army Reserve property. Two other soil boreholes were drilled down gradient from the wash rack on City of Cedar Rapids property. Soil samples were collected at various depths from each borehole. A split-spoon steel core sampler was used to investigate soils while the wells were being installed. Soil samples were analyzed for gasoline range organics, benzene, toluene, ethylbenzene, total xylenes, and diesel range organics at various depths to the water table. No gasoline range organics, benzene, toluene, ethylbenzene, total xylenes or diesel range organics were detected above the method detection limits in any of the soil samples that were collected.

The three soil boreholes were converted to wells to determine if any ground-water contamination was occurring from the oil/water separators and to determine the ground-water flow direction. The generalized ground-water flow direction is to the southwest towards the Cedar River. Ground-water samples were collected from each well and were analyzed for gasoline range organics, benzene, toluene, ethylbenzene, total xylenes, and diesel range organics. Well IA03-3 had small detections of toluene (2.2 µg/L) and total xylenes (2.7 µg/L). Well IA03-2 had an estimated value of diesel range organics (0.17 mg/L) that was below the reporting limit (0.25 mg/L). In addition, wells IA03-1 and IA03-2 had estimated values of total xylenes of 0.47 and 0.49 µg/L respectively (reporting limit 0.5 µg/L). No gasoline range organics were detected in any of the water samples collected. Well IA03-2 had a higher specific conductance value and a lower dissolved-oxygen concentration than the up gradient well IA03-1. This lower dissolved oxygen and higher specific conductance in well IA03-2 could be an indication of some organic contamination.

The Phase I report indicated that the outflow of water into the oil/water separator from the wash rack drain was less in volume than the inflow to the wash rack drain. In addition, during the collection of grit from the grit chamber, yellow paint was observed intermixed with the grit. Total xylenes and toluene are components in many types of fuels, but they are also components in paints and solvents. The detection of total xylenes and the estimated values of xylenes may be another indication in addition to observed

reduced outflow from the wash rack drain that the wash rack drain is leaking. However, the up gradient well had an estimated value of total xylenes that would indicate that there could be an up gradient source as well. Vehicles that are stored in the parking lot may be the source of the estimated value of total xylenes. None of the samples collected from the wells had any detections of total xylenes or toluene that exceeded any State criteria.

Based on the visual observations of the reduced outflow in the Phase I study and the detection of toluene and total xylenes in a down gradient well it appears that the wash rack drain is leaking. The wash rack drain is leaking, but the soils and ground water adjacent to the wash rack are not being impaired based on State criteria and the wash rack has a low volume of use. Periodic sampling of the monitoring wells is recommended to ensure that there is no additional ground-water contamination occurring until the wash rack drain is repaired. The monitoring wells that were installed at the facility include dedicated bailers that have been attached to the bottom of the well cap. These bailers can easily be used for future sampling of the monitoring wells.







# United States Department of the Interior

U.S. GEOLOGICAL SURVEY

Water Resources Division  
Iowa District  
P.O. Box 1230  
Iowa City Iowa 52244

October 17, 2005

Mr. Barry McFarland  
Environmental Coordinator  
U.S. Army Reserve 89th RRC  
3130 George Washington Blvd  
Wichita, Kansas 67210-1598

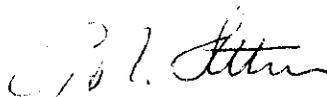
Dear Mr. McFarland:

As a part of the Phase II Oil-Water Separator studies conducted between the years 2003 and 2004, thirty small-diameter monitor wells were installed at nine U.S. Army Reserve installations throughout Iowa. In October 2004, the Army's 39th RRC in Wichita, KS requested the USGS remove all Phase II monitor wells. During the period of May 12 to July 27, 2005, thirty monitor wells were plugged in accordance with rules 567-39.8 and 567-110.12(2)a as set forth in the Iowa Administrative Code (IAC). In those instances where the casing could not be extracted, rule 567-110.12(2) was followed for well plugging. Whenever possible, bentonite was used in place of filling material. All surface casings were removed and replaced with either native soil and grass or cement, depending on well location. Enclosed please find copies of Abandoned Water Well plugging records for the following Phase II Oil-Water Separator monitor wells:

<u>Location</u>	<u>Well Nos</u>	<u>Date plugged</u>	<u>Plugging Method</u>
Ames, IA	IA001-1,-2,-3	5-12-05	567-39.8
✓ Cedar Rapids, IA	IA003-1	7-18-05	567-110.12(2)a
	IA003-2,-3	7-18-05	567-39.8
Council Bluffs, IA	IA007-1,-2,-3,-4	7-27-05	567-110.12(2)a
Decorah, IA	IA010-1,-2,-3,-4	6-30-05	567-110.12(2)a
Middletown, IA	IA019-1,-2,-3	5-18-05	567-39.8
Pocahontas, IA	IA024-1,-2,-3	7-26-05	567-39.8
Sac City, IA	IA025-1,-2,-3	7-26-05	567-39.8
Waterloo, IA	IA030-1,-3	7-07-05	567-39.8
Washington, IA	IA027-1,-2,-3,-4	5-18-05	567-39.8

If you have any questions or desire additional information, please call me at (319) 358-3609

Sincerely,

A handwritten signature in black ink, appearing to read "Greg Littin". The signature is fluid and cursive, with a large initial "G" and "L".

Greg Littin  
Hydrologist

Enclosure

2003 ENVIRONMENTAL COMPLIANCE ASSESSMENT REPORT

**ENVIRONMENTAL COMPLIANCE ASSESSMENT**

**CEDAR RAPIDS AFRC**

CEDAR RAPIDS, IA

INSTALLATION NUMBER IA003

2 APRIL 2003

PREPARED BY:

**FACILITY ENGINEER TEAM 18**

**U. S. ARMY FACILITY ENGINEER GROUP**

**FACILITY ENGINEER CENTER - SOUTHWEST**

**U. S. ARMY FACILITY ENGINEER GROUP  
FACILITY ENGINEER TEAM 18, FEC-SW**

**ENGINEERING AND ENVIRONMENTAL FACILITY ASSESSMENT  
ENCLOSURE A  
ENVIRONMENTAL COMPLIANCE ASSESSMENT**

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**ENCLOSURE A, SECTION 1**  
**ENVIRONMENTAL COMPLIANCE ASSESSMENT EXECUTIVE SUMMARY**

Facility Engineer Team 18 conducted an Engineering and Environmental Facility Assessment (E<sup>2</sup>FA) at the Cedar Rapids Armed Forces Reserve Center (AFRC), 1599 Wenig Road, Cedar Rapids, Iowa on 2 April 2003. The AFRC is located in a predominantly residential area approximately two miles north-northwest of the Cedar Rapids metropolitan area. The AFRC is located on elevated ground overlooking the Cedar River, located approximately one mile southwest of the facility.

The facility is owned and maintained by the U.S. Army Reserve. Three Army units occupy the facility: 649<sup>th</sup> Area Support Group, 960<sup>th</sup> Quarter Master Company and Detachment 1, 4224<sup>th</sup> United States Army Hospital. In addition, a Navy hospital unit is a tenant of this facility.

The 960<sup>th</sup> QM Company mobilized over 200 soldiers the week prior to our visit. As a result, the motor pool area was in disarray. This led to a number of environmental and safety findings that can be easily addressed by the stay behind units.

The environmental compliance assessment survey produced the following results:

**ECAS FINDINGS SUMMARY – conducted by MAJ Dan Higgins**

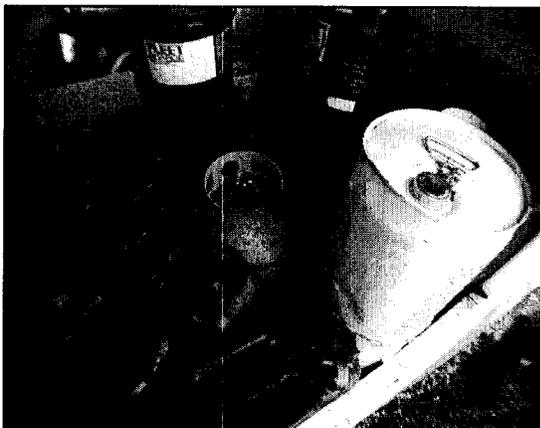
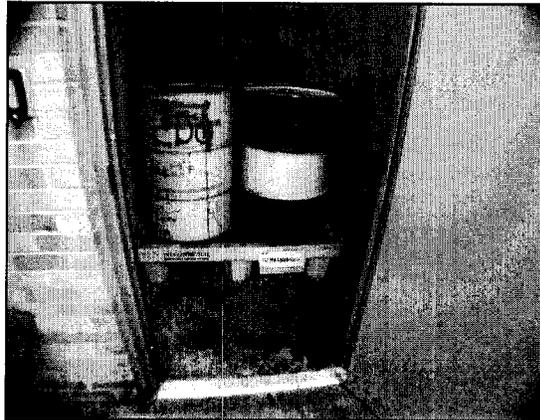
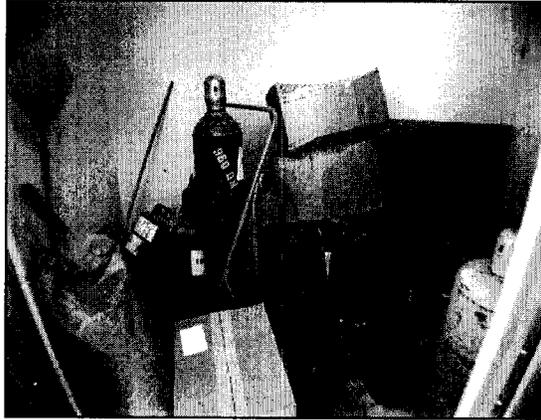
Class I Regulatory	Health & Safety Regulatory	Class III Management	Positive	Total Findings
1	2	3	0	6

NOTE: Many of these findings are repeats from the ECAS conducted in 1999.

In general there was no primary point of contact at the facility relating to environmental issues. The facility manager was helpful, but wasn't clear on training requirements, SOPs and overall program responsibility. This resulted in the following findings: IA003-HM.010.02 – No training records on hand for hazardous material handlers, IA003-HW.001.02 – No documentation of training or management systems that might prevent future hazardous waste non-compliance, IA003-HM.035.01 – Lithium batteries were stored with petrochemicals, IA003-HM.035.05 – A metal storage container marked flammable in the motor pool does not meet the specified design criteria, IA003-HM.035.06 – The drum storage room in the NW corner of the OMS does not meet required design specifications, IA003-HM.030.02 - The facility maintained excess quantities of unneeded chemicals.

The 89<sup>th</sup> RSC environmental representative was on site during the assessment and has indicated that the RSC will assist in providing the needed training and disposal assistance.

**ENCLOSURE A, SECTION 2  
ECAS PHOTOGRAPHS**



**Figures 1-4.** Examples of poor and incompatible storage practices.



**Figure 5.** Outside storage of excessive (unnneeded) petroleum products without secondary containment.

**4/2/2003 ECAS 89th RSC  
 ECAS DETAILED COMPLIANCE REPORT  
 US ARMY RESERVES**

<b>FACILITY:</b> Cedar Rapids Armed Forces Reserve Center	<b>REFERENCE:</b> Kansas2FET-001
<b>TYPE:</b> Administration	<b>DATE ASSESSED:</b> 04/02/2003
<b>POINT OF CONTACT:</b> Beth Waterman	<b>PROTOCOL:</b> Hazardous Material
<b>FACILITY NUMBER:</b> IA003	<b>TENANT:</b> Yes
	<b>OWNERSHIP:</b>

**SUMMARY**  
 K07: No training records on hand for personnel handling hazardous materials.

**DETAILS:**  
 There were no training records for the soldiers handling hazardous materials.

**REQUIREMENTS:**  
 Personnel working with hazardous materials are required to be trained in their use and the potential hazards of such materials.

**REGULATORY CITATION:**  
 29 CFR 1910.1200(b)(3)(iii), 1910.1200(b)(4)(iii), 1910.1200(b)(6), and 1910.1200(h)

**ECAS CODE:** HM.010.02.TEAM

**ROOT CAUSE:** CM02 Management review process supporting, controlling, or improving daily/contract operations is absent or inadequate.

**JUSTIFICATION:**  
 There was no program in place to deal with hazardous materials and hazardous materials training.

**ENVIRONMENTAL THREAT:** Possible **RATING:** Medium

**IMPACT ON READINESS:** Unlikely

**REOCCURRING ISSUE:** Repeat finding

**REGULATORY ACTION:** No regulatory NOV is likely

**PREVIOUS FINDING:** Yes **PREVIOUS REGULATORY ACTION:** No

**EXPLAIN:**

**ESTIMATED COST:**

**CORRECTIVE ACTION:**  
 K02: Work with the 89th RSC environmental coordinator to develop a program for managing all facets of handling hazardous materials to include training, disposal and program ownership.

**POLLUTION PREVENTION OPTIONS:**  
 Develop and implement a hazardous material management program to ensure that materials are managed in a manner to minimize impacts to the environment, prevent accidental releases, and prevent the unintentional generation of hazardous waste through poor operational practices.

**Date Contacted RSC:** \_\_\_\_\_ **RSC POC:** \_\_\_\_\_

**RSC Guidance:** \_\_\_\_\_

**Assessor:** \_\_\_\_\_

**4/2/2003 ECAS 89th RSC  
ECAS DETAILED COMPLIANCE REPORT  
US ARMY RESERVES**

<b>FACILITY:</b> Cedar Rapids Armed Forces Reserve Center <b>TYPE:</b> Administration <b>POINT OF CONTACT:</b> Beth Waterman <b>FACILITY NUMBER:</b> IA003	<b>REFERENCE:</b> Kansas2FET-002 <b>DATE ASSESSED:</b> 04/02/2003 <b>PROTOCOL:</b> Hazardous Waste <b>TENANT:</b> Yes <b>OWNERSHIP:</b>
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**SUMMARY**  
 K08: There was no documentation of training or management systems that might prevent future hazardous waste non-compliance.

**DETAILS:**  
 No one was on orders to be designated responsible for the hazardous waste program at the facility.

**REQUIREMENTS:**  
 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.

**REGULATORY CITATION:**  
 MP

**ECAS CODE:** HW.001.02.TEAM

**ROOT CAUSE:** CM03 Environmental responsibilities are not clearly defined in position standards or understood by personnel.

**JUSTIFICATION:**  
 No one has been specifically identified and placed on orders to be responsible for the hazardous materials/waste at the facility.

<b>ENVIRONMENTAL THREAT:</b> Unlikely	<b>RATING:</b> Low
<b>IMPACT ON READINESS:</b> Unlikely	
<b>REOCCURRING ISSUE:</b> Repeat finding	
<b>REGULATORY ACTION:</b> No regulatory NOV is likely	

<b>PREVIOUS FINDING:</b> Yes	<b>PREVIOUS REGULATORY ACTION:</b> No
<b>EXPLAIN:</b>	

**ESTIMATED COST:**

**CORRECTIVE ACTION:**  
 K02: Work with the 89th RSC environmental coordinator to develop a program for managing all facets of handling hazardous materials to include training, disposal and program ownership.

**POLLUTION PREVENTION OPTIONS:**  
 Develop SOP to ensure procedures are in place to minimize the potential for pollutant release during training activities, including fueling, storage and turn-in of hazardous materials and waste generation.  
 Develop a spill prevention and control procedure or program to minimize the potential for pollutant releases from spills and or emergency incidents.

**Date Contacted RSC:** \_\_\_\_\_ **RSC POC:** \_\_\_\_\_

**RSC Guidance:** \_\_\_\_\_

**Assessor:** \_\_\_\_\_

**4/2/2003 ECAS 89th RSC  
ECAS DETAILED COMPLIANCE REPORT  
US ARMY RESERVES**

<b>FACILITY:</b> Cedar Rapids Armed Forces Reserve Center <b>TYPE:</b> Administration <b>POINT OF CONTACT:</b> Beth Waterman <b>FACILITY NUMBER:</b> IA003	<b>REFERENCE:</b> Kansas2FET-003 <b>DATE ASSESSED:</b> 04/02/2003 <b>PROTOCOL:</b> Hazardous Material <b>TENANT:</b> Yes <b>OWNERSHIP:</b>
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**SUMMARY**  
K10: Incompatible hazardous materials stored together.

**DETAILS:**  
Storage Incompatibility: Lithium batteries were stored in a flammable storage shed with petrochemicals.

**REQUIREMENTS:**  
Specific management practices should be considered when storing and handling flammable/combustible materials.

**REGULATORY CITATION:**  
MP [April 1995]

**ECAS CODE:** HM.035.01.TEAM

**ROOT CAUSE:** CM03 Environmental responsibilities are not clearly defined in position standards or understood by personnel.

**JUSTIFICATION:**  
There were no environmental SOPs or individuals on orders to be responsible for the environmental program at the facility.

<b>ENVIRONMENTAL THREAT:</b> Possible	<b>RATING:</b> Medium
<b>IMPACT ON READINESS:</b> Possible	
<b>REOCCURRING ISSUE:</b> No previous finding	
<b>REGULATORY ACTION:</b> No regulatory NOV is likely	

<b>PREVIOUS FINDING:</b> No	<b>PREVIOUS REGULATORY ACTION:</b> No
<b>EXPLAIN:</b>	

**ESTIMATED COST:**

**CORRECTIVE ACTION:**  
K02: Work with the 89th RSC environmental coordinator to develop a program for managing all facets of handling hazardous materials to include training, disposal and program ownership.

**POLLUTION PREVENTION OPTIONS:**  
Implement an inventory control program to ensure proper storage and management of hazardous materials.

Develop a best management practice (BMPs) for fueling operations to minimize the potential for release during fueling operations.

**Date Contacted RSC:** \_\_\_\_\_ **RSC POC:** \_\_\_\_\_

**RSC Guidance:** \_\_\_\_\_

**Assessor:** \_\_\_\_\_

**4/2/2003 ECAS 89th RSC  
ECAS DETAILED COMPLIANCE REPORT  
US ARMY RESERVES**

<b>FACILITY:</b> Cedar Rapids Armed Forces Reserve Center <b>TYPE:</b> Administration <b>POINT OF CONTACT:</b> Beth Waterman <b>FACILITY NUMBER:</b> IA003	<b>REFERENCE:</b> Kansas2FET-004 <b>DATE ASSESSED:</b> 04/02/2003 <b>PROTOCOL:</b> Hazardous Material <b>TENANT:</b> Yes <b>OWNERSHIP:</b>
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**SUMMARY**  
 K11: Flammable storage container does not meet required specifications.

**DETAILS:**  
 A metal storage container marked "flammable storage" located in the motorpool does not meet the specified design criteria. The container was rusted and the back was unattached at one corner.

**REQUIREMENTS:**  
 Storage cabinets used for the storage of flammable/combustible liquids should meet specific requirements.

**REGULATORY CITATION:**  
 MP [May 1996]

**ECAS CODE:** HM.035.05.TEAM

**ROOT CAUSE:** RR03 Inadequate design or failure in equipment or material selection.

**JUSTIFICATION:**  
 The flammable storage cabinet was very old and in disrepair.

<b>ENVIRONMENTAL THREAT:</b> Possible	<b>RATING:</b> Low
<b>IMPACT ON READINESS:</b> Unlikely	
<b>REOCCURRING ISSUE:</b> No previous finding	
<b>REGULATORY ACTION:</b> No regulatory NOV is likely	

<b>PREVIOUS FINDING:</b> No	<b>PREVIOUS REGULATORY ACTION:</b> No
<b>EXPLAIN:</b>	

**ESTIMATED COST:**

**CORRECTIVE ACTION:**  
 K03: The facility should procure a new flammable storage container that meets all regulatory requirements.

**POLLUTION PREVENTION OPTIONS:**  
 Develop and implement a hazardous material management program to ensure that materials are managed in a manner to minimize impacts to the environment, prevent accidental releases, and prevent the unintentional generation of hazardous waste through poor operational practices.

**Date Contacted RSC:** \_\_\_\_\_ **RSC POC:** \_\_\_\_\_

**RSC Guidance:** \_\_\_\_\_

**Assessor:** \_\_\_\_\_

**4/2/2003 ECAS 89th RSC  
 ECAS DETAILED COMPLIANCE REPORT  
 US ARMY RESERVES**

<b>FACILITY:</b> Cedar Rapids Armed Forces Reserve Center	<b>REFERENCE:</b> Kansas2FET -005
<b>TYPE:</b> Administration	<b>DATE ASSESSED:</b> 04/02/2003
<b>POINT OF CONTACT:</b> Beth Waterman	<b>PROTOCOL:</b> Hazardous Material
<b>FACILITY NUMBER:</b> IA003	<b>TENANT:</b> Yes
	<b>OWNERSHIP:</b>

**SUMMARY**  
 K13: Waste oil/antifreeze storage room does not meet the required design criteria.

**DETAILS:**  
 The room in the NW section of the OMS building that is storing waste antifreeze and oil does not meet the requirements for storage of these chemicals. It does not meet the fire criteria nor does it have the required 4 inch sill for spill prevention.

**REQUIREMENTS:**  
 Flammable/ combustible storage rooms inside of buildings must meet certain specifications.

**REGULATORY CITATION:**  
 29 CFR 1910.106(d)(4) [April 1995]

**ECAS CODE:** HM.035.06.TEAM

**ROOT CAUSE:** CM03 Environmental responsibilities are not clearly defined in position standards or understood by personnel.

**JUSTIFICATION:**  
 Due to no formal plan/SOP, individuals are unaware of the proper storage requirements for the stored waste.

**ENVIRONMENTAL THREAT:** Possible **RATING:** Low

**IMPACT ON READINESS:** Unlikely

**REOCCURRING ISSUE:** No previous finding

**REGULATORY ACTION:** No regulatory NOV is likely

**PREVIOUS FINDING:** No **PREVIOUS REGULATORY ACTION:** No

**EXPLAIN:**

**ESTIMATED COST:**

**CORRECTIVE ACTION:**  
 K03: The facility should procure a new flammable storage container that meets all regulatory requirements.

**POLLUTION PREVENTION OPTIONS:**  
 Evaluate current spill containment at POL and hazardous material/waste storage areas.

Turn in excess or unserviceable materials to the USP&FO for appropriate disposition. Should the USP&FO be unwilling to accept inherently waste-like materials, dispose of such materials in accordance with the Installation's hazardous waste management program.

**Date Contacted RSC:** \_\_\_\_\_ **RSC POC:** \_\_\_\_\_

**RSC Guidance:** \_\_\_\_\_

**Assessor:** \_\_\_\_\_

**4/2/2003 ECAS 89th RSC  
 ECAS DETAILED COMPLIANCE REPORT  
 US ARMY RESERVES**

<b>FACILITY:</b> Cedar Rapids Armed Forces Reserve Center <b>TYPE:</b> Administration <b>POINT OF CONTACT:</b> Beth Waterman <b>FACILITY NUMBER:</b> IA003	<b>REFERENCE:</b> Kansas2FET -006 <b>DATE ASSESSED:</b> 04/02/2003 <b>PROTOCOL:</b> Hazardous Material <b>TENANT:</b> Yes <b>OWNERSHIP:</b>
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**SUMMARY**  
 K14: Excess quantities of hazardous materials on hand.

**DETAILS:**  
 The facility did not have an inventory of all potentially hazardous materials on hand. Additionally there were excess quantities of various chemicals an hand that the facility did not need (e.g. aerosal paint and dry cleaning solvent).

**REQUIREMENTS:**  
 Facilities, that are required to prepare or have available a MSDS for a hazardous chemical under OSHA, are required to meet specific inventory reporting requirements for planning purposes.

**REGULATORY CITATION:**  
 EO 13148, Sec. 501; 40 CFR 370.20(a), 370.20(b), 370.20(d), 370.25, and 370.28 [Revised April 1999, Revised March 2001]

**ECAS CODE:** HM.030.02.TEAM

**ROOT CAUSE:** TT01      General environmental awareness training is not conducted or is inadequate.

**JUSTIFICATION:**  
 There was no apparent environmental program in place to address these issues.

<b>ENVIRONMENTAL THREAT:</b> Unlikely	<b>RATING:</b> Low
<b>IMPACT ON READINESS:</b> Unlikely	
<b>REOCCURRING ISSUE:</b> Repeat finding	
<b>REGULATORY ACTION:</b> No regulatory NOV is likely	

<b>PREVIOUS FINDING:</b> Yes	<b>PREVIOUS REGULATORY ACTION:</b> No
<b>EXPLAIN:</b>	

**ESTIMATED COST:**

**CORRECTIVE ACTION:**  
 K02: Work with the 89th RSC environmental coordinator to develop a program for managing all facets of handling hazardous materials to include training, disposal and program ownership.

**POLLUTION PREVENTION OPTIONS:**  
 Develop and implement a hazardous material management program to ensure that materials are managed in a manner to minimize impacts to the environment, prevent accidental releases, and prevent the unintentional generation of hazardous waste through poor operational practices.

Date Contacted RSC: \_\_\_\_\_ RSC POC: \_\_\_\_\_

RSC Guidance: \_\_\_\_\_

Assessor: \_\_\_\_\_

2006 LEAD BASED PAINT SURVEY

**IA003**  
**Cedar Rapids, Iowa**

This facility includes a two story USARC building, a maintenance shop, and a small shed. The survey of the facility was completed on January 24, 2006, and the results are presented in the following spreadsheet. 720 valid readings were taken. One null reading was repeated and deleted from the spreadsheet, and one null reading was not corrected. Because of the large number of duplicative readings taken, the single null reading does not affect the overall validity of the survey.

Twenty of the valid readings, or approximately 2.8 percent, were positive. Seven positive readings were taken on exterior garage doors, door casings, and a curb. Seven were taken on surfaces within the USARC main building: six on metal risers and stringers in three stairwells and one on a concrete floor. The remaining six were taken in the maintenance shop: four on metal columns, one on a metal window casing, and one on a metal beam. The paint surface on the concrete floor was noted as fair; all the remaining paint surfaces with positive readings were noted to be intact.

On the basis of the low percentage of LBP identified, the LBP locations, the generally good condition of the surfaces, and the current use of the facility (not residential or child-occupied), the risk of lead exposure in facility IA003 is qualitatively evaluated as low. It is recommended that routine maintenance be performed at the facility. No abatement activities are recommended.

FACILITY NUMBER IA003  
CEDAR RAPIDS IOWA

Reading Number	Building	Room	Side	Component	Substrate	Condition	Read Time (Sec)	Depth Index <sup>2</sup>	PbC (mg/cm <sup>2</sup> )	PbC Error	Results
8	MAIN	140	East	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
9	MAIN	140	South	Wall	Concrete	Intact	3.52	7.83	0.05	0.09	Negative
10	MAIN	140	West	Wall	Concrete	Intact	3.53	3.95	0.04	0.05	Negative
11	MAIN	140	West	Door	Metal	Intact	1.32	1.56	0.05	0.08	Negative
12	MAIN	140	West	Door Casing	Metal	Intact	1.32	2.44	0.06	0.12	Negative
13	MAIN	140	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
14	MAIN	140	South	Door	Metal	Intact	1.33	1	0	0.02	Negative
15	MAIN	140	East	Door	Metal	Intact	1.32	1.66	0.04	0.08	Negative
16	MAIN	140	East	Door Casing	Metal	Intact	1.32	1.15	0.05	0.07	Negative
17	MAIN	140	East	LOCKER	Metal	Intact	1.32	1	0.03	0.05	Negative
18	MAIN	140	West	LOCKER	Metal	Intact	1.33	1	0.03	0.05	Negative
19	MAIN	115	West	Door	Metal	Intact	1.33	1	0	0.02	Negative
20	MAIN	115	West	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
21	MAIN	115	North	Door Casing	Metal	Intact	1.33	2.72	0.09	0.15	Negative
22	MAIN	115	North	Door	Wood	Intact	1.32	1.19	0	0.02	Negative
23	MAIN	115	South	Door	Metal	Intact	1.32	7.07	0.22	0.42	Negative
24	MAIN	115	South	Door Casing	Metal	Intact	1.32	3.87	0.12	0.21	Negative
25	MAIN	115	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
26	MAIN	115	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
27	MAIN	115	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
28	MAIN	115	South	Wall	Concrete	Intact	2.21	1	0	0.02	Negative
29	MAIN	115	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
30	MAIN	115	North	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
31	MAIN	138	North	Wall	Concrete	Intact	2.2	7.89	0.05	0.17	Negative
32	MAIN	138	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
33	MAIN	138	South	Wall	Concrete	Intact	2.65	3.05	0.01	0.05	Negative
34	MAIN	138	West	Wall	Concrete	Intact	2.2	3.54	0.02	0.07	Negative
35	MAIN	138	Ceiling	Ceiling	Drywall	Intact	2.64	2.1	0.04	0.06	Negative
36	MAIN	138	West	Radiator	Metal	Intact	1.33	1.01	0.03	0.05	Negative
37	MAIN	124	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
38	MAIN	124	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
39	MAIN	124	North	Wall	Concrete	Intact	3.52	2.43	0.01	0.02	Negative
40	MAIN	124	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
41	MAIN	124	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
42	MAIN	124	West	Door	Wood	Intact	1.32	3.72	0.01	0.08	Negative
43	MAIN	124	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
44	MAIN	124	East	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
45	MAIN	124	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
46	MAIN	124	South	Door	Metal	Intact	1.32	1	0	0.02	Negative
47	MAIN	124	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
48	MAIN	124	South	Wall	Concrete	Intact	1.77	1.04	0	0.02	Negative
49	MAIN	117	South	Wall	Concrete	Intact	2.65	1.73	0.01	0.02	Negative
50	MAIN	117	West	Wall	Concrete	Intact	2.64	3	0.01	0.04	Negative
51	MAIN	117	North	Wall	Concrete	Intact	3.09	1	0	0.02	Negative
52	MAIN	117	East	Wall	Concrete	Intact	2.65	1	0	0.02	Negative
53	MAIN	117	South	Door	Wood	Intact	1.33	1	0	0.02	Negative
54	MAIN	117	South	Door Casing	Metal	Intact	1.32	6.38	0.2	0.37	Negative
55	MAIN	117	West	Radiator	Metal	Intact	1.33	7.22	0.27	0.47	Negative
56	MAIN	117	West	Door Casing	Metal	Intact	1.32	1.76	0.12	0.13	Negative
57	MAIN	117	West	Door	Wood	Intact	1.32	1.99	0.03	0.08	Negative
58	MAIN	116	South	Door	Wood	Intact	1.32	1	0	0.02	Negative
59	MAIN	116	South	Door Casing	Metal	Intact	1.32	1.54	0.11	0.12	Negative
60	MAIN	116	East	Door Casing	Metal	Intact	1.32	2.43	0.29	0.26	Negative
61	MAIN	116	East	Door	Wood	Intact	1.32	1.03	0.01	0.03	Negative
62	MAIN	116	West	Door	Wood	Intact	1.32	1	0.02	0.04	Negative
63	MAIN	116	West	Door Casing	Metal	Intact	1.33	1.42	0.07	0.09	Negative
64	MAIN	116	East	Radiator	Metal	Intact	1.33	1	0.01	0.03	Negative
65	MAIN	116	East	Cabinet	Wood	Intact	1.33	10	-0.27	1.14	Negative
66	MAIN	116	Ceiling	Ceiling	Plaster	Intact	2.21	2.93	0.11	0.14	Negative
67	MAIN	101	South	Wall	Concrete	Intact	3.53	2.32	0.01	0.02	Negative
68	MAIN	101	West	Wall	Concrete	Intact	3.52	1.22	0	0.02	Negative

FACILITY NUMBER IA003  
CEDAR RAPIDS IOWA

Reading Number	Building	Room	Side	Component	Substrate	Condition	Read Time (Sec)	Depth Index	PbC (mg/cm <sup>2</sup> )	PbC Error	Results
69	MAIN	101	North	Wall	Concrete	Intact	3.08	1.04	0	0.02	Negative
70	MAIN	101	East	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
71	MAIN	101	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
72	MAIN	101	East	Door Casing	Metal	Intact	1.35	1	0	0.02	Negative
73	MAIN	101	North	Door Casing	Metal	Intact	1.32	1.97	0.05	0.09	Negative
74	MAIN	101	North	Door	Metal	Intact	1.33	1.84	0.4	0.3	Negative
75	MAIN	101	West	Door	Metal	Intact	1.33	1	0	0.02	Negative
76	MAIN	101	West	Door Casing	Metal	Intact	1.32	1.2	0.04	0.06	Negative
77	MAIN	101	West	Garage Door	Metal	Intact	1.33	1	0	0.04	Negative
78	MAIN	101	East	HVAC Duct	Metal	Intact	1.32	2.53	0.02	0.07	Negative
79	MAIN	109	East	HVAC Duct	Metal	Intact	1.32	1.54	0.03	0.06	Negative
80	MAIN	109	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
81	MAIN	109	North	Wall	Concrete	Intact	2.64	1.13	0	0.02	Negative
82	MAIN	109	West	Wall	Concrete	Intact	1.76	1.63	0.01	0.03	Negative
83	MAIN	109	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
84	MAIN	109	South	Door	Metal	Intact	3.53	1.47	0.06	0.03	Negative
85	MAIN	109	South	Door Casing	Metal	Intact	1.33	2.18	0.07	0.12	Negative
86	MAIN	109	Ceiling	Ceiling	Metal	Intact	1.33	1.15	0.03	0.05	Negative
87	MAIN	109	Ceiling	RAFTER	Metal	Intact	3.52	4.25	-0.19	1.06	Negative
88	MAIN	104	North	Wall	Concrete	Intact	3.08	2.2	0.01	0.02	Negative
89	MAIN	104	West	Wall	Concrete	Intact	2.64	1.38	0	0.02	Negative
90	MAIN	104	South	Wall	Concrete	Intact	3.11	1	0	0.02	Negative
91	MAIN	104	South	Door	Metal	Intact	1.32	1.49	0.06	0.09	Negative
92	MAIN	104	South	Door Casing	Metal	Intact	1.32	1.94	0.12	0.14	Negative
93	MAIN	104	East	Fence	Metal	Intact	1.32	1	0.02	0.04	Negative
94	MAIN	104	Ceiling	HVAC Duct	Metal	Intact	1.32	4.98	0.13	0.28	Negative
95	MAIN	100	East	Door	Metal	Intact	1.33	1.48	0.06	0.08	Negative
96	MAIN	100	East	Door Casing	Metal	Intact	1.32	2.78	0.11	0.17	Negative
97	MAIN	100	East	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
98	MAIN	100	North	Wall	Concrete	Intact	3.09	1	0	0.02	Negative
99	MAIN	100	Ceiling	Ceiling	Concrete	Intact	2.2	1	0	0.02	Negative
100	MAIN	100	South	Fence	Metal	Intact	1.32	1	0	0.02	Negative
101	MAIN	100	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
102	MAIN	100	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
103	MAIN	100	West	Fence	Metal	Intact	1.33	1	0	0.02	Negative
104	MAIN	100	Floor	Floor	Concrete	Fair	0.44	1.47	2.8	1.7	Positive
105	MAIN	100	North	LOCKER	Metal	Intact	1.32	1	0.03	0.05	Negative
106	MAIN	114	East	Radiator	Metal	Intact	1.32	3.23	0.29	0.3	Negative
107	MAIN	114	South	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
108	MAIN	114	South	Door	Wood	Intact	1.32	1	0	0.02	Negative
109	MAIN	114	South	Wall	Drywall	Intact	1.33	5.15	0.02	0.09	Negative
110	MAIN	114	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
111	MAIN	114	East	Wall	Concrete	Intact	3.53	3.47	0.2	0.11	Negative
112	MAIN	114	North	Wall	Concrete	Intact	3.09	2.31	0.15	0.12	Negative
113	MAIN	114	West	Wall	Concrete	Intact	2.2	3.41	0.23	0.21	Negative
114	MAIN	114A	West	Wall	Concrete	Intact	3.53	2.01	0.12	0.06	Negative
115	MAIN	114A	South	Wall	Concrete	Intact	3.53	1.85	0.1	0.05	Negative
116	MAIN	114A	East	Wall	Concrete	Intact	3.53	2.08	0.14	0.07	Negative
117	MAIN	114A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
118	MAIN	114A	North	Door	Wood	Intact	1.33	1.18	0	0.02	Negative
119	MAIN	114A	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
120	MAIN	134	North	Door Casing	Metal	Intact	1.35	1	0	0.02	Negative
121	MAIN	134	North	Door	Wood	Intact	1.33	1	0	0.02	Negative
122	MAIN	134	North	Wall	Concrete	Intact	1.77	1	0.01	0.02	Negative
123	MAIN	134	West	Wall	Concrete	Intact	2.2	4.12	0.05	0.14	Negative
124	MAIN	134	South	Wall	Drywall	Intact	1.33	1	0	0.02	Negative
125	MAIN	134	South	Wall	Drywall	Intact	2.2	1.79	0.01	0.02	Negative
126	MAIN	134	South	Door	Wood	Intact	1.32	2.35	0.01	0.05	Negative
127	MAIN	134	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
128	MAIN	134A	North	Door Casing	Metal	Intact	1.35	1	0	0.02	Negative
129	MAIN	134A	North	Door	Wood	Intact	1.33	1	0	0.02	Negative

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130	MAIN	134A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
131	MAIN	134A	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
132	MAIN	134A	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
133	MAIN	134A	West	Wall	Drywall	Intact	1.32	1.3	0	0.02	Negative
134	MAIN	135	West	Wall	Concrete	Intact	3.95	2.72	0.14	0.07	Negative
135	MAIN	135	South	Wall	Concrete	Intact	3.08	1.65	0.02	0.04	Negative
136	MAIN	135	East	Wall	Concrete	Intact	2.64	2.34	0.13	0.12	Negative
137	MAIN	135	North	Wall	Concrete	Intact	1.77	3.32	0.04	0.12	Negative
138	MAIN	135	Ceiling	Ceiling	Plaster	Intact	3.53	2.73	0.08	0.06	Negative
139	MAIN	135	North	Door	Wood	Intact	1.32	1	0.01	0.02	Negative
140	MAIN	135	North	Door Casing	Metal	Intact	1.32	2.85	0.19	0.22	Negative
141	MAIN	135	North	STALL	Metal	Intact	1.32	1.35	0.01	0.04	Negative
142	MAIN	119B	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
143	MAIN	119B	North	Door	Wood	Intact	1.32	1	0	0.02	Negative
144	MAIN	119B	South	Door	Wood	Intact	1.32	1	0.01	0.03	Negative
145	MAIN	119B	South	Door Casing	Metal	Intact	1.32	4.86	0.16	0.28	Negative
146	MAIN	119B	South	Wall	Concrete	Intact	2.64	2.34	0.01	0.03	Negative
147	MAIN	119B	West	Wall	Concrete	Intact	3.08	1.53	0	0.02	Negative
148	MAIN	119B	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
149	MAIN	119B	East	Wall	Drywall	Intact	1.33	1	0	0.02	Negative
150	MAIN	119	South	Wall	Drywall	Intact	1.33	6.2	0.03	0.13	Negative
151	MAIN	119	West	Wall	Concrete	Intact	1.77	1.81	0.01	0.03	Negative
152	MAIN	119	North	Wall	Concrete	Intact	2.65	1	0	0.02	Negative
153	MAIN	119	East	Wall	Concrete	Intact	2.2	1.96	0.01	0.03	Negative
154	MAIN	119	East	Door	Wood	Intact	1.33	1	0	0.02	Negative
155	MAIN	119	East	Door Casing	Metal	Intact	1.32	1.79	0.04	0.07	Negative
156	MAIN	119	West	Radiator	Metal	Intact	1.32	3.47	0.18	0.24	Negative
157	MAIN	122	East	Radiator	Metal	Intact	1.32	1.7	0.01	0.04	Negative
158	MAIN	122	North	LOCKER	Metal	Intact	1.32	1	0.03	0.05	Negative
159	MAIN	122	North	STALL	Metal	Intact	1.33	1.13	0.01	0.03	Negative
160	MAIN	122	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
161	MAIN	122	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
162	MAIN	122	West	Wall	Concrete	Intact	1.33	1	0.01	0.03	Negative
163	MAIN	122	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
164	MAIN	122	South	Wall	Concrete	Intact	2.64	2.52	0.13	0.12	Negative
165	MAIN	122	East	Wall	Concrete	Intact	2.2	3.64	0.24	0.23	Negative
166	MAIN	122	North	Wall	Concrete	Intact	1.33	2.75	0.03	0.11	Negative
167	MAIN	122	Ceiling	Ceiling	Plaster	Intact	3.09	1.63	0.08	0.07	Negative
168	MAIN	120B	West	Wall	Drywall	Intact	3.09	1	0	0.02	Negative
169	MAIN	120B	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
170	MAIN	120B	East	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
171	MAIN	120B	North	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
172	MAIN	120B	East	Radiator	Metal	Intact	1.33	2.71	0.05	0.11	Negative
173	MAIN	120B	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
174	MAIN	120B	West	Door	Wood	Intact	1.33	1	0	0.02	Negative
175	MAIN	127	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
176	MAIN	127	West	Door Casing	Metal	Intact	1.32	1.29	0.01	0.04	Negative
177	MAIN	127	North	Door Casing	Metal	Intact	1.32	2.73	0.11	0.17	Negative
178	MAIN	127	North	Door	Wood	Intact	1.32	1	0	0.02	Negative
179	MAIN	127	East	Radiator	Metal	Intact	1.32	4.33	0.11	0.22	Negative
180	MAIN	127	East	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
181	MAIN	127	South	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
182	MAIN	127	West	Wall	Concrete	Intact	3.53	2.69	0.01	0.02	Negative
183	MAIN	127	North	Wall	Concrete	Intact	2.2	3.28	0.01	0.05	Negative
184	MAIN	126	South	Wall	Wood	Intact	1.33	1	0	0.02	Negative
185	MAIN	126	East	Wall	Wood	Intact	1.32	1	0	0.02	Negative
186	MAIN	126	North	Wall	Wood	Intact	2.21	1	0	0.02	Negative
187	MAIN	126	West	Wall	Wood	Intact	1.32	1	0	0.02	Negative
188	MAIN	126	South	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
189	MAIN	126	South	Door Casing	Metal	Intact	1.32	2.89	0.07	0.14	Negative
190	MAIN	126	South	Door	Wood	Intact	1.33	1	0	0.02	Negative

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191	MAIN	126	West	Door	Wood	Intact	1.33	1	0	0.02	Negative
192	MAIN	126	West	Door Casing	Metal	Intact	1.32	1.4	0.01	0.04	Negative
193	MAIN	126	East	Radiator	Metal	Intact	1.32	2.11	0.06	0.1	Negative
194	MAIN	133	West	Radiator	Metal	Intact	1.32	1.82	0.1	0.12	Negative
195	MAIN	133	East	Door Casing	Metal	Intact	1.32	2.94	0.06	0.13	Negative
196	MAIN	133	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
197	MAIN	133	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
198	MAIN	133	North	Wall	Concrete	Intact	2.64	5.83	0.02	0.08	Negative
199	MAIN	133	West	Wall	Concrete	Intact	2.64	4.27	0.02	0.07	Negative
200	MAIN	132	South	Wall	Concrete	Intact	2.64	1.64	0	0.02	Negative
201	MAIN	132	West	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
202	MAIN	132	North	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
203	MAIN	132	East	Wall	Concrete	Intact	2.65	1.14	0	0.02	Negative
204	MAIN	132	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
205	MAIN	132	East	Door Casing	Metal	Intact	1.32	1.98	0.03	0.07	Negative
206	MAIN	132	West	Radiator	Metal	Intact	1.32	1.26	0.02	0.04	Negative
207	MAIN	132	North	Fence	Metal	Intact	1.32	1	0.05	0.06	Negative
208	MAIN	131	West	Door	Metal	Intact	1.32	1	0	0.02	Negative
209	MAIN	131	West	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
210	MAIN	131	East	Door Casing	Metal	Intact	1.33	1	0.02	0.03	Negative
211	MAIN	131	East	Door	Wood	Intact	1.33	1	0	0.02	Negative
212	MAIN	131	North	Door	Wood	Intact	1.33	1.18	0	0.02	Negative
213	MAIN	131	North	Door Casing	Wood	Intact	1.32	1.04	0	0.02	Negative
214	MAIN	131	South	Door Casing	Wood	Intact	1.32	1	0	0.02	Negative
215	MAIN	131	South	Door	Metal	Intact	1.33	1	0	0.02	Negative
216	MAIN	131	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
217	MAIN	131	North	Wall	Drywall	Intact	1.76	1	0	0.02	Negative
218	MAIN	131	East	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
219	MAIN	131	West	Wall	Concrete	Intact	3.52	5.09	0.02	0.04	Negative
220	MAIN	131A	West	Wall	Concrete	Intact	3.08	2.11	0.01	0.04	Negative
221	MAIN	131A	North	Wall	Concrete	Intact	3.09	1	0	0.02	Negative
222	MAIN	131A	East	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
223	MAIN	131A	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
224	MAIN	131A	South	Door	Wood	Intact	1.32	6.46	0.03	0.13	Negative
225	MAIN	131A	South	Door Casing	Wood	Intact	1.33	1	0	0.02	Negative
226	MAIN	131A	West	Radiator	Metal	Intact	1.33	1	0	0.02	Negative
227	MAIN	131B	West	Radiator	Metal	Intact	1.32	1.09	0.01	0.03	Negative
228	MAIN	131B	West	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
229	MAIN	131B	South	Wall	Concrete	Intact	3.09	1	0	0.02	Negative
230	MAIN	131B	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
231	MAIN	131B	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
232	MAIN	131B	North	Door	Wood	Intact	1.32	1	0	0.02	Negative
233	MAIN	131B	North	Door Casing	Wood	Intact	1.32	1	0	0.02	Negative
234	MAIN	130	West	Radiator	Metal	Intact	1.32	2.76	0.03	0.09	Negative
235	MAIN	130	East	Door Casing	Metal	Intact	1.32	1.51	0.03	0.06	Negative
236	MAIN	130	East	Door	Wood	Intact	1.32	1.23	0.01	0.03	Negative
237	MAIN	130	East	Wall	Concrete	Intact	3.52	4.43	0.01	0.03	Negative
238	MAIN	130	North	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
239	MAIN	130	West	Wall	Concrete	Intact	2.21	1	0	0.02	Negative
240	MAIN	130	South	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
241	MAIN	129B	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
242	MAIN	129B	East	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
243	MAIN	129B	West	Wall	Concrete	Intact	3.08	4.23	0.02	0.06	Negative
244	MAIN	129B	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
245	MAIN	129B	East	Radiator	Metal	Intact	1.33	7.24	0.22	0.42	Negative
246	MAIN	129B	West	Door Casing	Metal	Intact	1.32	1	0.01	0.02	Negative
247	MAIN	129B	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
248	MAIN	129A	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
249	MAIN	129A	West	Door Casing	Metal	Intact	1.32	3.46	0.07	0.15	Negative
250	MAIN	129A	East	Door	Wood	Intact	1.33	1	0	0.02	Negative
251	MAIN	129A	East	Door Casing	Wood	Intact	1.32	1	0	0.02	Negative

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252	MAIN	129A	East	Wall	Drywall	Intact	2.2	1	0	0.02	Negative
253	MAIN	129A	North	Wall	Drywall	Intact	1.76	1	0	0.02	Negative
254	MAIN	129A	South	Wall	Drywall	Intact	1.33	3.33	0.01	0.05	Negative
255	MAIN	129A	West	Wall	Concrete	Intact	2.21	2.5	0.01	0.04	Negative
256	MAIN	129A	East	Wall	Concrete	Intact	2.64	1.23	0	0.02	Negative
257	MAIN	129A	East	Radiator	Metal	Intact	1.32	1.63	0.06	0.09	Negative
258	MAIN	129C	East	Radiator	Metal	Intact	1.32	1	0	0.02	Negative
259	MAIN	129C	East	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
260	MAIN	129C	North	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
261	MAIN	129C	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
262	MAIN	129C	South	Wall	Drywall	Intact	2.2	1	0	0.02	Negative
263	MAIN	129C	West	Wall	Drywall	Intact	2.2	1.85	0.01	0.02	Negative
264	MAIN	129C	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
265	MAIN	129C	West	Door Casing	Wood	Intact	1.32	1	0	0.02	Negative
266	MAIN	128	West	Door	Wood	Intact	1.32	2.88	0.03	0.1	Negative
267	MAIN	128	West	Door Casing	Metal	Intact	1.32	1.44	0.15	0.14	Negative
268	MAIN	128	East	Radiator	Metal	Intact	1.32	1.42	0.03	0.05	Negative
269	MAIN	128	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
270	MAIN	128	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
271	MAIN	128	North	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
272	MAIN	137	South	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
273	MAIN	137	South	Door	Metal	Intact	1.32	1	0	0.02	Negative
274	MAIN	137	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
275	MAIN	137	West	Door Casing	Metal	Intact	1.32	3.59	0.17	0.24	Negative
276	MAIN	137	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
277	MAIN	137	West	Wall	Concrete	Intact	3.09	3.02	0.02	0.05	Negative
278	MAIN	137	East	Wall	Concrete	Intact	2.21	1	0	0.02	Negative
279	MAIN	137	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
280	MAIN	137	East	Door Casing	Metal	Intact	1.33	2.86	0.08	0.14	Negative
281	MAIN	137	North	Door Casing	Metal	Intact	1.32	1.77	0.01	0.03	Negative
282	MAIN	137	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
283	MAIN	137	North	Wall	Concrete	Intact	3.09	1	0	0.02	Negative
284	MAIN	136	North	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
285	MAIN	136	West	Wall	Concrete	Intact	2.64	2.79	0.01	0.04	Negative
287	MAIN	136	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
288	MAIN	136	East	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
289	MAIN	136	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
290	MAIN	136	East	Door Casing	Metal	Intact	1.32	1.21	0.06	0.08	Negative
291	MAIN	136	East	Ceiling	Plaster	Intact	2.64	6.28	0.14	0.22	Negative
292	MAIN	131C	North	Door Casing	Wood	Intact	1.32	1	0	0.02	Negative
293	MAIN	131C	North	Door	Metal	Intact	1.33	1	0	0.02	Negative
294	MAIN	131C	North	Wall	Drywall	Intact	3.08	1.1	0	0.02	Negative
295	MAIN	131C	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
296	MAIN	131C	South	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
297	MAIN	131C	East	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
298	MAIN	S1	North	Door	Metal	Intact	1.32	3.82	0.1	0.2	Negative
299	MAIN	S1	North	Door Casing	Metal	Intact	1.32	2.19	0.11	0.14	Negative
300	MAIN	S1	North	Radiator	Metal	Intact	1.32	1.25	0.02	0.05	Negative
301	MAIN	S1	North	Wall	Concrete	Intact	3.08	3.3	0.01	0.04	Negative
302	MAIN	S1	South	Stringer	Metal	Intact	2.64	1.87	0.11	0.1	Negative
303	MAIN	S1	South	Radiator	Metal	Intact	1.32	1.11	0.02	0.04	Negative
304	MAIN	S1	South	Wall	Concrete	Intact	3.52	1.77	0.01	0.02	Negative
305	MAIN	S1	East	Wall	Concrete	Intact	3.52	1.45	0	0.02	Negative
306	MAIN	S1	West	Wall	Concrete	Intact	2.65	1.18	0	0.02	Negative
307	MAIN	S1	West	Door	Metal	Intact	1.32	1	0	0.02	Negative
308	MAIN	S1	West	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
309	MAIN	S1	West	Riser	Metal	Intact	0.89	2.48	13.3	9.8	Positive
310	MAIN	S1	South	Stringer	Metal	Intact	0.44	2.29	9.2	6.6	Positive
311	MAIN	S1	Ceiling	Ceiling	Plaster	Intact	2.2	1	0.02	0.03	Negative
312	MAIN	S3	Ceiling	Ceiling	Plaster	Intact	2.64	1.5	0.04	0.05	Negative
313	MAIN	S3	South	Door	Metal	Intact	1.32	1	0	0.02	Negative

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Reading Number	Building	Room	Side	Component	Substrate	Condition	Read Time (Sec)	Depth Index	PbC (mg/cm <sup>2</sup> )	PbC Error	Results <sup>2</sup>
314	MAIN	S3	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
315	MAIN	S3	South	Wall	Concrete	Intact	2.64	3.17	0.01	0.04	Negative
316	MAIN	S3	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
317	MAIN	S3	North	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
318	MAIN	S3	East	Wall	Concrete	Intact	3.09	1	0	0.02	Negative
319	MAIN	S3	East	Door	Metal	Intact	1.33	1	0	0.02	Negative
320	MAIN	S3	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
321	MAIN	S3	West	Riser	Metal	Intact	0.88	2.57	15.2	10.8	Positive
322	MAIN	S3	North	Stringer	Metal	Intact	0.88	2.41	14.5	11.2	Positive
323	MAIN	S2	South	Door	Metal	Intact	1.33	1	0	0.02	Negative
324	MAIN	S2	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
325	MAIN	S2	South	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
326	MAIN	S2	East	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
327	MAIN	S2	North	Wall	Concrete	Intact	3.09	1.15	0	0.02	Negative
328	MAIN	S2	West	Wall	Concrete	Intact	2.2	1.6	0.01	0.02	Negative
329	MAIN	S2	Ceiling	Ceiling	Plaster	Intact	3.53	1.44	0.05	0.03	Negative
330	MAIN	S2	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
331	MAIN	S2	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
332	MAIN	S2	South	Radiator	Metal	Intact	1.33	3.97	0.06	0.16	Negative
333	MAIN	S2	East	Radiator	Metal	Intact	1.32	1.5	0.03	0.06	Negative
334	MAIN	S2	East	Riser	Metal	Intact	0.89	2.02	14.2	10.3	Positive
335	MAIN	S2	North	Stringer	Metal	Intact	0.88	2.46	16.8	12	Positive
336	MAIN	S2	East	Fence	Metal	Intact	1.32	1	0	0.02	Negative
337	MAIN	138	West	Door Casing	Metal	Intact	0.44	10	-0.04	0.01	Negative
338	MAIN	138	West	Door	Wood	Intact	1.33	1	0	0.02	Negative
339	MAIN	138	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
340	MAIN	138	North	Wall	Drywall	Intact	3.08	1.34	0	0.02	Negative
341	MAIN	138	East	Wall	Drywall	Intact	2.64	1.15	0	0.02	Negative
342	MAIN	138	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
343	MAIN	119A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
344	MAIN	119A	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
345	MAIN	119A	South	Wall	Concrete	Intact	2.2	1.2	0	0.02	Negative
346	MAIN	119A	East	Wall	Concrete	Intact	2.65	1	0	0.02	Negative
347	MAIN	119A	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
348	MAIN	119A	East	Door Casing	Metal	Intact	1.32	1.5	0.02	0.05	Negative
349	MAIN	111	West	Door Casing	Metal	Intact	1.32	2.51	0.1	0.15	Negative
350	MAIN	111	West	Door	Metal	Intact	2.21	1.26	0.06	0.06	Negative
351	MAIN	111	West	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
352	MAIN	111	North	Wall	Concrete	Intact	5.72	1	0	0.02	Negative
353	MAIN	111	East	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
354	MAIN	111	South	Wall	Concrete	Intact	2.21	1.24	0	0.02	Negative
355	MAIN	111	South	Door	Metal	Intact	1.33	1	0	0.02	Negative
356	MAIN	111	South	Door Casing	Metal	Intact	1.33	1	0.02	0.04	Negative
357	MAIN	111	Ceiling	RAFTER	Metal	Intact	1.32	1.53	0.4	0.2	Negative
358	MAIN	111	Ceiling	Ceiling	Metal	Intact	1.32	1.68	0.4	0.3	Negative
359	MAIN	121	East	Door Casing	Metal	Intact	0.44	1	0	0.02	Negative
360	MAIN	121	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
361	MAIN	121	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
362	MAIN	121	North	Wall	Drywall	Intact	1.32	1.04	0	0.02	Negative
363	MAIN	121	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
364	MAIN	121	South	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
365	MAIN	121	West	Door	Metal	Intact	1.33	1	0	0.02	Negative
366	MAIN	121	West	Door Casing	Metal	Intact	1.36	1	0	0.02	Negative
367	MAIN	121A	East	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
368	MAIN	121A	East	Door	Metal	Intact	1.33	1	0	0.02	Negative
369	MAIN	121A	West	Radiator	Metal	Intact	1.32	1	0.04	0.05	Negative
370	MAIN	121A	West	Wall	Concrete	Intact	2.65	4.09	0.02	0.06	Negative
371	MAIN	121A	South	Wall	Concrete	Intact	2.65	1	0	0.02	Negative
372	MAIN	121A	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
373	MAIN	121A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
374	MAIN	120C	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative

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375	MAIN	120C	East	Wall	Drywall	Intact	1.32	2.11	0.01	0.03	Negative
376	MAIN	120C	North	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
377	MAIN	120C	West	Wall	Concrete	Intact	2.2	1.61	0.01	0.02	Negative
378	MAIN	120C	West	Radiator	Metal	Intact	1.32	1.26	0.05	0.07	Negative
379	MAIN	120C	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
380	MAIN	120C	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
381	MAIN	120A	West	Door	Wood	Intact	1.33	1	0	0.02	Negative
382	MAIN	120A	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
383	MAIN	120A	East	Radiator	Metal	Intact	1.32	1.61	0.07	0.1	Negative
384	MAIN	120A	East	Wall	Concrete	Intact	3.08	3.44	0.01	0.04	Negative
385	MAIN	120A	South	Wall	Concrete	Intact	3.52	1.48	0	0.02	Negative
386	MAIN	120A	West	Wall	Drywall	Intact	1.32	4.41	0.01	0.07	Negative
387	MAIN	120A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
388	MAIN	123	North	Wall	Concrete	Intact	2.2	1.89	0.01	0.03	Negative
389	MAIN	123	East	Wall	Concrete	Intact	2.2	1.41	0.01	0.02	Negative
390	MAIN	123	South	Wall	Concrete	Intact	2.65	1.27	0	0.02	Negative
391	MAIN	123	West	Wall	Concrete	Intact	2.2	1.36	0	0.02	Negative
392	MAIN	123	West	Door	Wood	Intact	1.32	1.42	0.01	0.04	Negative
393	MAIN	123	West	Door Casing	Metal	Intact	1.32	2.07	0.1	0.13	Negative
394	MAIN	123	East	Radiator	Metal	Intact	1.32	2.21	0.09	0.13	Negative
395	MAIN	102	South	Door	Metal	Intact	1.32	3.01	0.1	0.17	Negative
396	MAIN	102	South	Door Casing	Metal	Intact	1.32	2.02	0.08	0.12	Negative
397	MAIN	102	North	Fence	Metal	Intact	1.33	1.1	0	0.02	Negative
398	MAIN	102	North	Wall	Concrete	Intact	2.64	1.68	0	0.02	Negative
399	MAIN	102	Ceiling	HVAC Duct	Metal	Intact	1.32	1	0.02	0.04	Negative
400	MAIN	102	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
401	MAIN	102	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
402	MAIN	102	West	Wall	Concrete	Intact	2.64	2.14	0.01	0.03	Negative
403	MAIN	107	West	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
404	MAIN	107	North	Wall	Concrete	Intact	2.64	4.73	0.02	0.07	Negative
405	MAIN	107	East	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
406	MAIN	107	South	Wall	Concrete	Intact	2.65	2.58	0.01	0.03	Negative
407	MAIN	107	South	Door	Metal	Intact	1.32	4.6	0.23	0.32	Negative
408	MAIN	107	South	Door Casing	Metal	Intact	1.32	1	0.04	0.06	Negative
409	MAIN	107	Ceiling	HVAC Duct	Metal	Intact	1.32	3.74	0.07	0.2	Negative
410	MAIN	218	West	Radiator	Metal	Intact	1.32	2.49	0.4	0.3	Negative
411	MAIN	218	East	Door Casing	Metal	Intact	1.32	2.03	0.14	0.16	Negative
412	MAIN	218	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
413	MAIN	218	East	Wall	Concrete	Intact	2.64	2.3	0.01	0.03	Negative
414	MAIN	218	South	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
415	MAIN	218	West	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
416	MAIN	218	North	Wall	Concrete	Intact	2.64	2.14	0.01	0.03	Negative
417	MAIN	219	North	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
418	MAIN	219	East	Wall	Concrete	Intact	2.64	2.51	0.01	0.03	Negative
419	MAIN	219	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
420	MAIN	219	West	Wall	Concrete	Intact	3.52	1.58	0	0.02	Negative
421	MAIN	219	West	Door	Wood	Intact	1.33	1	0	0.02	Negative
422	MAIN	219	West	Door Casing	Metal	Intact	1.32	2.71	0.1	0.15	Negative
423	MAIN	219	East	Radiator	Metal	Intact	1.32	2.88	0.4	0.3	Negative
424	MAIN	220	East	Radiator	Metal	Intact	1.32	2.8	0.4	0.3	Negative
425	MAIN	220	West	Door Casing	Metal	Intact	1.32	4.83	0.11	0.24	Negative
426	MAIN	220	West	Door	Wood	Intact	1.33	1	0	0.02	Negative
427	MAIN	220	West	Wall	Concrete	Intact	3.08	2.41	0.09	0.09	Negative
428	MAIN	220	South	Wall	Concrete	Intact	2.21	1.56	0	0.02	Negative
429	MAIN	220	East	Wall	Concrete	Intact	2.64	2.33	0.11	0.11	Negative
430	MAIN	220	North	Wall	Concrete	Intact	2.65	2.36	0.09	0.1	Negative
431	MAIN	217	North	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
432	MAIN	217	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
433	MAIN	217	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
434	MAIN	217	East	Wall	Concrete	Intact	2.21	1	0	0.02	Negative
435	MAIN	217	East	Door	Wood	Intact	1.32	1	0	0.02	Negative

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436	MAIN	217	East	Door Casing	Metal	Intact	1.32	2.6	0.23	0.23	Negative
437	MAIN	217	West	Radiator	Metal	Intact	1.33	1.81	0.13	0.14	Negative
438	MAIN	216B	West	Radiator	Metal	Intact	1.33	1.43	0.01	0.04	Negative
439	MAIN	216B	East	Door Casing	Metal	Intact	1.33	1	0	0.02	Negative
440	MAIN	216B	East	Door	Wood	Intact	1.33	1	0	0.02	Negative
441	MAIN	216B	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
442	MAIN	216B	South	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
443	MAIN	216B	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
444	MAIN	216B	North	Wall	Concrete	Intact	2.21	1	0	0.02	Negative
445	MAIN	216A	North	Wall	Concrete	Intact	2.2	1.65	0	0.02	Negative
446	MAIN	216A	East	Wall	Concrete	Intact	2.21	1	0	0.02	Negative
447	MAIN	216A	South	Wall	Concrete	Intact	3.08	1.46	0	0.02	Negative
448	MAIN	216A	West	Wall	Drywall	Intact	1.32	3.65	0.01	0.07	Negative
449	MAIN	216A	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
450	MAIN	216A	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
451	MAIN	216A	East	Door Casing	Metal	Intact	1.32	2.45	0.14	0.17	Negative
452	MAIN	216A	East	Door	Wood	Intact	1.32	2.64	0.02	0.07	Negative
453	MAIN	221	West	Door	Wood	Intact	1.32	1.37	0.01	0.04	Negative
454	MAIN	221	West	Door Casing	Metal	Intact	1.33	1.2	0.03	0.05	Negative
455	MAIN	221	East	Radiator	Metal	Intact	1.32	2.61	0.3	0.27	Negative
456	MAIN	221	East	Wall	Concrete	Intact	3.53	1.59	0.17	0.06	Negative
457	MAIN	221	North	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
458	MAIN	221	West	Wall	Concrete	Intact	3.52	2.67	0.17	0.08	Negative
459	MAIN	221	South	Wall	Concrete	Intact	3.09	2.47	0.09	0.09	Negative
460	MAIN	214A	South	Wall	Concrete	Intact	2.65	1	0	0.02	Negative
461	MAIN	214A	West	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
462	MAIN	214A	North	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
463	MAIN	214A	East	Wall	Concrete	Intact	3.08	2.76	0.01	0.03	Negative
464	MAIN	214A	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
465	MAIN	214A	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
466	MAIN	214A	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
467	MAIN	214A	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
468	MAIN	214A	Ceiling	Ceiling	Plaster	Intact	2.21	1	0.02	0.03	Negative
469	MAIN	214B	Ceiling	Ceiling	Plaster	Intact	3.52	1.92	0.03	0.03	Negative
470	MAIN	214B	South	Wall	Concrete	Intact	3.53	2.17	0	0.02	Negative
471	MAIN	214B	West	Wall	Concrete	Intact	1.76	2.74	0.3	0.27	Negative
472	MAIN	214B	North	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
473	MAIN	214B	East	Wall	Concrete	Intact	1.32	2.46	0.3	0.29	Negative
474	MAIN	214B	East	Door	Wood	Intact	1.32	1.09	0	0.02	Negative
475	MAIN	214B	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
476	MAIN	213	East	Door Casing	Metal	Intact	1.32	2.45	0.07	0.12	Negative
477	MAIN	213	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
478	MAIN	213	East	Wall	Concrete	Intact	2.2	2.13	0.17	0.14	Negative
479	MAIN	213	North	Wall	Concrete	Intact	3.53	2.12	0.19	0.08	Negative
480	MAIN	213	West	Wall	Concrete	Intact	3.52	2.38	0.25	0.1	Negative
481	MAIN	213	South	Wall	Concrete	Intact	3.53	1.91	0.16	0.07	Negative
482	MAIN	213	Ceiling	Ceiling	Plaster	Intact	2.2	1.4	0.08	0.08	Negative
483	MAIN	213	West	STALL	Metal	Intact	1.33	1	0	0.02	Negative
484	MAIN	212	West	Radiator	Metal	Intact	1.33	1.29	0.04	0.07	Negative
485	MAIN	211	North	Radiator	Metal	Intact	1.32	3.37	0.5	0.4	Negative
486	MAIN	211	East	Door Casing	Metal	Intact	1.32	1.09	0.02	0.04	Negative
487	MAIN	211	East	Door	Wood	Intact	1.33	1	0.01	0.02	Negative
488	MAIN	211	East	Wall	Concrete	Intact	3.53	1.92	0.18	0.07	Negative
489	MAIN	211	North	Wall	Concrete	Intact	3.52	2.26	0.19	0.08	Negative
490	MAIN	211	West	Wall	Concrete	Intact	3.52	1.95	0.14	0.06	Negative
491	MAIN	211	South	Wall	Concrete	Intact	3.09	1.96	0.17	0.11	Negative
492	MAIN	211	Ceiling	Ceiling	Plaster	Intact	2.2	1.58	0.1	0.09	Negative
493	MAIN	211	West	LOCKER	Metal	Intact	1.32	1.49	0.1	0.11	Negative
494	MAIN	211	South	LOCKER	Metal	Intact	1.32	1	0.03	0.05	Negative
495	MAIN	211	North	LOCKER	Metal	Intact	1.33	1	0.03	0.05	Negative
496	MAIN	202	West	Door Casing	Metal	Intact	1.33	1.69	0.05	0.08	Negative

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497	MAIN	202	West	Door	Wood	Intact	1.33	1.3	0.01	0.04	Negative
498	MAIN	202	West	Wall	Concrete	Intact	2.2	3.17	0.01	0.04	Negative
499	MAIN	202	North	Wall	Concrete	Intact	3.52	1.39	0	0.02	Negative
500	MAIN	202	East	Wall	Concrete	Intact	2.65	2.16	0.01	0.03	Negative
501	MAIN	202	South	Wall	Concrete	Intact	2.2	1.2	0	0.02	Negative
502	MAIN	202	East	Radiator	Metal	Intact	1.32	3.59	0.3	0.35	Negative
510	MAIN	110	South	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
511	MAIN	110	East	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
512	MAIN	110	East	Radiator	Metal	Intact	1.32	1	0	0.02	Negative
513	MAIN	110	North	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
514	MAIN	110	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
515	MAIN	110	West	Door	Metal	Intact	1.32	1	0	0.02	Negative
516	MAIN	110	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
517	MAIN	203	West	Door Casing	Metal	Intact	1.32	1.39	0.06	0.08	Negative
518	MAIN	203	West	Door	Wood	Intact	1.32	1	0.01	0.03	Negative
519	MAIN	203	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
520	MAIN	203	North	Wall	Concrete	Intact	1.76	1	0	0.02	Negative
521	MAIN	203	East	Wall	Concrete	Intact	2.2	1.44	0	0.02	Negative
522	MAIN	203	South	Wall	Concrete	Intact	2.2	1.11	0	0.02	Negative
523	MAIN	203	East	Radiator	Metal	Intact	1.32	3.46	0.5	0.4	Negative
524	MAIN	204	East	Radiator	Metal	Intact	1.32	2.37	0.1	0.15	Negative
525	MAIN	204	East	Wall	Concrete	Intact	1.32	1	0	0.02	Negative
526	MAIN	204	South	Wall	Concrete	Intact	3.08	1.85	0	0.02	Negative
527	MAIN	204	North	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
528	MAIN	204	West	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
529	MAIN	204	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
530	MAIN	204	West	Door Casing	Metal	Intact	1.32	5.41	0.06	0.18	Negative
531	MAIN	209	East	Door Casing	Metal	Intact	1.32	3.1	0.08	0.16	Negative
532	MAIN	209	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
533	MAIN	209	East	Wall	Concrete	Intact	3.53	1.96	0	0.02	Negative
534	MAIN	209	South	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
535	MAIN	209	North	Wall	Concrete	Intact	3.08	1.89	0	0.02	Negative
536	MAIN	209	West	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
537	MAIN	209	West	Radiator	Metal	Intact	1.32	1	0	0.02	Negative
538	MAIN	206	West	Radiator	Metal	Intact	1.32	3.05	0.21	0.25	Negative
539	MAIN	206	North	Door Casing	Metal	Intact	1.32	2.33	0.14	0.17	Negative
540	MAIN	206	North	Door	Wood	Intact	1.32	3.5	0.03	0.11	Negative
541	MAIN	206	North	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
542	MAIN	206	West	Wall	Concrete	Intact	1.76	3.19	0.01	0.06	Negative
543	MAIN	206	South	Wall	Concrete	Intact	3.52	2.1	0.01	0.02	Negative
544	MAIN	206	East	Wall	Concrete	Intact	3.08	1.55	0	0.02	Negative
545	MAIN	207	East	Wall	Concrete	Intact	3.52	2.79	0.01	0.02	Negative
546	MAIN	207	North	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
547	MAIN	207	West	Wall	Concrete	Intact	3.53	1	0	0.02	Negative
548	MAIN	207	South	Wall	Concrete	Intact	7.93	3.1	0.01	0.02	Negative
549	MAIN	207	South	Door Casing	Metal	Intact	1.32	4.95	0.16	0.29	Negative
550	MAIN	207	South	Door	Wood	Intact	1.32	1	0	0.02	Negative
551	MAIN	207	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
552	MAIN	207	East	Door Casing	Metal	Intact	1.32	1.32	0.11	0.11	Negative
553	MAIN	207	West	Radiator	Metal	Intact	1.32	1.18	0.18	0.13	Negative
554	MAIN	210	West	Radiator	Metal	Intact	1.32	2.27	0.03	0.08	Negative
555	MAIN	210	East	Door Casing	Metal	Intact	1.32	2.27	0.13	0.16	Negative
556	MAIN	210	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
557	MAIN	210	South	Door	Wood	Intact	0.88	1	0	0.02	Negative
558	MAIN	210	South	Door Casing	Wood	Intact	1.32	2.57	0.01	0.05	Negative
559	MAIN	210	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
560	MAIN	210	East	Wall	Concrete	Intact	2.64	1.05	0	0.02	Negative
561	MAIN	210	North	Wall	Concrete	Intact	3.52	2.44	0.01	0.02	Negative
562	MAIN	210	West	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
563	MAIN	210A	West	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
564	MAIN	210A	South	Wall	Concrete	Intact	3.52	3.31	0.01	0.03	Negative

FACILITY NUMBER IA003  
CEDAR RAPIDS IOWA

Reading Number	Building	Room	Side	Component	Substrate	Condition	Read Time (Sec)	Depth Index	PbC (mg/cm <sup>2</sup> )	PbC Error	Results <sup>3</sup>
565	MAIN	210A	East	Wall	Concrete	Intact	2.64	2.77	0.01	0.04	Negative
566	MAIN	210A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
567	MAIN	210A	North	Door	Wood	Intact	0.88	1	0	0.03	Negative
568	MAIN	210A	North	Door Casing	Wood	Intact	1.32	1	0	0.02	Negative
569	MAIN	210A	West	Radiator	Metal	Intact	1.32	4	0.07	0.16	Negative
570	MAIN	208	West	Radiator	Metal	Intact	1.32	1.15	0.02	0.05	Negative
571	MAIN	208	East	Door Casing	Metal	Intact	1.32	1.84	0.04	0.08	Negative
572	MAIN	208	East	Door	Wood	Intact	1.32	2.55	0.02	0.08	Negative
573	MAIN	208	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
574	MAIN	208	South	Wall	Concrete	Intact	4.87	2.99	0.01	0.02	Negative
575	MAIN	208	West	Wall	Concrete	Intact	1.76	1.18	0	0.02	Negative
576	MAIN	208	North	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
577	MAIN	205	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
578	MAIN	205	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
579	MAIN	205	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
580	MAIN	205	West	Wall	Drywall	Intact	1.76	1	0	0.02	Negative
581	MAIN	205	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
582	MAIN	205	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
583	MAIN	205	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
584	MAIN	205	South	Door	Wood	Intact	1.32	1	0	0.02	Negative
585	MAIN	205	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
586	MAIN	205	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
587	MAIN	205A	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
588	MAIN	205A	North	Door	Wood	Intact	1.32	1	0	0.02	Negative
589	MAIN	205A	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
590	MAIN	205A	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
591	MAIN	205A	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
592	MAIN	205A	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
593	MAIN	205A	East	Radiator	Metal	Intact	1.32	1.51	0.01	0.04	Negative
594	MAIN	205B	East	Radiator	Metal	Intact	1.32	3.62	0.07	0.15	Negative
595	MAIN	205B	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
596	MAIN	205B	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
597	MAIN	205B	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
598	MAIN	205B	South	Wall	Drywall	Intact	1.76	1	0	0.02	Negative
599	MAIN	205B	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
600	MAIN	205B	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
601	MAIN	205C	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
602	MAIN	205C	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
603	MAIN	205C	South	Wall	Drywall	Intact	1.76	1	0	0.02	Negative
604	MAIN	205C	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
605	MAIN	205C	East	Radiator	Metal	Intact	1.32	1	0.01	0.03	Negative
606	MAIN	205C	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
607	MAIN	205C	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
608	MAIN	212	Ceiling	Ceiling	Plaster	Intact	2.2	1.33	0.07	0.07	Negative
609	MAIN	214	West	Radiator	Metal	Intact	1.32	4.21	0.05	0.15	Negative
610	MAIN	214	East	Door Casing	Metal	Intact	1.32	1.28	0.1	0.1	Negative
611	MAIN	214	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
612	MAIN	214	South	Door	Wood	Intact	1.76	10	0.04	0.1	Negative
613	MAIN	214	South	Door Casing	Metal	Intact	1.32	2.51	0.18	0.2	Negative
614	MAIN	214	South	Wall	Concrete	Intact	3.52	1.71	0	0.02	Negative
615	MAIN	214	West	Wall	Concrete	Intact	1.32	2.18	0.22	0.23	Negative
616	MAIN	214	North	Wall	Concrete	Intact	3.08	3.2	0.3	0.22	Negative
617	MAIN	214	East	Wall	Concrete	Intact	1.32	2.66	0.3	0.32	Negative
618	MAIN	214	East	Wall	Concrete	Intact	3.52	2.16	0.01	0.02	Negative
619	MAIN	215	South	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
620	MAIN	215	West	Wall	Concrete	Intact	2.2	1.8	0	0.02	Negative
621	MAIN	215	North	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
622	MAIN	215	North	Door	Wood	Intact	1.32	1.63	0.01	0.05	Negative
623	MAIN	215	North	Door Casing	Metal	Intact	1.32	1.42	0.13	0.12	Negative
624	MAIN	215	West	Radiator	Metal	Intact	1.32	3.53	0.14	0.23	Negative
625	MAIN	222	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative

FACILITY NUMBER IA003  
CEDAR RAPIDS IOWA

Reading Number	Building	Room	Side	Component	Substrate	Condition	Read Time (Sec)	Depth Index	PbC (mg/cm <sup>2</sup> )	PbC Error	Results <sup>1</sup>
626	MAIN	222	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
627	MAIN	222	North	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
628	MAIN	222	West	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
629	MAIN	222	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
630	MAIN	222	West	Door Casing	Metal	Intact	1.32	3.01	0.3	0.3	Negative
631	MAIN	222	East	Door Casing	Metal	Intact	1.32	3.68	0.4	0.4	Negative
632	MAIN	222	East	Door	Wood	Intact	1.32	1	0	0.02	Negative
633	MAIN	222	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
634	MAIN	222	East	Wall	Concrete	Intact	3.52	1.44	0.01	0.02	Negative
635	MAIN	222	South	Wall	Concrete	Intact	2.64	2.64	0.01	0.04	Negative
636	MAIN	222	South	Door	Metal	Intact	1.32	1	0	0.02	Negative
637	MAIN	222	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
638	MAIN	201	West	Door Casing	Metal	Intact	1.32	1.86	0.1	0.13	Negative
639	MAIN	201	West	Door	Wood	Intact	1.32	1	0	0.02	Negative
640	MAIN	201	West	Wall	Concrete	Intact	3.08	2.11	0.01	0.03	Negative
641	MAIN	201	North	Wall	Concrete	Intact	2.64	1	0	0.02	Negative
642	MAIN	201	South	Wall	Concrete	Intact	3.52	1	0	0.02	Negative
643	MAIN	201	East	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
644	MAIN	201	East	Radiator	Metal	Intact	1.32	1.21	0.01	0.04	Negative
645	MAIN	112	South	Radiator	Metal	Intact	1.32	1.84	0.09	0.12	Negative
646	MAIN	112	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
647	MAIN	112	East	Door Casing	Metal	Intact	1.32	1	0.01	0.02	Negative
648	MAIN	112	West	Door Casing	Metal	Intact	1.32	2.34	0.13	0.16	Negative
649	MAIN	112	West	Door	Metal	Intact	1.32	2.37	0.1	0.15	Negative
650	MAIN	112	North	HVAC Duct	Metal	Intact	1.32	4.96	0.13	0.35	Negative
651	MAIN	112	North	Wall	Concrete	Intact	2.64	1.48	0	0.02	Negative
652	MAIN	112	East	Wall	Concrete	Intact	3.08	1	0	0.02	Negative
653	MAIN	112	South	Wall	Concrete	Intact	2.2	1	0	0.02	Negative
654	MAIN	112	West	Wall	Concrete	Intact	2.64	1.43	0	0.02	Negative
655	MAINT SHOP	100	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
656	MAINT SHOP	100	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
657	MAINT SHOP	100	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
658	MAINT SHOP	100	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
659	MAINT SHOP	100	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
660	MAINT SHOP	100	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
661	MAINT SHOP	100	West	Wall	Drywall	Intact	1.32	1.16	0	0.02	Negative
662	MAINT SHOP	100	South	Wall	Drywall	Intact	3.53	1	0	0.02	Negative
663	MAINT SHOP	100	Ceiling	Ceiling	Drywall	Intact	1.32	1.38	0	0.02	Negative
664	MAINT SHOP	101	Ceiling	Ceiling	Drywall	Intact	1.32	1	0	0.02	Negative
665	MAINT SHOP	101	West	Wall	Drywall	Intact	2.2	1	0	0.02	Negative
666	MAINT SHOP	101	North	Wall	Drywall	Intact	2.2	1.32	0	0.02	Negative
667	MAINT SHOP	101	East	Wall	Drywall	Intact	3.08	1.6	0	0.02	Negative
668	MAINT SHOP	101	South	Wall	Drywall	Intact	3.52	1	0	0.02	Negative
669	MAINT SHOP	101	South	Door	Metal	Intact	1.32	1	0	0.02	Negative
670	MAINT SHOP	101	South	Door Casing	Metal	Intact	1.32	1.97	0.01	0.03	Negative
671	MAINT SHOP	102	South	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
672	MAINT SHOP	102	South	Door	Metal	Intact	1.32	1.73	0	0.02	Negative
673	MAINT SHOP	102	West	STALL	Metal	Intact	1.32	1	0	0.02	Negative
674	MAINT SHOP	102	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
675	MAINT SHOP	102	South	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
676	MAINT SHOP	102	East	Wall	Drywall	Intact	1.76	1.38	0	0.02	Negative
677	MAINT SHOP	102	North	Wall	Drywall	Intact	2.64	1	0	0.02	Negative
678	MAINT SHOP	102	Ceiling	Ceiling	Drywall	Intact	1.32	1	0	0.02	Negative
679	MAINT SHOP	104	Ceiling	Ceiling	Drywall	Intact	1.32	1	0	0.02	Negative
680	MAINT SHOP	104	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
681	MAINT SHOP	104	East	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
682	MAINT SHOP	104	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
683	MAINT SHOP	104	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
684	MAINT SHOP	104	South	Fence	Metal	Intact	1.32	1	0	0.02	Negative
685	MAINT SHOP	104	West	Fence	Metal	Intact	1.32	1	0	0.02	Negative
686	MAINT SHOP	105	North	Fence	Metal	Intact	1.32	1	0	0.02	Negative

FACILITY NUMBER IA003  
CEDAR RAPIDS IOWA

Reading Number <sup>1</sup>	Building	Room	Side	Component	Substrate	Condition	Read Time (Sec)	Depth index <sup>2</sup>	PbC (mg/cm <sup>2</sup> )	PbC Error	Results <sup>3</sup>
687	MAINT SHOP	105	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
688	MAINT SHOP	105	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
689	MAINT SHOP	105	East	Wall	Drywall	Intact	2.64	1	0	0.02	Negative
690	MAINT SHOP	105	South	Wall	Drywall	Intact	2.64	1	0	0.02	Negative
691	MAINT SHOP	105	West	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
692	MAINT SHOP	105	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
693	MAINT SHOP	105	Ceiling	Ceiling	Drywall	Intact	1.32	1	0	0.02	Negative
694	MAINT SHOP	105	East	Fence	Metal	Intact	1.33	1	0	0.02	Negative
695	MAINT SHOP	106	West	Door	Metal	Intact	1.32	1	0	0.02	Negative
696	MAINT SHOP	106	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
697	MAINT SHOP	106	West	Wall	Drywall	Intact	2.2	1	0	0.02	Negative
698	MAINT SHOP	106	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
699	MAINT SHOP	106	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
700	MAINT SHOP	106	North	Wall	Drywall	Intact	1.32	1	0	0.02	Negative
701	MAINT SHOP	106	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
702	MAINT SHOP	106	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
703	MAINT SHOP	106	East	Column	Metal	Intact	0.44	2.36	8	5.6	Positive
704	MAINT SHOP	106	North	Column	Metal	Intact	0.44	2.03	10.7	8.4	Positive
705	MAINT SHOP	106	MIDDLE	Column	Metal	Intact	0.44	2.76	10.2	8.3	Positive
706	MAINT SHOP	106	South	Column	Metal	Intact	0.45	2.09	9.8	6.8	Positive
707	MAINT SHOP	106	South	Window Casing	Metal	Intact	0.44	1.89	8.3	5.3	Positive
708	MAINT SHOP	106	South	Window	Metal	Intact	1.32	1.25	0.04	0.08	Negative
709	MAINT SHOP	106	Ceiling	Ceiling	Metal	Intact	1.32	1.91	0.17	0.17	Negative
710	MAINT SHOP	106	Ceiling	BEAM	Metal	Intact	0.89	2.56	10.7	7.5	Positive
711	MAINT SHOP	106	Ceiling	RAFTER	Metal	Intact	1.32	2.93	0.11	0.17	Negative
712	MAINT SHOP	106	North	Garage Door	Metal	Intact	1.32	1	0	0.02	Negative
713	MAINT SHOP	EXTERIOR	North	Garage Door	Metal	Intact	0.44	1	0	99.99	Null
714	MAINT SHOP	EXTERIOR	North	Garage Door	Metal	Intact	1.32	1	0	0.03	Negative
715	MAINT SHOP	EXTERIOR	North	Garage Door CASIN	Metal	Intact	0.45	1.98	10.7	8.2	Positive
716	MAINT SHOP	EXTERIOR	North	Door	Metal	Intact	1.32	1	0	0.02	Negative
717	MAINT SHOP	EXTERIOR	North	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
718	MAINT SHOP	EXTERIOR	East	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
719	MAINT SHOP	EXTERIOR	East	Door	Metal	Intact	1.32	1	0	0.02	Negative
720	MAINT SHOP	EXTERIOR	West	Door	Metal	Intact	1.32	1	0	0.02	Negative
721	MAINT SHOP	EXTERIOR	West	Door Casing	Metal	Intact	1.32	1	0	0.02	Negative
722	MAINT SHED	SHED	East	Column	Metal	Poor	1.32	1	0	0.02	Negative
723	MAINT SHED	SHED	West	Column	Metal	Intact	1.32	1	0	0.02	Negative
724	MAIN	EXTERIOR	West	Door	Metal	Intact	1.32	1	0	0.02	Negative
725	MAIN	EXTERIOR	West	Door Casing	Metal	Intact	3.53	1.63	1.2	0.2	Positive
726	MAIN	EXTERIOR	West	Garage Door	Metal	Intact	1.32	1	0	0.02	Negative
727	MAIN	EXTERIOR	West	Garage Door CASIN	Metal	Intact	0.88	3.64	4.5	3	Positive
728	MAIN	EXTERIOR	South	Door	Metal	Intact	1.32	1	0	0.02	Negative
729	MAIN	EXTERIOR	South	Door Casing	Metal	Intact	0.88	2.04	2.3	1.3	Positive
730	MAIN	EXTERIOR	South	Curb	Concrete	Intact	3.08	2.83	0.01	0.03	Negative
731	MAIN	EXTERIOR	West	Curb	Concrete	Intact	3.09	1.18	0.02	0.03	Negative
732	MAIN	EXTERIOR	East	Door	Metal	Intact	2.2	1.9	1.5	0.4	Positive
733	MAIN	EXTERIOR	East	Door Casing	Metal	Intact	1.76	1.94	1.5	0.5	Positive
734	MAIN	EXTERIOR	North	Curb	Concrete	Intact	1.32	1.29	1.6	0.5	Positive
735	MAIN	EXTERIOR	North	DOWNSPOUT	Metal	Intact	1.32	1	0.04	0.1	Negative
736	MAIN	EXTERIOR	West	DOWNSPOUT	Metal	Intact	1.33	1	0	0.02	Negative

Notes:

1. Calibration and voided readings are not included in the table.
2. Depth index of <1.5 is near surface; 1.6-4.0 is moderate; >4.0 is deeply buried
3. Action level is 1.0 mg/cm<sup>2</sup>



2006 DRINKING WATER SURVEY

*Cedar Report*

**DRINKING WATER SURVEY**

**FACILITIES LOCATED IN IOWA, KANSAS,  
MISSOURI AND NEBRASKA**

**PREPARED FOR**

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**RIVERFRONT PROJECT NO. 5336-01**

**FEBRUARY 22, 2006**

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## 1.0 INTRODUCTION

Riverfront Environmental, Inc (Riverfront) performed a Drinking Water Survey at facilities in the 89<sup>th</sup> Region Readiness Command (89<sup>th</sup> RRC) Four State Area. This work was performed in response to contract W912C9-05-P-0068. This survey was conducted in accordance with the work plan dated October 18, 2005. The scope of work included the following:

- ◆ Riverfront contacted, via telephone, the acting facility manager or knowledgeable party at each facility to determine if the facility is supplied with drinking water from a public water supply (PWS) or if drinking water was obtained from another source (i.e. groundwater well).
- ◆ If the facility obtained water from a PWS, Riverfront determined the type of PWS and the testing methods required for that type of facility in order to determine compliance with the Safe Drinking Water Act.
- ◆ Riverfront contacted the PWS and requested any public notifications of violation that have been issued within the past five years. If violations existed, Riverfront evaluated actions taken to remedy the variance to determine if the action was appropriate and if it remedied the violation.
- ◆ If the facility did not obtain water from a PWS, Riverfront identified the method in which drinking water was supplied. The appropriate parties were then contacted to determine the method and frequency of testing. Riverfront also requested the most recent analytical data to review results and make recommendations if warranted.
- ◆ Riverfront also assessed the age of the building, the condition of the public water supply distribution system, and the condition of plumbing on the property. Recommendations for each facility were made if additional testing is warranted.

Individual facilities were not inspected as part of this project, therefore uncertainties regarding the physical condition of the piping may exist. A summary of all facility information obtained is included in Table 1.

## 2.0 SUMMARY OF FINDINGS

One hundred four (104) facilities were included in this survey. Of these facilities, approximately 31 facilities are recommended for testing. Most facilities that testing is recommended for are older buildings with plumbing installed in or prior to 1970. These facilities have been targeted due to the heavy use of lead in plumbing pipes, in pipe solder, and in plumbing gaskets prior to 1970. Lead in plumbing parts was not banned until 1986 when the Environmental Protection Agency (EPA) passed an amendment to the Safe Water Drinking Act (40 CFR 141.43).

The age of the water distribution lines was based solely on the information provided by the Public Water Supply (PWS). Prior to 1986 and the lead ban, it was common for PWS to use lead lined supply lines from the main into buildings.

One facility is on drinking water wells and testing is recommended due to the lack of testing information for the wells. With the exception of this facility, all facilities are supplied water by a PWS, or a water well that conforms to the testing required in 40 CFR 141, the Safe Drinking Water Act.

This report is presented based on facility, with each facility having its own section with a conversation summary, recommendations, and contact information followed by correspondence, the most recent water testing results for the facilities if available, and copies of any violation or public notice if applicable

If testing is recommended for a facility, only initial constituents are listed. Based on analytical results from the initial round of testing, additional testing may be recommended. The number of samples collected from each facility should be based on the size of the building and the number of buildings on site.

**4.0 IA003 - CEDAR RAPIDS AFRC**

**Summary of conversations:**

Riverfront contacted SFC Sarah Sullivan of the Cedar Rapids USARC to obtain information regarding drinking water at the facility. Ms. Sullivan stated that the facility obtains its water from the city. She has not had any complaints regarding the tap water and she has not received any notices of violations from the city.

Riverfront also contacted Mr. Bruce Lyon of the Cedar Rapids Water Department, a community PWS. Mr. Lyon stated that they have not had any violations in the last 5 to 10 years. Mr. Lyon also stated that the water delivery system is in good condition.

**4.1 Recommendations**

No testing is recommended for this facility at this time.

**4.2 Public Water Supply (PWS) Contact**

**Name:** Cedar Rapids Water Department

**Address:** 1111 Shaver Road NE  
Cedar Rapids, Iowa 52404

**Phone number:** (319) 286-5910

**Contact:** Bruce Lyon



## RECORD OF COMMUNICATION

Name: KLD Date/Time: 12/5/05  
Communications With: SFC Sarah Sullivan Project No: 5336-01  
Company: Cedar Rapids AFRC Project Name: Drinking Water Surveys  
Address: 1599 Wenig Rd. NE Phone: 319-286-1182 x 133  
Cedar Rapids, IA 52402 Fax: \_\_\_\_\_  
Subject: Drinking Water Annual Consumer Confidence Reports

### Communications Via:

Telephone Conversation  Meeting at \_\_\_\_\_  
 Project site \_\_\_\_\_  Other \_\_\_\_\_

### Summary of Communication:

12/5/05: No answer, LM

12/7/05: LM.

12/7/05: PWS is municipal. No problem with tap water, i.e. discolorations/odors. Plumbing is in good condition. They have received no notifications of violations from PWS.

### Follow up Required:



## RECORD OF COMMUNICATION

**Name:** Katie Dietrich **Date/Time:** 12/8/05  
**Communications With:** Shelly Grab **Project No:** 5336-01  
**Company:** Cedar Rapids Water Dept. **Project Name:** Drinking Water Surveys  
**Address:** 1111 Shaver Road NE **Phone:** 319-286-5910  
Cedar Rapids, IA 52404 **Fax:** \_\_\_\_\_  
**Subject:** Annual Consumer Confidence Reports & Violations

### Communications Via:

Telephone Conversation  Meeting at \_\_\_\_\_  
 Project site \_\_\_\_\_  Other \_\_\_\_\_

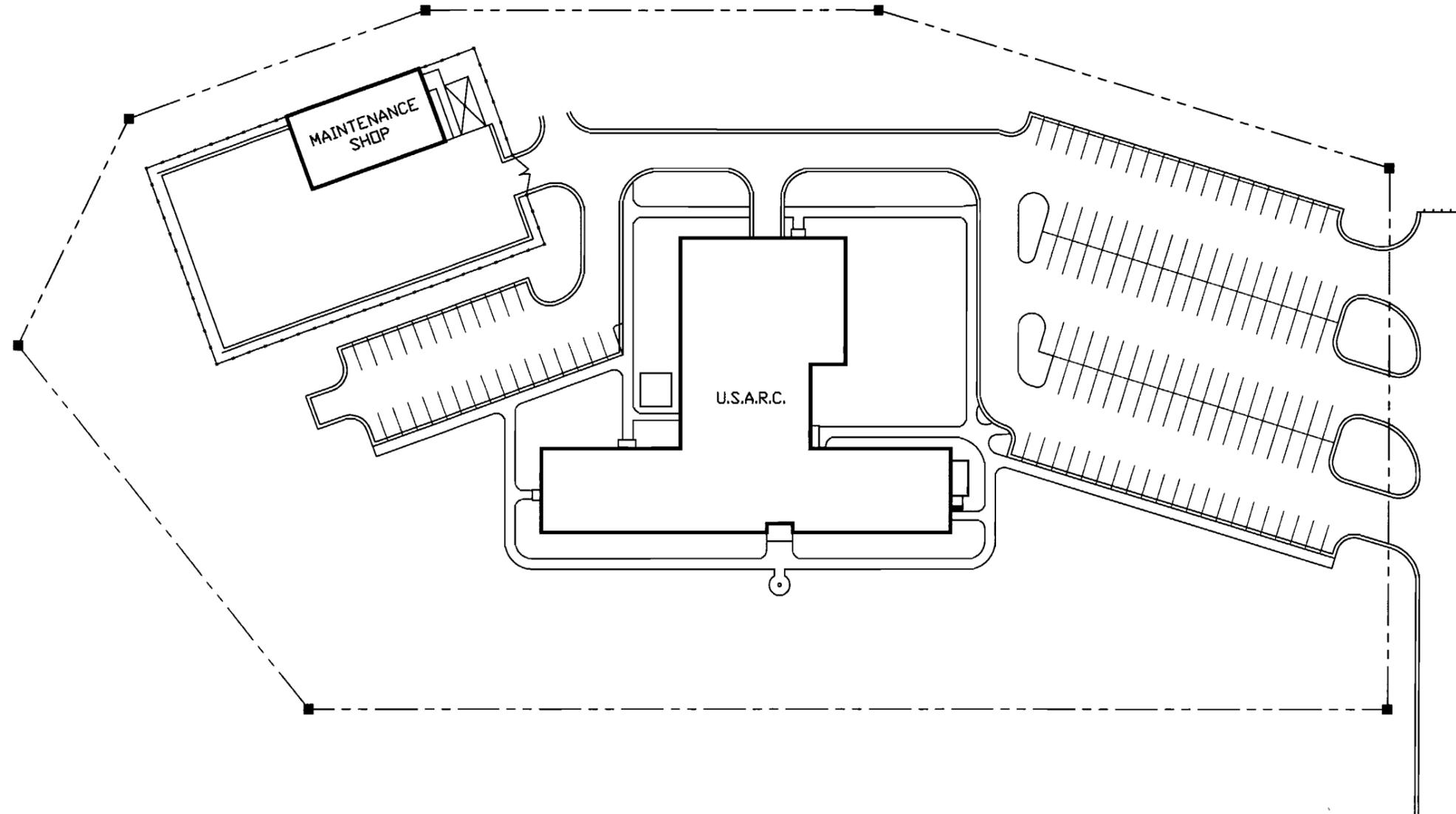
### Summary of Communication:

12/8/05: LM for Shelly.  
12/16/2005 8:10 AM  
Left Message for Shelly.  
12/16/05 1:50 PM  
Bruce Lyon  
No violations  
Issues annual CCRs  
Water distribution lines in good shape.

### Follow up Required:

2006 BACKFLOW PREVENTION DEVICE SURVEY





*Drawing Adapted from USARC  
Cedar Rapids, Iowa  
Site Plan (November 2000)*



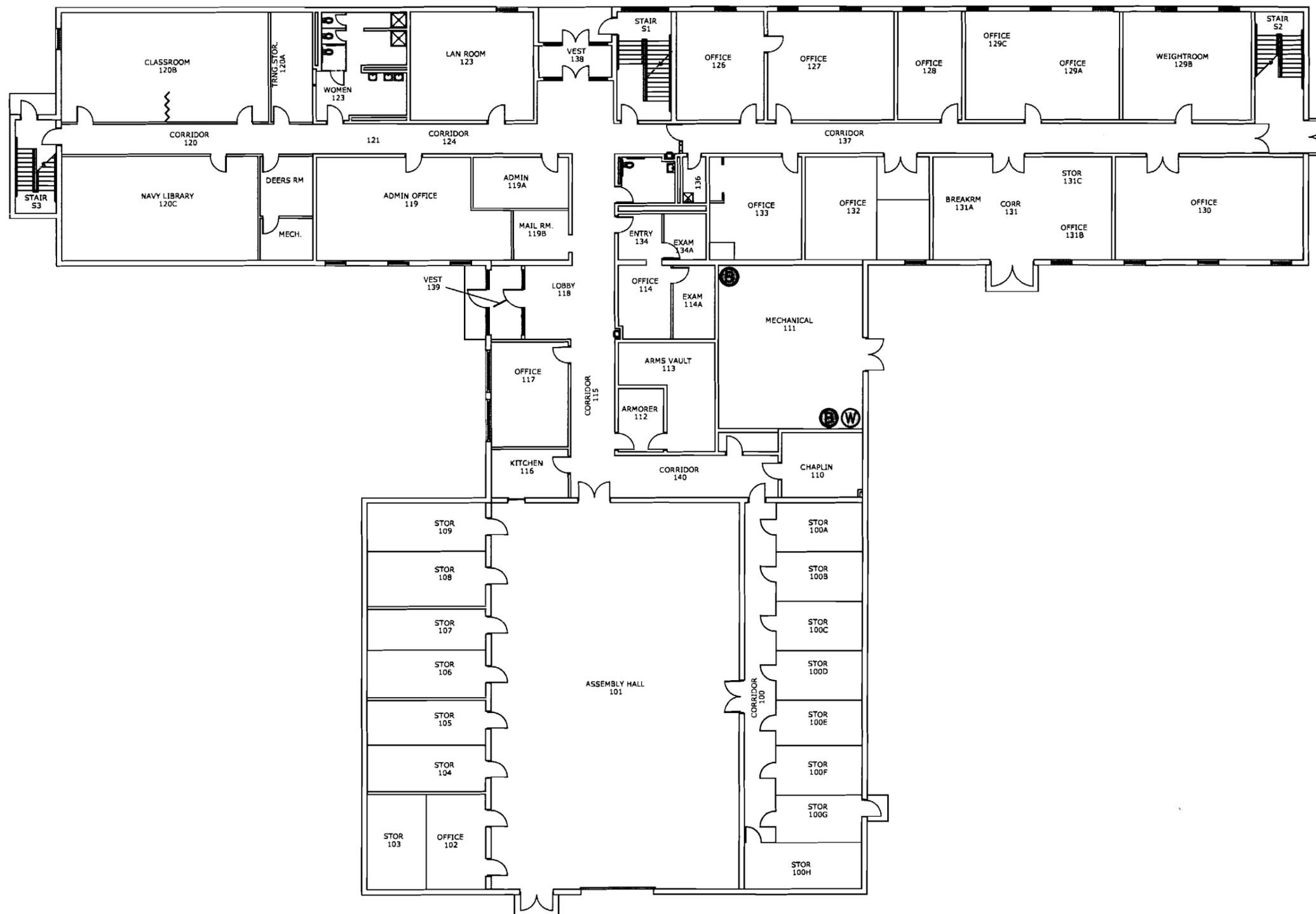
**FIGURE 1**  
Site Layout

IA003 - Cedar Rapids, IA

Project No. C-05257.E	Date 5/06	Scale NONE	Drawn By: SRR	Checked By:
--------------------------	--------------	---------------	------------------	-------------

Legend

- Ⓜ Main Water Supply
- Ⓟ Backflow Prevention Device
- ⊗ Cross-Connection Hazard (Unprotected)



*Drawing Adapted from USARC  
Cedar Rapids, Iowa  
Floor Plan (April 1998)*



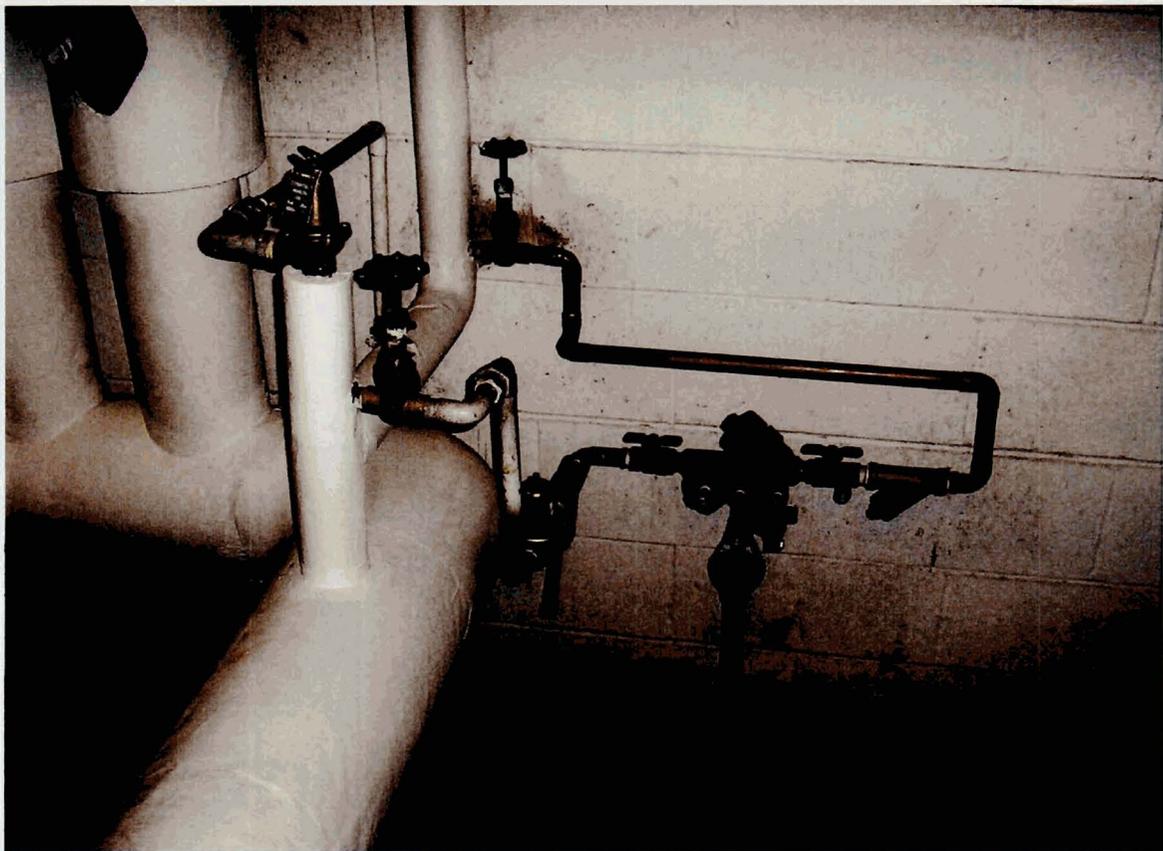
**FIGURE 2**  
**U.S.A.R.C. Floor Plan**  
**First Floor**

IA003 - Cedar Rapids, IA

Project No. C-05257.E	Date 5/06	Scale NONE	Drawn By: SRR	Checked By:
--------------------------	--------------	---------------	------------------	-------------



Photograph 1. Wilkins backflow prevention device located in Boiler Room



Photograph 2. Wilkins backflow prevention device located in Boiler Room



Photograph 3. Hose connection without vacuum breaker, south side of building

**Local Municipal Ordinance and Inspection Form**

CITY OF CEDAR RAPIDS

FACSIMILE TRANSMITTAL SHEET

TO: <b>Kim Roberts</b>	FROM: <b>Bonnie Brewer</b>
FAX NUMBER: <b>636-343-8192</b>	DATE: <b>May 9, 2006</b>
COMPANY:	TOTAL NO. OF PAGES INCLUDING COVER: <b>2</b>
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
RE: <b>Backflow Form</b>	YOUR REFERENCE NUMBER:

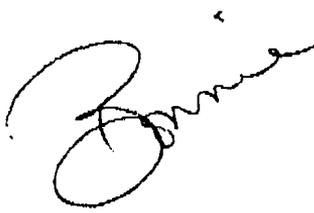
- URGENT   
 FOR REVIEW   
 PLEASE COMMENT   
 PLEASE REPLY   
 PLEASE RECYCLE

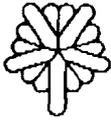
NOTES/COMMENTS:

Kim – Attached is a copy of the 3 part form that we supply to testers in our area.

If I can help in any other manner, please feel free to call or email me

at [b.brewer@cedar-rapids.org](mailto:b.brewer@cedar-rapids.org)





Cedar Rapids  
Water Department  
1111 Shaver Road N.E.  
Cedar Rapids, IA 52402-4593  
319-286-5920

# Backflow Device Testing and Maintenance Report Form

54251

<b>Facility</b>	ACCOUNT #	BUSINESS NAME	METER NUMBER	METER SIZE
	BUILDING ADDRESS	Code:	Meter 1:	Meter 2:

<b>Water Use</b>	ID	BUILDING	FLOOR	ROOM	ROOM TYPE	AREA	LOCATION	
	Description:							
	Hazard:	Type:						
	Water Use Notes:							Isolation: Containment:

<b>Protection</b>	ID	TYPE	USE	MANUFACTURER	MODEL	SIZE	SERIAL NUMBER
-------------------	----	------	-----	--------------	-------	------	---------------

Tests	STEP	COMPONENT	TEST	REQUIREMENT	INITIAL TEST	FINAL TEST
<b>REDUCED PRESSURE</b>	1:	Check Valve 1	Confirmed Pressure Drop	5.0 PSID min		
	2:	Relief Valve	Opening Pressure	2.0 PSID min		
	3:	Check Valve 2	Differential Pressure in direction of flow	1.0 PSID min		
	4:	Check Valve 2	Held against Backpressure (yes/no)	yes		
	5:	Check Valve 1	Apparent Pressure Drop			
	6:	Check Valve 1	Difference between Apparent and Confirmed	1.0 PSID max		
	7:	Buffer	Confirmed Pressure - Relief Valve Pressure	3.0 PSID min		
<b>DOUBLE CHECK VALVE</b>	1:	Check Valve 1	Differential Pressure in direction of flow	1.0 PSID min		
	2:	Check Valve 1	Held against Backpressure (yes/no)	yes		
	3:	Check Valve 2	Differential Pressure in direction of flow	1.0 PSID min		
	4:	Check Valve 2	Held against Backpressure (yes/no)	yes		
<b>PRESSURE VACUUM BREAKER</b>	1:	Air Inlet Valve	Opening Differential	1.0 PSID min		
	2:	Check Valve	Closes tight in direction of flow	1.0 PSID min		
<b>ATMOSPHERIC VACUUM BREAKER</b>	1:	Air Inlet Valve	Proper Closure (yes/no)	yes		
	2:	Air Inlet Valve	Proper Opening (yes/no)	yes		
<b>AIR GAP</b>	1:	Air Gap	Unobstructed Distance	2x pipe dia, 1" min		
<b>ANTISIPHON FLUSH VALVE</b>	1:	Flush Valve	Proper Installation and Function (yes/no)	yes		
<b>HOSE BIBB VACUUM BREAKER</b>	1:	Vacuum Breaker	Proper Installation and Function (yes/no)	yes		

Repairs	STEP	CHECK VALVE 1	CHECK VALVE 2	RELIEF VALVE	AIR INLET	FLUSH VALVE	AIR GAP	NOTES
<b>PROBLEMS</b>	1: Debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	2: O-Ring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	3: Plugged	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	4: Incorrect Installation	<input type="checkbox"/>						
	5: Operational Problems				<input type="checkbox"/>	<input type="checkbox"/>		
	6: Insufficient Air Gap						<input type="checkbox"/>	
	7: Defeat Eliminated						<input type="checkbox"/>	
<b>CORRECTIVE ACTION</b>	1: Cleaned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	2: Flushed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	3: Corrected Installation	<input type="checkbox"/>						
	4: Air Gap Corrected						<input type="checkbox"/>	
	5: Defeat Eliminated						<input type="checkbox"/>	

<b>Tester's Certification</b>	OWNER OR REPRESENTATIVE (SIGNATURE)		DATE:
INITIAL TEST BY (PRINT NAME)	SIGNATURE	TESTER #	DATE
FINAL TEST BY (PRINT NAME)	SIGNATURE	TESTER #	DATE

15-10090

**APPENDIX E**  
**CEDAR RAPIDS AFRC**  
**IA003**  
**EDR REPORTS**



**EDR**® Environmental  
Data Resources Inc

## **The EDR Radius Map with GeoCheck®**

**CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402**

**Inquiry Number: 01715536.170r**

**July 14, 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](http://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

1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402

### COORDINATES

Latitude (North): 42.005700 - 42° 0' 20.5"  
Longitude (West): 91.677500 - 91° 40' 39.0"  
Universal Transverse Mercator: Zone 15  
UTM X (Meters): 609520.6  
UTM Y (Meters): 4651041.5  
Elevation: 808 ft. above sea level

## USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 42091-A6 CEDAR RAPIDS NORTH, IA  
Most Recent Revision: 1994  
  
South Map: 41091-H6 CEDAR RAPIDS SOUTH, IA  
Most Recent Revision: 1994

## TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 6 of the attached EDR Radius Map report:

<u>Site</u>	<u>Database(s)</u>	<u>EPA ID</u>
U S ARMY RESERVE CENTER 1599 WENIG RD NE CEDAR RAPIDS, IA 52402	RCRA-SQG FINDS	IAD984622175

## 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

**Proposed NPL**..... Proposed National Priority List Sites

## EXECUTIVE SUMMARY

<b>Delisted NPL</b> .....	National Priority List Deletions
<b>NPL RECOVERY</b> .....	Federal Superfund Liens
<b>CERCLIS</b> .....	Comprehensive Environmental Response, Compensation, and Liability Information System
<b>CERC-NFRAP</b> .....	CERCLIS No Further Remedial Action Planned
<b>CORRACTS</b> .....	Corrective Action Report
<b>RCRA-TSDF</b> .....	Resource Conservation and Recovery Act Information
<b>RCRA-LQG</b> .....	Resource Conservation and Recovery Act Information
<b>ERNS</b> .....	Emergency Response Notification System
<b>HMIRS</b> .....	Hazardous Materials Information Reporting System
<b>US ENG CONTROLS</b> .....	Engineering Controls Sites List
<b>US INST CONTROL</b> .....	Sites with Institutional Controls
<b>DOD</b> .....	Department of Defense Sites
<b>FUDS</b> .....	Formerly Used Defense Sites
<b>US BROWNFIELDS</b> .....	A Listing of Brownfields Sites
<b>CONSENT</b> .....	Superfund (CERCLA) Consent Decrees
<b>UMTRA</b> .....	Uranium Mill Tailings Sites
<b>ODI</b> .....	Open Dump Inventory
<b>TRIS</b> .....	Toxic Chemical Release Inventory System
<b>TSCA</b> .....	Toxic Substances Control Act
<b>FTTS</b> .....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
<b>SSTS</b> .....	Section 7 Tracking Systems
<b>ICIS</b> .....	Integrated Compliance Information System
<b>PADS</b> .....	PCB Activity Database System
<b>MLTS</b> .....	Material Licensing Tracking System
<b>MINES</b> .....	Mines Master Index File
<b>RAATS</b> .....	RCRA Administrative Action Tracking System

### STATE AND LOCAL RECORDS

<b>SHWS</b> .....	Registry of Hazardous Waste or Hazardous Substance Disposal Sites
<b>SWF/LF</b> .....	Permitted Solid Waste Management Facilities
<b>LUST</b> .....	Leaking Underground Storage Tank Data
<b>UST</b> .....	Underground Storage Tank Data
<b>LAST</b> .....	Leaking Aboveground Storage Tank Sites
<b>AST</b> .....	Aboveground Storage Tank Sites
<b>SPILLS</b> .....	Spills Database
<b>INST CONTROL</b> .....	Sites with Institutional Controls
<b>VCP</b> .....	Land Recycling Program Sites
<b>DRYCLEANERS</b> .....	Iowa Drycleaner List
<b>BROWNFIELDS</b> .....	Brownfields Site Listing
<b>AIRS</b> .....	Minor and Title V Sources Listing

### TRIBAL RECORDS

<b>INDIAN RESERV</b> .....	Indian Reservations
<b>INDIAN UST</b> .....	Underground Storage Tanks on Indian Land

### EDR PROPRIETARY RECORDS

<b>Manufactured Gas Plants</b> ...	EDR Proprietary Manufactured Gas Plants
<b>EDR Historical Auto Stations</b>	EDR Proprietary Historic Gas Stations
<b>EDR Historical Cleaners</b> .....	EDR Proprietary Historic Dry Cleaners

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

## EXECUTIVE SUMMARY

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.

### **FEDERAL RECORDS**

**NPL:** Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 04/19/2006 has revealed that there is 1 NPL site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
<b><i>ELECTRO-COATINGS, INC.</i></b>	<b><i>911 SHAVER RD NE</i></b>	<b><i>1/2 - 1 SSE 0</i></b>		<b><i>6</i></b>

**RODS:** Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, and dated 04/13/2006 has revealed that there is 1 ROD site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Dist / Dir</u>	<u>Map ID</u>	<u>Page</u>
<b><i>ELECTRO-COATINGS, INC.</i></b>	<b><i>911 SHAVER RD NE</i></b>	<b><i>1/2 - 1 SSE 0</i></b>		<b><i>6</i></b>

## EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

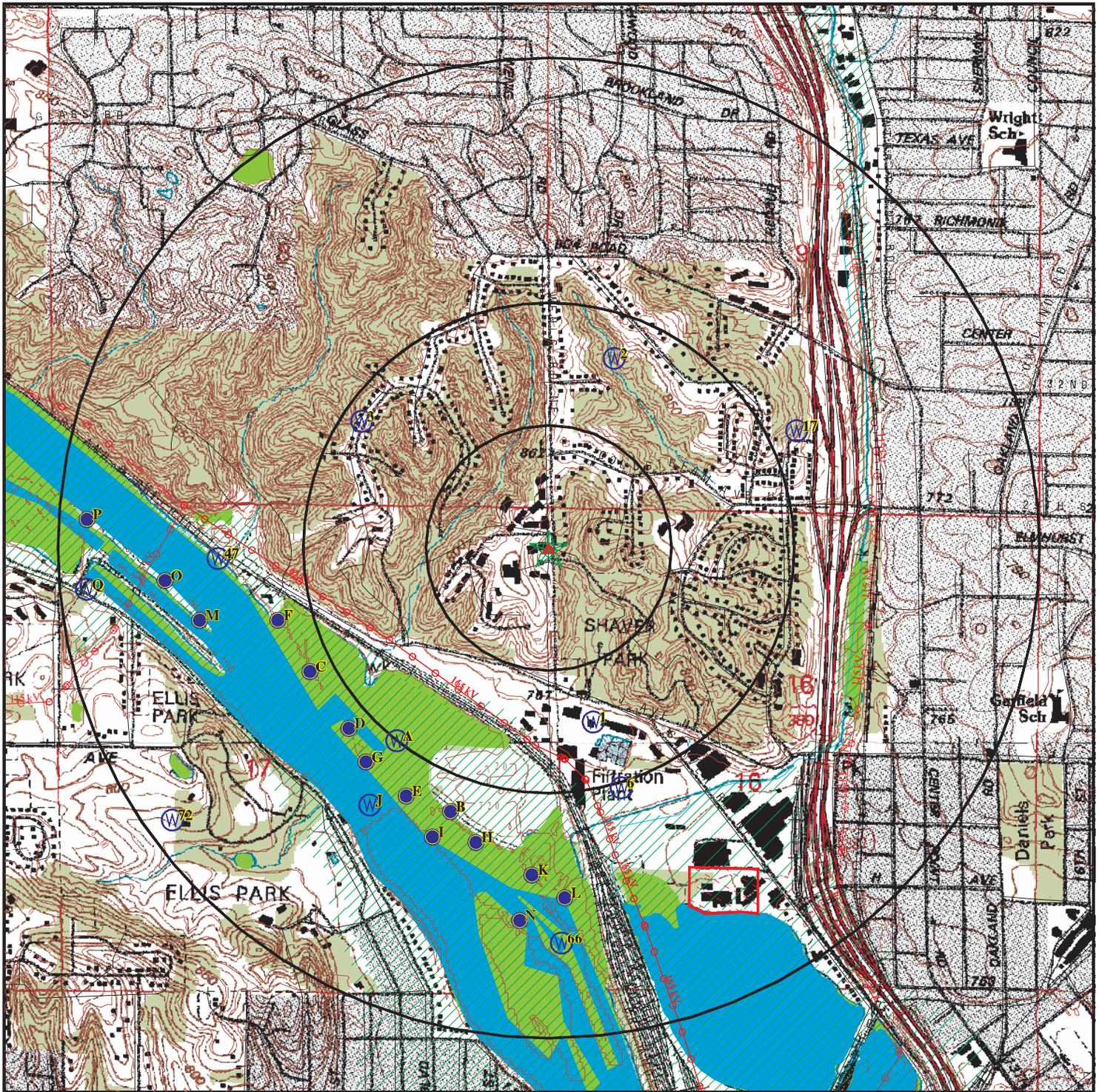
Site Name

CEDAR RAPIDS FMGP  
CEDAR RAPIDS - CEDAR LAKE STORAGE FACILITY  
CEDAR LAKE  
ORKIN - CEDAR RAPIDS  
HOLCIM(US), INC. - CEDAR RAPIDS TERMINAL

Database(s)

VCP, INST CONTROL  
RCRA-SQG, FINDS  
ERNS  
ICIS  
AIRS

# OVERVIEW MAP - 01715536.170r



- ★ 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
- ⚡ Power transmission lines
- ⚡ Oil & Gas pipelines
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory

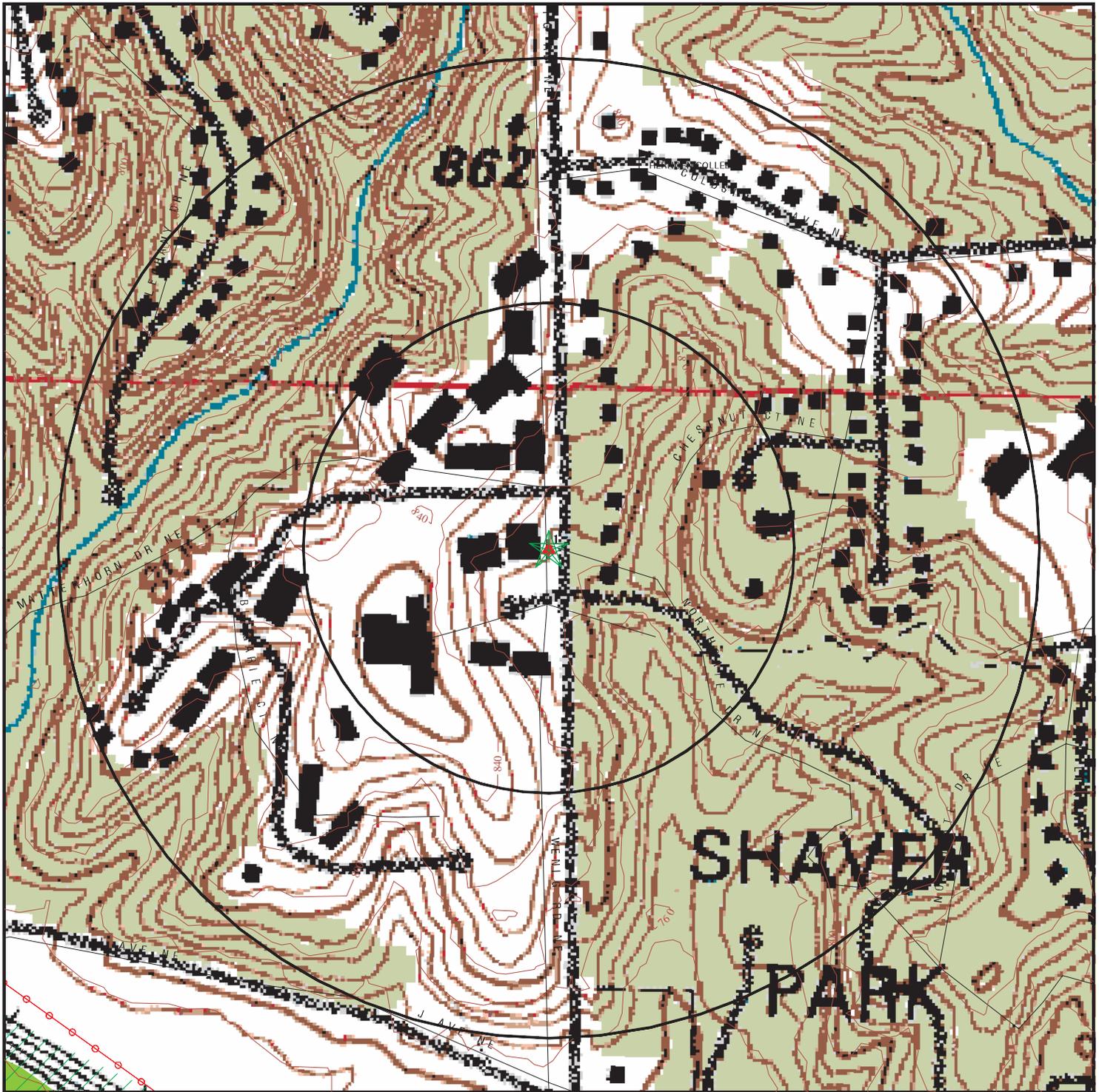


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: CEDAR RAPIDS AFRC  
 ADDRESS: 1599 WENIG ROAD NE  
 CEDAR RAPIDS IA 52402  
 LAT/LONG: 42.0057 / 91.6775

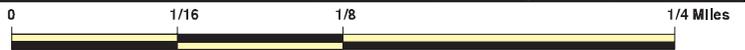
CLIENT: FMSM Engineers  
 CONTACT: Robert Newman  
 INQUIRY #: 01715536.170r  
 DATE: July 14, 2006

DETAIL MAP - 01715536.170r



- ★ 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
- ⚡ Power transmission lines
- ⚡ Oil & Gas pipelines
- ▨ 100-year flood zone
- ▨ 500-year flood zone
- National Wetland Inventory



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: CEDAR RAPIDS AFRC  
 ADDRESS: 1599 WENIG ROAD NE  
 CEDAR RAPIDS IA 52402  
 LAT/LONG: 42.0057 / 91.6775

CLIENT: FMSM Engineers  
 CONTACT: Robert Newman  
 INQUIRY #: 01715536.170r  
 DATE: July 14, 2006

## 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
<b><u>FEDERAL RECORDS</u></b>								
NPL		1.000	0	0	0	1	NR	1
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.	X	0.250	0	0	NR	NR	NR	0
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	1	NR	1
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	X	TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
<b><u>STATE AND LOCAL RECORDS</u></b>								
State Haz. Waste		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
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
SPILLS		TP	NR	NR	NR	NR	NR	0
INST CONTROL		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
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
<b><u>TRIBAL RECORDS</u></b>								
INDIAN RESERV		1.000	0	0	0	0	NR	0

## MAP FINDINGS SUMMARY

<u>Database</u>	<u>Target Property</u>	<u>Search Distance (Miles)</u>	<u>&lt; 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>&gt; 1</u>	<u>Total Plotted</u>
INDIAN UST		0.250	0	0	NR	NR	NR	0
<b><u>EDR PROPRIETARY RECORDS</u></b>								
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

MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Distance (ft.)  
 Elevation

Site

Database(s)

EDR ID Number  
 EPA ID Number

**1**  
**Target**  
**Property**

**U S ARMY RESERVE CENTER**  
**1599 WENIG RD NE**  
**CEDAR RAPIDS, IA 52402**

**RCRA-SQG**  
**FINDS**

**1000847680**  
**IAD984622175**

**Actual:**  
**809 ft.**

RCRAInfo:  
 Owner: U S ARMY  
 (319) 362-6620  
 EPA ID: IAD984622175  
 Contact: Not reported  
 Classification: Conditionally Exempt Small Quantity Generator  
 TSDF Activities: Not reported  
 Violation Status: No violations found

**FINDS:**

Other Pertinent Environmental Activity Identified at Site:  
 Aerometric Information Retrieval System/Air Quality System

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.

**NPL**  
**Region**  
**SSE**  
**1/2-1**  
**3756 ft.**

**ELECTRO-COATINGS, INC.**  
**911 SHAVER RD NE**  
**CEDAR RAPIDS, IA 52402**

**CERCLIS**  
**FINDS**  
**NPL**  
**RCRA-LQG**  
**ROD**  
**US INST CONTROL**

**1000181585**  
**IAD005279039**

**CERCLIS Classification Data:**

Federal Facility: Not a Federal Facility  
 Non NPL Status: Not reported  
 NPL Status: Currently on the Final NPL  
 Site Description: Electro-Coatings, Inc. site is a metal plating plant is located in Cedar Rapids, Linn County, Iowa. Electro-Coatings is on the north shore of Cedar Lake, a 150-acre impoundment owned by a utility company. The nearest residential area is about a quarter mile east of the site across Interstate Highway 380. The City of Cedar Rapids had a 1990 population of 108,751. The Electro-Coatings plant has been in operation since 1947. The plant currently performs chromium, cadmium, nickel, and zinc plating.  
 In March of 1976, the water in Cedar Lake was found to contain high levels of chromium which was traced to a leaking concrete tank containing chromic acid at the Electro-Coatings plant.  
 Electro-Coatings took actions to prevent further releases in response to requirements by the State. In June of 1988, the Electro-Coatings site was proposed for inclusion on the NPL. In October of 1990, the site entered into a consent order with the Iowa Department of Natural Resources to conduct a RI/FS, which was completed in 1993.

**CERCLIS Assessment History:**

Assessment:	DISCOVERY	Completed:	11/28/1983
Assessment:	PRELIMINARY ASSESSMENT	Completed:	07/28/1986
Assessment:	SITE INSPECTION	Completed:	08/12/1986
Assessment:	HRS PACKAGE	Completed:	09/15/1986
Assessment:	SITE INSPECTION	Completed:	04/08/1987
Assessment:	NON-NPL PRP SEARCH	Completed:	12/09/1987
Assessment:	PROPOSAL TO NPL	Completed:	06/24/1988
Assessment:	CLAIM IN BANKRUPTCY PROCEEDING	Completed:	05/25/1989

Map ID  
 Direction  
 Distance  
 Distance (ft.)  
 Elevation

MAP FINDINGS

**ELECTRO-COATINGS, INC. (Continued)**

EDR ID Number  
 EPA ID Number

Database(s)

**1000181585**

Assessment:	REMOVAL ASSESSMENT	Completed:	08/24/1989
Assessment:	STATE ORDER	Completed:	09/28/1989
Assessment:	FINAL LISTING ON NPL	Completed:	10/04/1989
Assessment:	HEALTH ASSESSMENT	Completed:	04/16/1990
Assessment:	NEGOTIATION (GENERIC)	Completed:	10/17/1990
Assessment:	STATE ORDER	Completed:	10/17/1990
Assessment:	COMBINED RI/FS	Completed:	10/17/1990
Assessment:	REMOVAL ASSESSMENT	Completed:	02/10/1992
Assessment:	REMOVAL ASSESSMENT	Completed:	04/23/1993
Assessment:	RISK/HEALTH ASSESSMENT	Completed:	08/23/1993
Assessment:	PRP RI/FS	Completed:	09/29/1994
Assessment:	RECORD OF DECISION	Completed:	09/29/1994
Assessment:	STATE ORDER	Completed:	09/29/1999
Assessment:	OPERATIONAL & FUNCTIONAL	Completed:	01/24/2000
Assessment:	STATE ORDER	Completed:	01/24/2000
Assessment:	ADMIN/VOLUNTARY COST RECOVERY	Completed:	12/01/2000
Assessment:	PRP RA	Completed:	12/11/2000
Assessment:	STATE SUPPORT AGENCY COOP AGREEMENT	Completed:	03/31/2001
Assessment:	NEGOTIATION (GENERIC)	Completed:	07/02/2002
Assessment:	CONSENT AGREEMENT (ADMINISTRATIVE)	Completed:	07/02/2002
Assessment:	READY-FOR-REUSE EVALUATION CHECKLIST	Completed:	03/24/2004
Assessment:	FIVE YEAR REVIEW	Completed:	09/29/2005

CERCLIS Site Status:  
 Not reported

CERCLIS Alias Name(s):  
 ELECTRO-COATINGS, INC  
 ELECTRO-COATINGS, INC.

**US INST CONTROL:**

EPA ID : IAD005279039  
 Name : ELECTRO-COATINGS, INC.  
 Address : 911 SHAVER RD NE  
 CEDAR RAPIDS, IA 52402  
 County : LINN  
 Region : 07  
 Event Code : Not reported  
 Actual Dt : 20001211

**NPL:**

EPA ID: IAD005279039  
 Region: 07  
 Federal: General  
 Final Date: 10/04/1989  
 EPA ID: IAD005279039  
 Region: 07  
 Federal: General  
 Final Date: 10/04/1989

**Category Details:**

Site ID: Not reported  
 NPL Status: Currently on the Final NPL  
 Categ. Description: Depth To Aquifer-> 25 And <= 50 Feet  
 Categ. Value: 50  
 Site ID: Not reported  
 NPL Status: Currently on the Final NPL  
 Categ. Description: Distance To Nearest Population-> 0 And <= 1/4 Mile  
 Categ. Value: 10

Map ID  
 Direction  
 Distance  
 Distance (ft.)  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**ELECTRO-COATINGS, INC. (Continued)**

**1000181585**

Site Details:

Site Name: ELECTRO-COATINGS, INC.  
 Site Status: Final  
 Status Date: 10/04/1989  
 Site City: CEDAR RAPIDS  
 Site State: IA  
 Federal Site: Not a Federal Facility  
 HRS Score: 42.24  
 GW Score: 73.08  
 SW Score: 0.00  
 Air Score: Not reported  
 Soil Score: Not reported  
 DC Score: Not reported  
 FE Score: Not reported

Substance Details:

Site ID: Not reported  
 NPL Status: Currently on the Final NPL  
 Substance ID: C319  
 CAS #: 16065-83-1  
 Substance: CHROMIUM, TRIVALENT  
 Pathway: GROUND WATER PATHWAY  
 Scoring: 2

Site ID: Not reported  
 NPL Status: Currently on the Final NPL  
 Substance ID: C320  
 CAS #: 18540-29-9  
 Substance: CHROMIUM, HEXAVALENT  
 Pathway: GROUND WATER PATHWAY  
 Scoring: 4

Site ID: Not reported  
 NPL Status: Currently on the Final NPL  
 Substance ID: Not reported  
 CAS #: Not reported  
 Substance: Not reported  
 Pathway: Not reported  
 Scoring: Not reported

Summary Details:

" Conditions at proposal (June 24, 1988): Electro-Coatings, Inc., has conducted chromium-plating operations on a 1-acre site in Cedar Rapids, Linn County, Iowa, since 1947. The site is at the north edge of Cedar Lake and on the east edge of Cedar River. In 1976, an unknown amount of chromic acid leaked from a deteriorated waste water pit. The State investigated, and in June 1977 issued an executive order requiring the company to install new monitoring wells to define the extent of the plume of contamination. Electro-Coatings installed two wells in 1978 and two more in 1983. The company took some cleanup actions. However, in 1982, the Iowa Department of Natural Resources found high levels of hexavalent chromium (up to 11 milligrams per liter) in a well of Hawkeye Rubber Co., a neighboring company. Since 1983, the State has required five additional monitoring wells to be installed to help determine the extent of contamination. Cedar Rapids municipal wells serving nearly 10,000 people are within 3 miles of the site. The facility is being proposed for the NPL because it is classified as a protective

Map ID  
 Direction  
 Distance  
 Distance (ft.)  
 Elevation

MAP FINDINGS

**ELECTRO-COATINGS, INC. (Continued)**

EDR ID Number  
 EPA ID Number

Database(s)

**1000181585**

filer under Subtitle C of the Resource Conservation and Recovery Act and so is not subj  
 ect to Subtitle C corrective action authorities. Status (December 1988):  
 EPA's preliminary plan for fiscal year 1989 includes a remedial investigation/feasibility study (RI/FS) to determine the type and extent of contamination at the site and identify alternatives for remedial action. Status (October 4, 1989):  
 The State is investigating the possibility that Electro-Coatings, Inc., will conduct the RI/FS with State and EPA oversight."

Site Status Details:

NPL Status: Final  
 Proposed Date: 06/24/1988  
 Final Date: 10/04/1989  
 Deleted Date: Not reported

ROD:

Full-text of USEPA Record of Decision(s) is available from EDR.

RCRAInfo:

Owner: ELECTRO-COATINGS OF IOWA INC  
 (319) 363-9602  
 EPA ID: IAD005279039  
 Contact: Not reported  
 Classification: Large Quantity Generator  
 TSDF Activities: Not reported

BIENNIAL REPORTS:

Last Biennial Reporting Year: 2003

<u>Waste</u>	<u>Quantity (Lbs)</u>	<u>Waste</u>	<u>Quantity (Lbs)</u>
D002	76434.00	D007	14094.00
D039	1909.50		

Violation Status: Violations exist

Regulation Violated: 40 CFR 265.16(d)(1)  
 Area of Violation: TSD-GENERAL STANDARDS  
 Date Violation Determined: 07/26/2001  
 Actual Date Achieved Compliance: 03/19/2002

Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
 Enforcement Action Date: 02/28/2002  
 Penalty Type: Not reported

Regulation Violated: 40 CFR 262.20(a)  
 Area of Violation: GENERATOR-MANIFEST REQUIREMENTS  
 Date Violation Determined: 07/26/2001  
 Actual Date Achieved Compliance: 03/19/2002

Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
 Enforcement Action Date: 02/28/2002  
 Penalty Type: Not reported

Regulation Violated: 40 CFR 265.16(d)(2)  
 Area of Violation: TSD-GENERAL STANDARDS  
 Date Violation Determined: 07/26/2001  
 Actual Date Achieved Compliance: 03/19/2002

Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
 Enforcement Action Date: 02/28/2002  
 Penalty Type: Not reported

Map ID  
Direction  
Distance  
Distance (ft.)  
Elevation

MAP FINDINGS

Database(s)  
EPA ID Number  
EDR ID Number

**ELECTRO-COATINGS, INC. (Continued)**

**1000181585**

Regulation Violated: 40 CFR 268.7(a)  
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS  
Date Violation Determined: 07/26/2001  
Actual Date Achieved Compliance: 03/19/2002  
  
Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
Enforcement Action Date: 02/28/2002  
Penalty Type: Not reported

Regulation Violated: 40 CFR 268.7(a)  
Area of Violation: GENERATOR-LAND BAN REQUIREMENTS  
Date Violation Determined: 07/26/2001  
Actual Date Achieved Compliance: 03/19/2002  
  
Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
Enforcement Action Date: 02/28/2002  
Penalty Type: Not reported

Regulation Violated: 40 CFR 262.11  
Area of Violation: GENERATOR-GENERAL REQUIREMENTS  
Date Violation Determined: 07/26/2001  
Actual Date Achieved Compliance: 03/19/2002  
  
Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
Enforcement Action Date: 02/28/2002  
Penalty Type: Not reported

Regulation Violated: 40 CFR 262.20(a)  
Area of Violation: GENERATOR-MANIFEST REQUIREMENTS  
Date Violation Determined: 07/26/2001  
Actual Date Achieved Compliance: 03/19/2002  
  
Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
Enforcement Action Date: 02/28/2002  
Penalty Type: Not reported

Regulation Violated: CFR 262.41  
Area of Violation: GENERATOR-RECORDKEEPING REQUIREMENTS  
Date Violation Determined: 06/03/1996  
Actual Date Achieved Compliance: 07/03/1996  
  
Enforcement Action: WRITTEN INFORMAL  
Enforcement Action Date: 06/12/1996  
Penalty Type: Not reported

Regulation Violated: CFR 265.16  
Area of Violation: GENERATOR-GENERAL REQUIREMENTS  
Date Violation Determined: 07/13/1993  
Actual Date Achieved Compliance: 01/21/1994  
  
Enforcement Action: REQUEST FOR INFO - 3007 LETTER  
Enforcement Action Date: 10/13/1993  
Penalty Type: Not reported  
  
Enforcement Action: WRITTEN INFORMAL  
Enforcement Action Date: 01/21/1994  
Penalty Type: Not reported

Regulation Violated: CFR 262.34(a)(4), 265.16  
Area of Violation: GENERATOR-GENERAL REQUIREMENTS  
Date Violation Determined: 04/24/1991  
Actual Date Achieved Compliance: 01/21/1994  
  
Enforcement Action: WRITTEN INFORMAL

Map ID  
 Direction  
 Distance  
 Distance (ft.)  
 Elevation Site

MAP FINDINGS

Database(s) EDR ID Number  
 EPA ID Number

**ELECTRO-COATINGS, INC. (Continued)**

**1000181585**

Enforcement Action Date: 04/24/1991  
 Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL  
 Enforcement Action Date: 01/21/1994  
 Penalty Type: Not reported

Regulation Violated: Not reported  
 Area of Violation: TSD-MANIFEST REQUIREMENTS  
 Date Violation Determined: 08/09/1988  
 Actual Date Achieved Compliance: 10/10/1994

Enforcement Action: WRITTEN INFORMAL  
 Enforcement Action Date: 08/09/1988  
 Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL  
 Enforcement Action Date: 09/01/1989  
 Penalty Type: Not reported

Regulation Violated: Not reported  
 Area of Violation: TSD-OTHER REQUIREMENTS  
 Date Violation Determined: 08/09/1988  
 Actual Date Achieved Compliance: 10/10/1994

Enforcement Action: WRITTEN INFORMAL  
 Enforcement Action Date: 08/09/1988  
 Penalty Type: Not reported

Enforcement Action: WRITTEN INFORMAL  
 Enforcement Action Date: 09/01/1989  
 Penalty Type: Not reported

There are 12 violation record(s) reported at this site:

<u>Evaluation</u>	<u>Area of Violation</u>	<u>Date of Compliance</u>
Compliance Evaluation Inspection	TSD-GENERAL STANDARDS	20020319
	GENERATOR-MANIFEST REQUIREMENTS	20020319
	TSD-GENERAL STANDARDS	20020319
	GENERATOR-GENERAL REQUIREMENTS	20020319
	GENERATOR-LAND BAN REQUIREMENTS	20020319
	GENERATOR-LAND BAN REQUIREMENTS	20020319
Non-Financial Record Review	GENERATOR-MANIFEST REQUIREMENTS	20020319
	GENERATOR-RECORDKEEPING REQUIREMENTS	19960703
Other Evaluation	GENERATOR-GENERAL REQUIREMENTS	19940121
Compliance Evaluation Inspection	GENERATOR-GENERAL REQUIREMENTS	19940121
	TSD-MANIFEST REQUIREMENTS	19941010
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	19941010

**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.

Map ID  
Direction  
Distance  
Distance (ft.)  
Elevation

MAP FINDINGS

Database(s)  
EPA ID Number

EDR ID Number  
EPA ID Number

**ELECTRO-COATINGS, INC. (Continued)**

**1000181585**

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

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.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CEDAR RAPIDS	S107417390	CEDAR RAPIDS FMGP	WEST AND SOUTH OF INTERSECTION OF 8TH AVE SE AND 1		VCP, INST CONTROL
CEDAR RAPIDS	S107668998	HOLCIM(US), INC. - CEDAR RAPIDS TERMINAL	1103 BLAIRS FERRY RD NE	52402	AIRS
CEDAR RAPIDS	2000529937	CEDAR LAKE	CEDAR LAKE		ERNS
CEDAR RAPIDS	1009283111	ORKIN - CEDAR RAPIDS	3336 CENTER POINT RD NE	52402	ICIS
CEDAR RAPIDS	1004691047	CEDAR RAPIDS - CEDAR LAKE STORAGE FACLTY	855 SCHAFFER NE	52402	RCRA-SQG, FINDS

## EPA Waste Codes Addendum

Code	Description
D002	A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
D007	CHROMIUM
D039	TETRACHLOROETHYLENE

# 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	Source: EPA
Date Data Arrived at EDR: 05/05/2006	Telephone: N/A
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 05/05/2006
Number of Days to Update: 17	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	Source: EPA
Date Data Arrived at EDR: 05/05/2006	Telephone: N/A
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 05/05/2006
Number of Days to Update: 17	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	Source: EPA
Date Data Arrived at EDR: 05/05/2006	Telephone: N/A
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 05/05/2006
Number of Days to Update: 17	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	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 05/23/2006
Number of Days to Update: 56	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	Source: EPA
Date Data Arrived at EDR: 03/21/2006	Telephone: 703-413-0223
Date Made Active in Reports: 04/13/2006	Last EDR Contact: 06/22/2006
Number of Days to Update: 23	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	Source: EPA
Date Data Arrived at EDR: 03/21/2006	Telephone: 703-413-0223
Date Made Active in Reports: 04/13/2006	Last EDR Contact: 06/23/2006
Number of Days to Update: 23	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	Source: EPA
Date Data Arrived at EDR: 03/17/2006	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2006	Last EDR Contact: 05/21/2006
Number of Days to Update: 27	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	Source: EPA
Date Data Arrived at EDR: 04/27/2006	Telephone: 800-424-9346
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 06/28/2006
Number of Days to Update: 33	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	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/12/2006	Telephone: 202-260-2342
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 04/26/2006
Number of Days to Update: 40	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	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-366-4555
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 04/14/2006
Number of Days to Update: 46	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2006	Telephone: 703-603-8905
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 07/03/2006
Number of Days to Update: 56	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2006	Telephone: 703-603-8905
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 07/03/2006
Number of Days to Update: 56	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	Source: USGS
Date Data Arrived at EDR: 02/08/2005	Telephone: 703-692-8801
Date Made Active in Reports: 08/04/2005	Last EDR Contact: 05/12/2006
Number of Days to Update: 177	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	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 01/19/2006	Telephone: 202-528-4285
Date Made Active in Reports: 02/21/2006	Last EDR Contact: 07/03/2006
Number of Days to Update: 33	Next Scheduled EDR Contact: 10/02/2006
	Data Release Frequency: Varies

## **US BROWNFIELDS:** A Listing of Brownfields Sites

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/27/2006	Telephone: 202-566-2777
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 06/12/2006
Number of Days to Update: 33	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	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 02/15/2005	Telephone: Varies
Date Made Active in Reports: 04/25/2005	Last EDR Contact: 03/13/2006
Number of Days to Update: 69	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	Source: EPA
Date Data Arrived at EDR: 04/28/2006	Telephone: 703-416-0223
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 07/06/2006
Number of Days to Update: 32	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	Source: Department of Energy
Date Data Arrived at EDR: 11/28/2005	Telephone: 505-845-0011
Date Made Active in Reports: 01/30/2006	Last EDR Contact: 06/21/2006
Number of Days to Update: 63	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	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	Source: EPA
Date Data Arrived at EDR: 07/13/2005	Telephone: 202-566-0250
Date Made Active in Reports: 08/17/2005	Last EDR Contact: 06/22/2006
Number of Days to Update: 35	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	Source: EPA
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-260-5521
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 04/12/2006
Number of Days to Update: 46	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	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/26/2006	Telephone: 202-566-1667
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 06/19/2006
Number of Days to Update: 34	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	Source: EPA
Date Data Arrived at EDR: 04/26/2006	Telephone: 202-566-1667
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 06/19/2006
Number of Days to Update: 34	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	Source: EPA
Date Data Arrived at EDR: 05/11/2006	Telephone: 202-564-4203
Date Made Active in Reports: 05/22/2006	Last EDR Contact: 03/06/2006
Number of Days to Update: 11	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/21/2006	Telephone: 202-564-5088
Date Made Active in Reports: 05/11/2006	Last EDR Contact: 04/11/2006
Number of Days to Update: 20	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	Source: EPA
Date Data Arrived at EDR: 02/08/2006	Telephone: 202-566-0500
Date Made Active in Reports: 02/27/2006	Last EDR Contact: 06/28/2006
Number of Days to Update: 19	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	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 04/26/2006	Telephone: 301-415-7169
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 07/03/2006
Number of Days to Update: 34	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	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 03/29/2006	Telephone: 303-231-5959
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 06/28/2006
Number of Days to Update: 62	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	Source: EPA
Date Data Arrived at EDR: 05/02/2006	Telephone: N/A
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 04/03/2006
Number of Days to Update: 28	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	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/05/2006
Number of Days to Update: 35	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.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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:** Registry of Hazardous Waste or Hazardous Substance Disposal Sites

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 03/03/2006  
Date Made Active in Reports: 03/30/2006  
Number of Days to Update: 27

Source: Department of Natural Resources  
Telephone: 515-281-8801  
Last EDR Contact: 05/15/2006  
Next Scheduled EDR Contact: 08/14/2006  
Data Release Frequency: Annually

### **SWF/LF:** Permitted Solid Waste Management Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/05/2006  
Date Data Arrived at EDR: 04/25/2006  
Date Made Active in Reports: 05/18/2006  
Number of Days to Update: 23

Source: Department of Natural Resources  
Telephone: 515-281-8801  
Last EDR Contact: 07/03/2006  
Next Scheduled EDR Contact: 10/02/2006  
Data Release Frequency: Quarterly

### **LUST:** Leaking Underground Storage Tank Data

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: 04/27/2006  
Date Data Arrived at EDR: 05/01/2006  
Date Made Active in Reports: 05/18/2006  
Number of Days to Update: 17

Source: Department of Natural Resources  
Telephone: 515-281-6001  
Last EDR Contact: 07/03/2006  
Next Scheduled EDR Contact: 10/02/2006  
Data Release Frequency: Quarterly

### **UST:** Underground Storage Tank Data

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: 04/27/2006  
Date Data Arrived at EDR: 05/01/2006  
Date Made Active in Reports: 05/22/2006  
Number of Days to Update: 21

Source: Department of Natural Resources  
Telephone: 515-281-6001  
Last EDR Contact: 07/03/2006  
Next Scheduled EDR Contact: 10/02/2006  
Data Release Frequency: Quarterly

### **LAST:** Leaking Aboveground Storage Tank Sites

A listing of leaking aboveground storage tank sites.

Date of Government Version: 04/06/2006  
Date Data Arrived at EDR: 04/07/2006  
Date Made Active in Reports: 05/18/2006  
Number of Days to Update: 41

Source: Department of Natural Resources  
Telephone: 515-281-6001  
Last EDR Contact: 07/03/2006  
Next Scheduled EDR Contact: 10/02/2006  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**AST:** Aboveground Storage Tank Sites

Bulk fuel facilities, commercial fuel operations, private farm sites, and any other storage facility that meets the Department of Public Safety's registration criteria. They register any class I, II or III petroleum product (gas, diesel and oil) above 1,100 gallons.

Date of Government Version: 01/17/2006  
Date Data Arrived at EDR: 01/20/2006  
Date Made Active in Reports: 02/17/2006  
Number of Days to Update: 28

Source: Department of Public Safety  
Telephone: 515-281-5821  
Last EDR Contact: 04/12/2006  
Next Scheduled EDR Contact: 07/17/2006  
Data Release Frequency: Varies

**SPILLS:** Spills Database

Date of Government Version: 04/11/2006  
Date Data Arrived at EDR: 04/13/2006  
Date Made Active in Reports: 05/18/2006  
Number of Days to Update: 35

Source: Department of Natural Resources  
Telephone: 515-281-4367  
Last EDR Contact: 07/03/2006  
Next Scheduled EDR Contact: 10/02/2006  
Data Release Frequency: Annually

**INST CONTROL:** Sites with Institutional Controls

Sites currently enrolled in the Land Recycling Program that have Institutional Controls.

Date of Government Version: 02/16/2006  
Date Data Arrived at EDR: 02/16/2006  
Date Made Active in Reports: 03/15/2006  
Number of Days to Update: 27

Source: Department of Natural Resources  
Telephone: 515-242-5818  
Last EDR Contact: 07/10/2006  
Next Scheduled EDR Contact: 08/14/2006  
Data Release Frequency: Varies

**VCP:** Land Recycling Program Sites

Sites currently enrolled in the Land Recycling Program.

Date of Government Version: 02/14/2006  
Date Data Arrived at EDR: 02/14/2006  
Date Made Active in Reports: 03/15/2006  
Number of Days to Update: 29

Source: Department of Natural Resources  
Telephone: 515-242-5818  
Last EDR Contact: 07/10/2006  
Next Scheduled EDR Contact: 08/14/2006  
Data Release Frequency: Varies

**DRYCLEANERS:** Iowa Drycleaner List

A listing of drycleaners in Iowa.

Date of Government Version: 05/30/2006  
Date Data Arrived at EDR: 05/31/2006  
Date Made Active in Reports: 06/29/2006  
Number of Days to Update: 29

Source: Department of Natural Resources  
Telephone: 515-242-5100  
Last EDR Contact: 07/10/2006  
Next Scheduled EDR Contact: 08/14/2006  
Data Release Frequency: Varies

**BROWNFIELDS:** Brownfields Site Listing

A listing of brownfields sites.

Date of Government Version: 02/16/2006  
Date Data Arrived at EDR: 02/16/2006  
Date Made Active in Reports: 03/15/2006  
Number of Days to Update: 27

Source: Department of Natural Resources  
Telephone: 515-281-8489  
Last EDR Contact: 07/10/2006  
Next Scheduled EDR Contact: 08/14/2006  
Data Release Frequency: Quarterly

**AIRS:** Minor and Title V Sources Listing

A listing of Minor and Title V sources.

Date of Government Version: 04/11/2006  
Date Data Arrived at EDR: 05/02/2006  
Date Made Active in Reports: 05/18/2006  
Number of Days to Update: 16

Source: Department of Natural Resources  
Telephone: 515-281-8468  
Last EDR Contact: 04/06/2006  
Next Scheduled EDR Contact: 07/03/2006  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## 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	Source: USGS
Date Data Arrived at EDR: 02/08/2005	Telephone: 202-208-3710
Date Made Active in Reports: 08/04/2005	Last EDR Contact: 05/12/2006
Number of Days to Update: 177	Next Scheduled EDR Contact: 08/07/2006
	Data Release Frequency: Semi-Annually

### **INDIAN UST:** Underground Storage Tanks on Indian Land

Date of Government Version: 12/14/2005	Source: EPA Region 7
Date Data Arrived at EDR: 05/19/2006	Telephone: 913-551-7003
Date Made Active in Reports: 06/29/2006	Last EDR Contact: 05/23/2006
Number of Days to Update: 41	Next Scheduled EDR Contact: 08/21/2006
	Data Release Frequency: Varies

## 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	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: 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	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: 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	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## 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	Source: Department of Environmental Protection
Date Data Arrived at EDR: 02/17/2006	Telephone: 860-424-3375
Date Made Active in Reports: 04/07/2006	Last EDR Contact: 06/14/2006
Number of Days to Update: 49	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	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/24/2006	Telephone: N/A
Date Made Active in Reports: 05/02/2006	Last EDR Contact: 07/05/2006
Number of Days to Update: 8	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	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 05/31/2006	Telephone: 518-402-8651
Date Made Active in Reports: 06/27/2006	Last EDR Contact: 05/31/2006
Number of Days to Update: 27	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	Source: Department of Environmental Management
Date Data Arrived at EDR: 05/09/2006	Telephone: 401-222-2797
Date Made Active in Reports: 05/24/2006	Last EDR Contact: 06/19/2006
Number of Days to Update: 15	Next Scheduled EDR Contact: 09/18/2006
	Data Release Frequency: Annually

### **WI MANIFEST:** Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005	Source: Department of Natural Resources
Date Data Arrived at EDR: 03/17/2006	Telephone: N/A
Date Made Active in Reports: 05/02/2006	Last EDR Contact: 07/11/2006
Number of Days to Update: 46	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

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# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

**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 Facilities**

Source: Department of Human Services

Telephone: 515-281-4357

**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<sup>®</sup> - PHYSICAL SETTING SOURCE ADDENDUM

### TARGET PROPERTY ADDRESS

CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402

### TARGET PROPERTY COORDINATES

Latitude (North): 42.00570 - 42° 0' 20.5"  
Longitude (West): 91.6775 - 91° 40' 39.0"  
Universal Tranverse Mercator: Zone 15  
UTM X (Meters): 609520.6  
UTM Y (Meters): 4651041.5  
Elevation: 808 ft. above sea level

### USGS TOPOGRAPHIC MAP

Target Property Map: 42091-A6 CEDAR RAPIDS NORTH, IA  
Most Recent Revision: 1994  
  
South Map: 41091-H6 CEDAR RAPIDS SOUTH, IA  
Most Recent Revision: 1994

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).

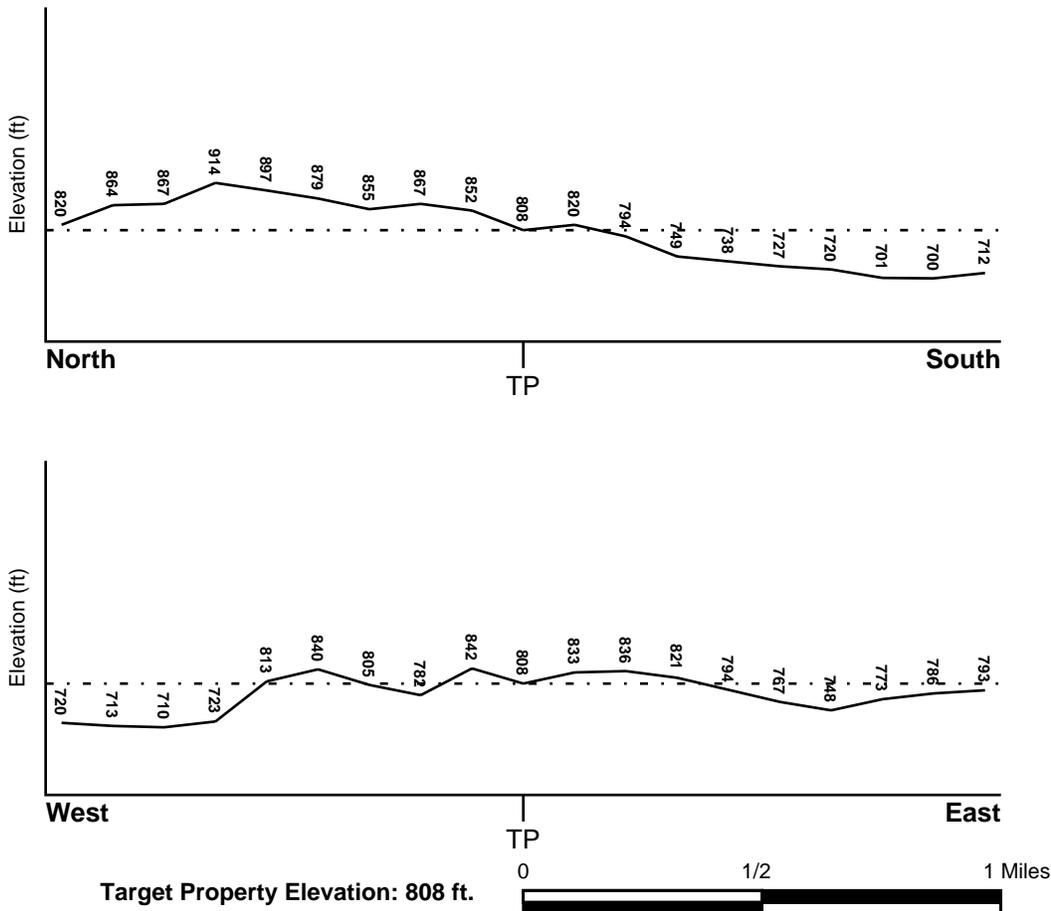
## TOPOGRAPHIC INFORMATION

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 SW

## SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



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

<u>Target Property County</u> LINN, IA	<u>FEMA Flood Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	1901870020B
Additional Panels in search area:	1901870015C

## NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> CEDAR RAPIDS NORTH	<u>NWI Electronic Data Coverage</u> YES - refer to the Overview Map and Detail Map
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## 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.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
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: Silurian  
Series: Middle Silurian (Niagoaran)  
Code: S2 *(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).

### 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. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: FAYETTE

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

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	8 inches	silt 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 Soils.	Max: 2.00 Min: 0.60	Max: 7.30 Min: 5.10
2	8 inches	40 inches	silty 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 Soils.	Max: 2.00 Min: 0.60	Max: 6.00 Min: 4.50
3	40 inches	73 inches	silt 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 Soils.	Max: 2.00 Min: 0.60	Max: 7.80 Min: 5.10

### OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silt clay loam  
loam  
loamy fine sand

Surficial Soil Types: silt clay loam  
loam  
loamy fine sand

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: loam  
fine sand  
unweathered bedrock

### 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.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

## **FEDERAL USGS WELL INFORMATION**

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS2538442	1/4 - 1/2 Mile SSE
3	USGS2538382	1/4 - 1/2 Mile NW
A4	USGS2538433	1/2 - 1 Mile SW
A5	USGS2538432	1/2 - 1 Mile SW
6	USGS2538424	1/2 - 1 Mile SSE
B7	USGS2538420	1/2 - 1 Mile SSW
D9	USGS2538443	1/2 - 1 Mile SW
C10	USGS2538453	1/2 - 1 Mile WSW
C13	USGS2538449	1/2 - 1 Mile WSW
E15	USGS2538405	1/2 - 1 Mile SSW
17	USGS2538379	1/2 - 1 Mile ENE
C18	USGS2538461	1/2 - 1 Mile WSW
E19	USGS2538421	1/2 - 1 Mile SSW
G21	USGS2538434	1/2 - 1 Mile SW
F24	USGS2538471	1/2 - 1 Mile WSW
E25	USGS2538425	1/2 - 1 Mile SSW
E28	USGS2538429	1/2 - 1 Mile SSW
B29	USGS2538403	1/2 - 1 Mile SSW
H31	USGS2538400	1/2 - 1 Mile SSW
H32	USGS2538581	1/2 - 1 Mile South
I33	USGS2538575	1/2 - 1 Mile SSW
H35	USGS2538582	1/2 - 1 Mile SSW
I36	USGS2538401	1/2 - 1 Mile SSW
I39	USGS2538406	1/2 - 1 Mile SSW
K40	USGS2538580	1/2 - 1 Mile South
I41	USGS2538397	1/2 - 1 Mile SSW
I42	USGS2538398	1/2 - 1 Mile SSW
I43	USGS2538399	1/2 - 1 Mile SSW
K46	USGS2538578	1/2 - 1 Mile South
K49	USGS2538577	1/2 - 1 Mile South
L50	USGS2538574	1/2 - 1 Mile South
M53	USGS2538454	1/2 - 1 Mile West
M54	USGS2538463	1/2 - 1 Mile WSW
M55	USGS2538464	1/2 - 1 Mile WSW
L57	USGS2536217	1/2 - 1 Mile South
N59	USGS2536219	1/2 - 1 Mile South
N60	USGS2536220	1/2 - 1 Mile South
N62	USGS2536218	1/2 - 1 Mile South
O64	USGS2538334	1/2 - 1 Mile West
O65	USGS2538335	1/2 - 1 Mile West
P67	USGS2538356	1/2 - 1 Mile West

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
P74	USGS2538350	1/2 - 1 Mile West

### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

### STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
2	IA30012962	1/4 - 1/2 Mile NNE
C8	IA10001107	1/2 - 1 Mile WSW
C11	IA10001109	1/2 - 1 Mile WSW
C12	IA10001106	1/2 - 1 Mile SW
D14	IA10001102	1/2 - 1 Mile SW
F16	IA10001110	1/2 - 1 Mile WSW
G20	IA10001097	1/2 - 1 Mile SW
G22	IA10001095	1/2 - 1 Mile SW
B23	IA10001088	1/2 - 1 Mile SSW
E26	IA10001093	1/2 - 1 Mile SSW
E27	IA10001090	1/2 - 1 Mile SSW
H30	IA10001086	1/2 - 1 Mile SSW
I34	IA10001087	1/2 - 1 Mile SSW
J37	IA20007329	1/2 - 1 Mile SW
J38	IA20007328	1/2 - 1 Mile SW
H44	IA10001085	1/2 - 1 Mile SSW
K45	IA10001084	1/2 - 1 Mile South
47	IA10001122	1/2 - 1 Mile West
K48	IA10001083	1/2 - 1 Mile South
L51	IA10001080	1/2 - 1 Mile South
L52	IA10001078	1/2 - 1 Mile South
M56	IA10001113	1/2 - 1 Mile West
N58	IA10001077	1/2 - 1 Mile South
O61	IA10001117	1/2 - 1 Mile West
N63	IA20007299	1/2 - 1 Mile South
66	IA10001073	1/2 - 1 Mile South
Q68	IA30012846	1/2 - 1 Mile West
Q69	IA30012845	1/2 - 1 Mile West
Q70	IA30012844	1/2 - 1 Mile West
Q71	IA30012847	1/2 - 1 Mile West
72	IA30012758	1/2 - 1 Mile SW
P73	IA10001126	1/2 - 1 Mile West

# PHYSICAL SETTING SOURCE MAP - 01715536.170r



- 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
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location

SITE NAME: CEDAR RAPIDS AFRC  
 ADDRESS: 1599 WENIG ROAD NE  
 CEDAR RAPIDS IA 52402  
 LAT/LONG: 42.0057 / 91.6775

CLIENT: FMSM Engineers  
 CONTACT: Robert Newman  
 INQUIRY #: 01715536.170r  
 DATE: July 14, 2006

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**1**  
**SSE**  
**1/4 - 1/2 Mile**  
**Lower**

**FED USGS      USGS2538442**

Agency cd:	USGS	Site no:	420002091403200
Site name:	083N07W16BCCA	Cedar Rapids Waterworks	
Latitude:	420002		
Longitude:	0914032	Dec lat:	42.00055502
Dec lon:	-91.67573603	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWSWNWS16 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	745	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19921215	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	461907400
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:	1992-10-28
Water quality data end date:	2003-05-29	Water quality data count:	61
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**2**  
**NNE**  
**1/4 - 1/2 Mile**  
**Higher**

**IA WELLS      IA30012962**

Well Type:	Private Well Tracking System		
Wellnbr:	2093457	Permit #:	Not Reported
Tier #:	83	Range #:	7
Range Dir:	W	Section #:	9
Qqqqq:	SW NW NE SW NW	Elevation:	834
Elev acc:	30 m. DEM	Well depth:	105
Water depth:	20		
Latn:	42.01323		
Longn:	-91.6749		
Date Built:	Not Reported	County #:	0
County:	Linn		
Driller:	unknown		
Driller cmpy:	unknown		
Owner name:	Petersen, Jody		
Cnstr mthd:	Rotary		
Remarks:	Not Reported		
Well use:	Household	Status:	Plugged
Heat pump #:	0	Permitted?:	Not Reported
Plugged?:	X	Renovated?:	Not Reported

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Test Well: Not Reported  
 Xcoord: 0  
 Ycoord: 0  
 Use text: Household                      Lithology: 0

**3**  
**NW**  
**1/4 - 1/2 Mile**  
**Higher**

**FED USGS      USGS2538382**

Agency cd:	USGS	Site no:	420034091410501
Site name:	083N07W07DDBC	Cedar Rapids W5	
Latitude:	420034		
Longitude:	0914105	Dec lat:	42.00944354
Dec lon:	-91.6849026	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSESES07 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	722.00	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	68	Hole depth:	68
Source of depth data:	driller	Project number:	461907400
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
-----		
1993-11-01	6.1	

**A4**  
**SW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538433**

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	420000091410002
Site name:	83N07W17CDCA 1992		
Latitude:	420000		
Longitude:	0914100	Dec lat:	41.99999941
Dec lon:	-91.68351401	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SESWNES17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	720.74	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19921223
Date inventoried:	19931022	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Outcrop		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	QUATERNARY		
Well depth:	24	Hole depth:	24
Source of depth data:	driller	Project number:	461907400
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:	1993-11-03
Water quality data end date:	1993-11-03	Water quality data count:	1
Ground water data begin date:	1993-11-03	Ground water data end date:	1993-11-03
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel		Date	Feet below Surface	Feet to Sealevel
1993-11-03	6.67			1993-11-03	6.67	

**A5  
SW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538432**

Agency cd:	USGS	Site no:	420000091410001
Site name:	083N07W17CDCA 1992		
Latitude:	420000		
Longitude:	0914100	Dec lat:	41.99999941
Dec lon:	-91.68351401	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SESWNES17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	720.74	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19921223
Date inventoried:	19931022	Mean greenwich time offset:	CST

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y	Hole depth:	18
Type of ground water site:	Outcrop	Project number:	461907400
Aquifer Type:	Unconfined single aquifer	Daily flow data begin date:	0000-00-00
Aquifer:	QUATERNARY	Daily flow data count:	0
Well depth:	18	Peak flow data end date:	0000-00-00
Source of depth data:	driller	Water quality data begin date:	1993-11-03
Real time data flag:	0	Water quality data count:	1
Daily flow data end date:	0000-00-00	Ground water data end date:	1994-12-01
Peak flow data begin date:	0000-00-00		
Peak flow data count:	0		
Water quality data end date:	1993-11-03		
Ground water data begin date:	1993-11-03		
Ground water data count:	2		

Ground-water levels, Number of Measurements: 4

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-12-01	2.88		1994-12-01	2.88	
1993-11-03	9.50		1993-11-03	9.50	

6

**SSE**  
1/2 - 1 Mile  
Lower

**FED USGS USGS2538424**

Agency cd:	USGS	Site no:	415955091402801
Site name:	083N07W16CBBB	CD RPDS TEST 1	
Latitude:	415955		
Longitude:	0914028	Dec lat:	41.99861068
Dec lon:	-91.67462487	Coor meth:	M
Coor accr:	U	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	Not Reported
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	739.00	Altitude method:	U
Altitude accuracy:	Not Reported	Altitude datum:	NGVD29
Hydrologic:	Maquoketa. Iowa. Area = 1870 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	SILURIAN SYSTEM		
Well depth:	305	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:	1961-08-04
Water quality data end date:	1961-08-08	Water quality data count:	2
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**B7**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538420**

Agency cd:	USGS	Site no:	415954091405101
Site name:	083N07W17DACB    1961		
Latitude:	415954		
Longitude:	0914051	Dec lat:	41.99833285
Dec lon:	-91.6810139	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWNESES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	727.15	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1961
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	72	Hole depth:	72
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel		Date	Feet below Surface	Feet to Sealevel
-----				-----		
1993-11-01	8.7			1993-11-01	8.7	

**C8**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001107**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	336		
Muniwu id:	339		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E18	Depth:	65
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**D9**  
**SW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538443**

Agency cd:	USGS	Site no:	420002091410701
Site name:	083N07W17ACCD    1984Cedar Rapids E16		
Latitude:	420002		
Longitude:	0914107	Dec lat:	42.00055493
Dec lon:	-91.68545848	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWSWNES17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	723.71	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840130
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	69	Hole depth:	69
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel		Date	Feet below Surface	Feet to Sealevel
-----				-----		
1993-11-01	7.4			1993-11-01	7.4	

**C10**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538453**

Agency cd:	USGS	Site no:	420007091411201
Site name:	083N07W17ACBC    1984Cedar Rapids E18		
Latitude:	420007		
Longitude:	0914112	Dec lat:	42.00194376
Dec lon:	-91.68684735	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSWNES17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude:	720.67	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840821
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	59	Hole depth:	59.8
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	7.0		1993-11-01	7.0	

**C11**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001109**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	337		
Muniwu id:	340		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E19	Depth:	65
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**C12**  
**SW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001106**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	335		
Muniwu id:	338		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E17	Depth:	65

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**C13**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538449**

Agency cd:	USGS	Site no:	420005091411101
Site name:	083N07W17ACCB	1984Cedar Rapids E17	
Latitude:	420005		
Longitude:	0914111	Dec lat:	42.00138822
Dec lon:	-91.68656959	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWSWNE17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	720.99	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840817
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	59	Hole depth:	60
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	18.6		1993-11-01	18.6	

**D14**  
**SW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001102**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	334		
Muniwu id:	337		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E16	Depth:	65

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**E15  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538405**

Agency cd:	USGS	Site no:	415952091404401
Site name:	083N07W17DAB      1961Cedar Rapids E5		
Latitude:	415955		
Longitude:	0914057	Dec lat:	41.9986106
Dec lon:	-91.68268061	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NENWSES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	720	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19610000
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	66	Hole depth:	66
Source of depth data:	driller	Project number:	461904700
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:	1971-04-27
Water quality data end date:	1971-04-27	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**F16  
WSW  
1/2 - 1 Mile  
Lower**

**IA WELLS      IA10001110**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	338		
Muniwu id:	341		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E20	Depth:	65

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**17**  
**ENE**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538379**

Agency cd:	USGS	Site no:	420033091400301
Site name:	083N07W09CDAB	1951K. Bell	
Latitude:	420033		
Longitude:	0914003	Dec lat:	42.00916594
Dec lon:	-91.66767998	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NESESWS09 T083N R07W 5
Location map:	Not Reported	Map scale:	Not Reported
Altitude:	857	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19510101
Date inventoried:	19930921	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Drain dug to water table or potentiometric surface to either lower ground-water level or serve as a water supply		
Aquifer Type:	Not Reported		
Aquifer:	DEVONIAN-SILURIAN SYSTEM		
Well depth:	140	Hole depth:	140
Source of depth data:	other reported	Project number:	461907400
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**C18**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538461**

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	420010091411501
Site name:	083N07W17BDAA	1984Cedar Rapids E19	
Latitude:	420010		
Longitude:	0914115	Dec lat:	42.00277706
Dec lon:	-91.68768068	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NESENWS17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	719.02	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840901
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	57	Hole depth:	58
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel		Date	Feet below Surface	Feet to Sealevel
-----				-----		
1993-11-01	50.3			1993-11-01	50.3	

**E19  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538421**

Agency cd:	USGS	Site no:	415954091405601
Site name:	083N07W17DBCC	1989Cedar Rapids EO5	
Latitude:	415954		
Longitude:	0914056	Dec lat:	41.99833284
Dec lon:	-91.68240282	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWNWSES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	730.31	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19890404
Date inventoried:	19930920	Mean greenwich time offset:	CST



# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	67	Hole depth:	67
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	25.8		1993-11-01	25.8	

**G22**  
**SW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001095**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	332		
Muniwu id:	335		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E14	Depth:	65
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**B23**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001088**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	326		
Muniwu id:	329		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E5	Depth:	72
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Database      EDR ID Number

**F24**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538471**

Agency cd:	USGS	Site no:	420013091411601
Site name:	083N07W17BADD    1984Cedar Rapids E20		
Latitude:	420013		
Longitude:	0914118	Dec lat:	42.00361036
Dec lon:	-91.688514	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SENNWS17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	721.29	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840926
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	56	Hole depth:	57
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	6.8		1993-11-01	6.8	

**E25**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538425**

Agency cd:	USGS	Site no:	415955091410101
Site name:	083N07W17DBAC    1984Cedar Rapids E12		
Latitude:	415955		
Longitude:	0914101	Dec lat:	41.99861059
Dec lon:	-91.68379175	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NENWSES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude:	736.16	Altitude method:	L
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840507
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	61	Hole depth:	61
Source of depth data:	driller	Project number:	461907400
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:	1993-11-01	Ground water data end date:	1999-03-01
Ground water data count:	4		

Ground-water levels, Number of Measurements: 8

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1999-03-01	12.98		1999-03-01	12.98	
1998-12-04	10.68		1998-12-04	10.68	
1998-10-29	8.92		1998-10-29	8.92	
1993-11-01	6.7		1993-11-01	6.7	

**E26**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001093**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	331		
Muniwu id:	334		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E13	Depth:	65
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**E27**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001090**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	330		
Muniwu id:	333		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E12	Depth:	65

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**E28  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538429**

Agency cd:	USGS	Site no:	415959091410501
Site name:	083N07W17DBBA	1984Cedar Rapids E13	
Latitude:	415954		
Longitude:	0914101	Dec lat:	41.99833283
Dec lon:	-91.68379174	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWNWSES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	725.12	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1984
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	64.5	Hole depth:	65
Source of depth data:	driller	Project number:	461904700
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:	1991-08-29
Water quality data end date:	1991-08-29	Water quality data count:	1
Ground water data begin date:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	6.7		1993-11-01	6.7	

**B29  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538403**

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	415951091405301
Site name:	083N07W17DACB	1989Cedar Rapids EO4	
Latitude:	415951		
Longitude:	0914053	Dec lat:	41.99749956
Dec lon:	-91.68156945	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWNESES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	720	Altitude method:	M
Altitude accuracy:	Not Reported	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19890417
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	Not Reported		
Well depth:	72	Hole depth:	Not Reported
Source of depth data:	driller	Project number:	461907400
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**H30**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS**      **IA10001086**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	325		
Muniwu id:	328		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E4	Depth:	72
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**H31**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS**      **USGS2538400**

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	415950091405001
Site name:	083N07W17DADC 1989Cedar Rapids EO3		
Latitude:	415950		
Longitude:	0914050	Dec lat:	41.9972218
Dec lon:	-91.68073609	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWNESES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	720	Altitude method:	M
Altitude accuracy:	Not Reported	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19890329
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	Not Reported		
Well depth:	72	Hole depth:	Not Reported
Source of depth data:	driller	Project number:	461907400
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**H32  
South  
1/2 - 1 Mile  
Lower**

**FED USGS USGS2538581**

Agency cd:	USGS	Site no:	415949091404501
Site name:	083N07W17DADC 1989Cedar Rapids EO2		
Latitude:	415949		
Longitude:	0914045	Dec lat:	41.99694405
Dec lon:	-91.67934716	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SENESES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	720	Altitude method:	M
Altitude accuracy:	Not Reported	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19930324
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	Not Reported		
Well depth:	72	Hole depth:	Not Reported
Source of depth data:	driller	Project number:	461907400
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: Not Reported  
 Water quality data end date: Not Reported  
 Ground water data begin date: Not Reported  
 Ground water data count: Not Reported  
 Water quality data begin date: Not Reported  
 Water quality data count: Not Reported  
 Ground water data end date: Not Reported

Ground-water levels, Number of Measurements: 0

**I33**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538575**

Agency cd:	USGS	Site no:	415944091404801
Site name:	083N07W17DDBD    1978		
Latitude:	415951		
Longitude:	0914056	Dec lat:	41.99749955
Dec lon:	-91.6824028	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSESES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	725.13	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1978
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	67	Hole depth:	67
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

	Feet below	Feet to		Feet below	Feet to
Date	Surface	Sealevel	Date	Surface	Sealevel
-----			-----		
1993-11-01	11.6		1993-11-01	11.6	

**I34**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001087**

Well Type:	Municipal Well	Pws:	CEDAR RAPIDS
Mnwlsmr area:	0	Depth:	65
Mnwlsmr perimete:	0		
Muniwu :	329		
Muniwu id:	332		
Permit :	1346		
Source:	WELL E11		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**H35  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538582**

Agency cd:	USGS	Site no:	415949091404901
Site name:	083N07W17DACD	1961Cedar Rapids E3	
Latitude:	415949		
Longitude:	0914049	Dec lat:	41.99694404
Dec lon:	-91.68045829	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWNESES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	728.55	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1961
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	72	Hole depth:	72
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	13.5		1993-11-01	13.5	

**I36  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538401**

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	415950091405501
Site name:	083N07W17DBDA 1984		
Latitude:	415950		
Longitude:	0914055	Dec lat:	41.99722179
Dec lon:	-91.68212501	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SE S17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	725.90	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840711
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	56.5	Hole depth:	57
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	9.6		1993-11-01	9.6	

**J37  
SW  
1/2 - 1 Mile  
Lower**

**IA WELLS      IA20007329**

Well Type:	Private Well		
Prwells merc are:	0		
Prwells merc per:	0		
Pvtperm :	11391		
Pvtperm id:	18950	Township:	83
Recordno:	18950	Range:	7
Range (N/S):	N	Section:	17
Range (E/W):	W	Q abc:	DB
Qqqqq:	SE NW	App role:	Not Reported
Permit:	2686	App last:	UNITED STATES
App first:	GEOLOGICAL SURVEY	App city:	IOWA CITY
App addr:	PO BOX 1230	App zip:	52244
App state:	IA	Owner first:	GEOLOGICAL SURVEY
App phone:	3193374191	Owner addr:	Not Reported
Owner last:	UNITED STATES	Owner st:	Not Reported
Owner city:	Not Reported	Owner phone:	Not Reported
Owner zip:	Not Reported	Status:	Not Reported
County:	57		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Legal:	NWSE17 83 7W	Depth:	0
App date:	Not Reported	Prmt date:	Not Reported
Use1:	7 Monito	Use2:	Not Reported
Contname:	US GEOLOGICAL SURVEY	Contid:	Not Reported
Well driller:	Not Reported	Certnum:	Not Reported
Constguess:	Not Reported	Construction:	Not Reported
E1use1:	Not Reported	E1use2:	Not Reported
E1dpth:	0	E1legal:	Not Reported
E1const:	Not Reported	E1status:	Not Reported
E2use1:	Not Reported	E2use2:	Not Reported
E2dpth:	0	E2legal:	Not Reported
E2const:	Not Reported	E2status:	Not Reported
E3use1:	Not Reported	E3use2:	Not Reported
E3dpth:	0	E3legal:	Not Reported
E3const:	Not Reported	E3status:	Not Reported
Agentfirst:	Not Reported	Agentlast:	Not Reported
Created:	pheesch 09/12/96 15:29:30	Checked:	jwycisk 09/13/96 10:18:18
Updated:	jwycisk 09/13/96 10:18:18	Prm recs:	0
Well p:	0	Well e:	0
Utm x:	608961.88		
Utm y:	4650189		

**J38  
SW  
1/2 - 1 Mile  
Lower**

**IA WELLS      IA20007328**

Well Type:	Private Well		
Prwells merc are:	0		
Prwells merc per:	0		
Pvtperm :	2809		
Pvtperm id:	10368		
Recordno:	10368	Township:	83
Range (N/S):	N	Range:	7
Range (E/W):	W	Section:	17
Qqqqq:	SE NW	Q abc:	DB
Permit:	2686	App role:	U
App first:	US	App last:	GS
App addr:	BOX1230	App city:	IOWA CITY
App state:	IA	App zip:	52244
App phone:	3193374191	Owner first:	Not Reported
Owner last:	Not Reported	Owner addr:	Not Reported
Owner city:	Not Reported	Owner st:	Not Reported
Owner zip:	Not Reported	Owner phone:	Not Reported
County:	57	Status:	P
Legal:	NWSE17 83 7W	Depth:	0
App date:	Not Reported	Prmt date:	Not Reported
Use1:	7	Use2:	Not Reported
Contname:	USGS	Contid:	Not Reported
Well driller:	Not Reported	Certnum:	Not Reported
Constguess:	Not Reported	Construction:	Not Reported
E1use1:	Not Reported	E1use2:	Not Reported
E1dpth:	0	E1legal:	Not Reported
E1const:	Not Reported	E1status:	Not Reported
E2use1:	Not Reported	E2use2:	Not Reported
E2dpth:	0	E2legal:	Not Reported
E2const:	Not Reported	E2status:	Not Reported

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

E3use1:	Not Reported	E3use2:	Not Reported
E3dpth:	0	E3legal:	Not Reported
E3const:	Not Reported	E3status:	Not Reported
Agentfirst:	ILLEGIBLE	Agentlast:	ILLEGIBLE
Created:	Not Reported	Checked:	Not Reported
Updated:	Not Reported	Prm recs:	0
Well p:	0	Well e:	0
Utm x:	608961.88		
Utm y:	4650189		

**I39**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538406**

Agency cd:	USGS	Site no:	415952091405701
Site name:	083N07W17DBDA    1984Cedar Rapids E12		
Latitude:	415950		
Longitude:	0914057	Dec lat:	41.99722178
Dec lon:	-91.68268057	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SENWSES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	727.22	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19840522
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	61	Hole depth:	61
Source of depth data:	driller	Project number:	461904700
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:	1993-11-02
Water quality data end date:	1993-11-02	Water quality data count:	1
Ground water data begin date:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1993-11-01	34.5		1993-11-01	34.5	

**K40**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538580**

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	415949091404301
Site name:	083N07W17DADC	1961Cedar Rapids E2	
Latitude:	415947		
Longitude:	0914041	Dec lat:	41.99638854
Dec lon:	-91.678236	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SENESES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	730.26	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1961
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	72	Hole depth:	72
Source of depth data:	driller	Project number:	461904700
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel		Date	Feet below Surface	Feet to Sealevel
-----				-----		
1993-11-01	43.4			1993-11-01	43.4	

**I41  
SSW  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538397**

Agency cd:	USGS	Site no:	415949091405201
Site name:	083N07W17DACC	1981Cedar Rapids E10	
Latitude:	415949		
Longitude:	0914054	Dec lat:	41.99694403
Dec lon:	-91.68184721	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SESWNES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	722.44	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1980
Date inventoried:	19930920	Mean greenwich time offset:	CST



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 154

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2003-02-20	28.13		2003-02-20	28.13	
2002-11-21	26.68		2002-11-21	26.68	
2002-09-05	28.07		2002-09-05	28.07	
2002-05-14	12.52		2002-05-14	12.52	
2002-02-19	14.57		2002-02-19	14.57	
2001-10-23	9.85		2001-10-23	9.85	
2001-06-25	3.56		2001-06-25	3.56	
2001-05-30	1.68		2001-05-30	1.68	
2001-05-03	3.01		2001-05-03	3.01	
2001-04-19	0.28		2001-04-19	0.28	
2001-03-01	19.97		2001-03-01	19.97	
2001-02-15	19.96		2001-02-15	19.96	
2000-12-15	13.86		2000-12-15	13.86	
2000-12-01	16.34		2000-12-01	16.34	
2000-09-06	5.06		2000-09-06	5.06	
2000-08-17	2.35		2000-08-17	2.35	
2000-08-09	1.28		2000-08-09	1.28	
2000-08-04	1.32		2000-08-04	1.32	
2000-08-04	1.32		2000-08-04	1.32	
2000-07-21	2.95		2000-07-21	2.95	
2000-06-27	0.09		2000-06-27	0.09	
2000-05-10	4.56		2000-05-10	4.56	
2000-04-24	4.27		2000-04-24	4.27	
2000-04-05	8.55		2000-04-05	8.55	
2000-03-15	4.03		2000-03-15	4.03	
2000-02-24	4.01		2000-02-24	4.01	
2000-02-01	5.12		2000-02-01	5.12	
2000-01-10	3.73		2000-01-10	3.73	
1999-12-20	4.49		1999-12-20	4.49	
1999-10-22	2.71		1999-10-22	2.71	
1999-09-20	3.27		1999-09-20	3.27	
1999-08-18	4.41		1999-08-18	4.41	
1999-07-23	3.61		1999-07-23	3.61	
1999-06-30	3.21		1999-06-30	3.21	
1999-06-02	2.63		1999-06-02	2.63	
1999-05-10	2.70		1999-05-10	2.70	
1999-05-04	2.39		1999-05-04	2.39	
1999-05-03	2.32		1999-05-03	2.32	
1999-04-29	4.73		1999-04-29	4.73	
1999-03-26	14.96		1999-03-26	14.96	
1999-03-01	5.00		1999-03-01	5.00	
1999-01-14	7.94		1999-01-14	7.94	
1998-12-21	2.41		1998-12-21	2.41	
1998-12-04	1.96		1998-12-04	1.96	
1998-11-12	6.92		1998-11-12	6.92	
1998-10-29	3.64		1998-10-29	3.64	
1998-10-21	1.16		1998-10-21	1.16	
1998-09-28	4.10		1998-09-28	4.10	
1998-09-02	7.04		1998-09-02	7.04	
1998-08-10	0.31		1998-08-10	0.31	
1998-07-24	0.68		1998-07-24	0.68	
1998-07-10	6.65		1998-07-10	6.65	
1998-06-12	20.00		1998-06-12	20.00	
1998-05-18	9.35		1998-05-18	9.35	
1998-04-29	11.73		1998-04-29	11.73	

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1998-04-29	11.73		1998-04-29	11.73	
1998-04-06	2.58		1998-04-06	2.58	
1998-03-23	24.42		1998-03-23	24.42	
1998-03-04	20.76		1998-03-04	20.76	
1998-01-26	26.4		1998-01-26	26.4	
1998-01-05	15.21		1998-01-05	15.21	
1997-12-12	18.95		1997-12-12	18.95	
1997-11-14	25.42		1997-11-14	25.42	
1997-10-29	16.01		1997-10-29	16.01	
1997-10-10	8.23		1997-10-10	8.23	
1997-09-16	5.93		1997-09-16	5.93	
1997-09-03	6.66		1997-09-03	6.66	
1997-08-29	10.14		1997-08-29	10.14	
1997-08-14	9.80		1997-08-14	9.80	
1997-07-25	11.55		1997-07-25	11.55	
1997-07-14	15.55		1997-07-14	15.55	
1996-04-23	18.99		1996-04-23	18.99	
1996-02-15	17.37		1996-02-15	17.37	
1995-10-19	21.06		1995-10-19	21.06	
1995-08-10	20.66		1995-08-10	20.66	
1994-12-01	12.90		1994-12-01	12.90	
1993-11-04	8.89		1993-11-04	8.89	

**I43**  
**SSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538399**

Agency cd:	USGS	Site no:	415949091405402
Site name:	083N07W17DAC	1993USGS CRM-12	
Latitude:	415949		
Longitude:	0914054	Dec lat:	41.99694403
Dec lon:	-91.68184721	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWNESES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	721.99	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1993
Date inventoried:	19940317	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Outcrop		
Aquifer Type:	Not Reported		
Aquifer:	DEVONIAN SYSTEM		
Well depth:	75	Hole depth:	75
Source of depth data:	Not Reported	Project number:	461907400
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

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0  
 Water quality data end date: 1997-08-20  
 Ground water data begin date: 1994-12-01  
 Ground water data count: 69

Water quality data begin date: 1995-05-15  
 Water quality data count: 6  
 Ground water data end date: 2001-06-25

Ground-water levels, Number of Measurements: 138

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2001-06-25	3.77		2001-06-25	3.77	
2001-05-30	1.97		2001-05-30	1.97	
2001-05-03	3.25		2001-05-03	3.25	
2001-04-20	2.30		2001-04-20	2.30	
2001-04-19	0.72		2001-04-19	0.72	
2001-02-15	20.02		2001-02-15	20.02	
2000-12-15	14.06		2000-12-15	14.06	
2000-09-06	5.32		2000-09-06	5.32	
2000-08-17	2.61		2000-08-17	2.61	
2000-08-09	1.57		2000-08-09	1.57	
2000-08-04	1.61		2000-08-04	1.61	
2000-07-21	3.14		2000-07-21	3.14	
2000-06-27	0.43		2000-06-27	0.43	
2000-05-10	4.95		2000-05-10	4.95	
2000-05-02	8.68		2000-05-02	8.68	
2000-04-05	8.73		2000-04-05	8.73	
2000-03-15	4.30		2000-03-15	4.30	
2000-02-24	4.30		2000-02-24	4.30	
2000-02-01	5.39		2000-02-01	5.39	
2000-01-10	4.04		2000-01-10	4.04	
1999-12-20	4.76		1999-12-20	4.76	
1999-10-22	3.02		1999-10-22	3.02	
1999-09-20	3.58		1999-09-20	3.58	
1999-08-18	4.59		1999-08-18	4.59	
1999-07-23	3.87		1999-07-23	3.87	
1999-06-30	3.47		1999-06-30	3.47	
1999-06-02	2.91		1999-06-02	2.91	
1999-05-10	3.04		1999-05-10	3.04	
1999-05-04	2.74		1999-05-04	2.74	
1999-05-03	2.65		1999-05-03	2.65	
1999-04-29	4.96		1999-04-29	4.96	
1999-03-26	15.14		1999-03-26	15.14	
1999-03-01	5.29		1999-03-01	5.29	
1999-01-14	8.20		1999-01-14	8.20	
1998-12-21	2.75		1998-12-21	2.75	
1998-12-04	2.30		1998-12-04	2.30	
1998-11-12	7.22		1998-11-12	7.22	
1998-10-29	3.96		1998-10-29	3.96	
1998-10-21	1.55		1998-10-21	1.55	
1998-09-28	4.42		1998-09-28	4.42	
1998-09-02	7.33		1998-09-02	7.33	
1998-08-10	0.69		1998-08-10	0.69	
1998-07-24	1.04		1998-07-24	1.04	
1998-07-10	6.87		1998-07-10	6.87	
1998-06-12	20.14		1998-06-12	20.14	
1998-05-18	9.63		1998-05-18	9.63	
1998-04-29	11.95		1998-04-29	11.95	
1998-04-06	2.98		1998-04-06	2.98	
1998-03-23	24.54		1998-03-23	24.54	
1998-03-04	21.02		1998-03-04	21.02	

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1998-01-26	26.41		1998-01-26	26.41	
1998-01-05	15.32		1998-01-05	15.32	
1997-12-12	19.15		1997-12-12	19.15	
1997-11-14	25.44		1997-11-14	25.44	
1997-10-29	16.13		1997-10-29	16.13	
1997-10-10	8.56		1997-10-10	8.56	
1997-09-30	8.21		1997-09-30	8.21	
1997-09-16	6.29		1997-09-16	6.29	
1997-09-03	6.99		1997-09-03	6.99	
1997-08-29	10.36		1997-08-29	10.36	
1997-08-14	10.11		1997-08-14	10.11	
1997-07-25	11.83		1997-07-25	11.83	
1997-07-14	15.78		1997-07-14	15.78	
1996-04-23	19.28		1996-04-23	19.28	
1996-02-15	17.55		1996-02-15	17.55	
1995-10-19	21.09		1995-10-19	21.09	
1995-08-10	20.81		1995-08-10	20.81	
1995-05-15	25.90		1995-05-15	25.90	
1994-12-01	12.98		1994-12-01	12.98	

**H44  
SSW  
1/2 - 1 Mile  
Lower**

**IA WELLS      IA10001085**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	328		
Muniwu id:	331		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E10	Depth:	60
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**K45  
South  
1/2 - 1 Mile  
Lower**

**IA WELLS      IA10001084**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	324		
Muniwu id:	327		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E3	Depth:	72
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**K46**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538578**

Agency cd:	USGS	Site no:	415946091404001
Site name:	083N07W17DDAA    1988Cedar Rapids EO1		
Latitude:	415946		
Longitude:	0914040	Dec lat:	41.99611078
Dec lon:	-91.67795821	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NESESES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	720	Altitude method:	M
Altitude accuracy:	Not Reported	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19880919
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	Not Reported		
Well depth:	70	Hole depth:	Not Reported
Source of depth data:	driller	Project number:	461907400
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**47**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001122**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	321		
Muniwu id:	324		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	CEDAR R	Depth:	0
Alluvial:		Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**K48**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001083**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	323		
Muniwu id:	326		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E2	Depth:	72
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**K49**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538577**

Agency cd:	USGS	Site no:	415946091403901
Site name:	083N07W17DDAA 13137 1961		
Latitude:	415944	Dec lat:	41.99555525
Longitude:	0914039	Coor meth:	M
Dec lon:	-91.67768041	Latlong datum:	NAD27
Coor accr:	F	District:	19
Dec latlong datum:	NAD83	County:	113
State:	19	Country:	US
Country:	US	Land net:	SENESES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	720.34	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19611020
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Outcrop		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	65	Hole depth:	65
Source of depth data:	driller	Project number:	461904700
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:	1961-10-24
Water quality data end date:	1971-04-27	Water quality data count:	2
Ground water data begin date:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-11-01	52.2		1993-11-01	52.2	

**L50**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538574**

Agency cd:	USGS	Site no:	415944091403501
Site name:	083N07W16CCBB	1988Cedar Rapids EO6	
Latitude:	415944		
Longitude:	0914035	Dec lat:	41.99555526
Dec lon:	-91.67656927	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSWSWS16 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	724.91	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	19880912
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	70	Hole depth:	70
Source of depth data:	driller	Project number:	461907400
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-11-01	10.2		1993-11-01	10.2	

**L51**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001080**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	327		
Muniwu id:	330		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E6	Depth:	70

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	16		

**L52**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001078**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	322		
Muniwu id:	325		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E1	Depth:	70
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**M53**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538454**

Agency cd:	USGS	Site no:	420007091411801
Site name:	083N07W17BDBB	1964Cedar Rapids W1	
Latitude:	420014		
Longitude:	0914128	Dec lat:	42.0038881
Dec lon:	-91.69129183	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SWNENWS17 T83N R7W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	716	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	196402
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	66	Hole depth:	66
Source of depth data:	driller	Project number:	461904700
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

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0  
 Water quality data end date: 1986-02-20  
 Ground water data begin date: 0000-00-00  
 Ground water data count: 0

Water quality data begin date: 1964-03-06  
 Water quality data count: 5  
 Ground water data end date: 0000-00-00

Ground-water levels, Number of Measurements: 0

**M54**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538463**

Agency cd:	USGS	Site no:	420012091412801
Site name:	083N07W17BDBB		
Latitude:	420012		
Longitude:	0914128	Dec lat:	42.00333256
Dec lon:	-91.69129185	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NW S17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	727.19	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	66	Hole depth:	66
Source of depth data:	Not Reported	Project number:	461907400
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:	1993-11-02
Water quality data end date:	1993-11-02	Water quality data count:	1
Ground water data begin date:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel		Date	Feet below Surface	Feet to Sealevel
1993-11-01	48.0			1993-11-01	48.0	

**M55**  
**WSW**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538464**

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd:	USGS	Site no:	420012091412802
Site name:	USGS CRM-9		
Latitude:	420012		
Longitude:	0914128	Dec lat:	42.00333256
Dec lon:	-91.69129185	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSENWS17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	727.30	Altitude method:	L
Altitude accuracy:	Not Reported	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	1993
Date inventoried:	1993	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	Not Reported		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	other government (other than USGS)	Object number:	461907400
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:	1994-12-01	Ground water data end date:	1994-12-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1994-12-01	3.77		1994-12-01	3.77	

**M56**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001113**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	352		
Muniwu id:	355		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL W1	Depth:	66
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**L57**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2536217**

Agency cd:	USGS	Site no:	415940091402801
Site name:	083N07W16CCBB	1961Cedar Rapids E6	
Latitude:	415942		
Longitude:	0914037	Dec lat:	41.99499973
Dec lon:	-91.67712483	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSWSWS16 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	717	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19610000
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	70	Hole depth:	70
Source of depth data:	driller	Project number:	461904700
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:	1971-04-27
Water quality data end date:	1971-04-27	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**N58**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001077**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	340		
Muniwu id:	343		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL E9	Depth:	67
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**N59**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2536219**

Agency cd:	USGS	Site no:	415941091404001
Site name:	083N07W17DDBA	1963Cedar Rapids E7	
Latitude:	415941		
Longitude:	0914040	Dec lat:	41.99472196
Dec lon:	-91.67795817	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWSESES17 T83N R7W 5
Location map:	CEDAR RAPIDS	Map scale:	24000
Altitude:	720	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19630000
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported	Project number:	461904700
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:	1971-05-04
Water quality data end date:	1971-05-04	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**N60**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2536220**

Agency cd:	USGS	Site no:	415941091404101
Site name:	083N07W17DDAD	Cedar Rapids E8	
Latitude:	415941		
Longitude:	0914041	Dec lat:	41.99472196
Dec lon:	-91.67823596	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NESESES17 T083N R07W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	722.39	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19930920	Mean greenwich time offset:	CST

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	69.6	Hole depth:	69.6
Source of depth data:	Not Reported	Project number:	461907400
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:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
-----		
1993-11-01	2.5	

**O61**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001117**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	355		
Muniwu id:	358		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL W2	Depth:	66
Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**N62**  
**South**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2536218**

Agency cd:	USGS	Site no:	415940091403501
Site name:	083N07W17DDA	Cedar Rapids E8	
Latitude:	415940		
Longitude:	0914042	Dec lat:	41.99444419
Dec lon:	-91.67851373	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NESESES17 T83N R7W 5
Location map:	CEDAR RAPIDS SOUTH	Map scale:	24000
Altitude:	719	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	CST

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	68	Hole depth:	68
Source of depth data:	driller	Project number:	461904700
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:	1971-05-04
Water quality data end date:	1971-05-04	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**N63  
South  
1/2 - 1 Mile  
Lower**

**IA WELLS      IA20007299**

Well Type:	Private Well		
Prwells merc are:	0		
Prwells merc per:	0		
Pvtperm :	10064		
Pvtperm id:	17623		
Recordno:	17623	Township:	83
Range (N/S):	N	Range:	7
Range (E/W):	W	Section:	17
Qqqqq:	SE SE	Q abc:	DD
Permit:	3128	App role:	U
App first:	C/O MIKE O'DELL CONS	App last:	LANGRIDGE, MIKE
App addr:	3600 INDIAN ROAD SE	App city:	CEDAR RAPIDS
App state:	IA	App zip:	52403
App phone:	3193639646	Owner first:	Not Reported
Owner last:	Not Reported	Owner addr:	Not Reported
Owner city:	Not Reported	Owner st:	Not Reported
Owner zip:	Not Reported	Owner phone:	Not Reported
County:	57	Status:	P
Legal:	SESE17 83 7W	Depth:	300
App date:	Not Reported	Prmt date:	Not Reported
Use1:	2	Use2:	Not Reported
Contname:	Not Reported	Contid:	Not Reported
Well driller:	Not Reported	Certnum:	Not Reported
Constguess:	Not Reported	Construction:	Not Reported
E1use1:	Not Reported	E1use2:	Not Reported
E1dpth:	0	E1legal:	Not Reported
E1const:	Not Reported	E1status:	Not Reported
E2use1:	Not Reported	E2use2:	Not Reported
E2dpth:	0	E2legal:	Not Reported
E2const:	Not Reported	E2status:	Not Reported
E3use1:	Not Reported	E3use2:	Not Reported
E3dpth:	0	E3legal:	Not Reported
E3const:	Not Reported	E3status:	Not Reported
Agentfirst:	Not Reported	Agentlast:	Not Reported
Created:	LGRUNKE 01/02/96 16:24:45	Checked:	Not Reported
Updated:	Not Reported	Prm recs:	0
Well p:	0	Well e:	0
Utm x:	609388.63		
Utm y:	4649795		

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Database      EDR ID Number

**O64**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538334**

Agency cd:	USGS	Site no:	420017091413301
Site name:	083N07W17BBDA      1964Cedar Rapids W2		
Latitude:	420017		
Longitude:	0914133	Dec lat:	42.00472139
Dec lon:	-91.69268073	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWNWNWS17 T83N R7W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	716	Altitude method:	M
Altitude accuracy:	5	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19640000
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	66	Hole depth:	68
Source of depth data:	driller	Project number:	461904700
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

**O65**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**FED USGS      USGS2538335**

Agency cd:	USGS	Site no:	420017091413401
Site name:	083N07W17BBDA      Cedar Rapids W2		
Latitude:	420017		
Longitude:	0914134	Dec lat:	42.00472139
Dec lon:	-91.69295851	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	SENWNWS17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	724.21	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19930920	Mean greenwich time offset:	CST



## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	ALLUVIUM		
Well depth:	68	Hole depth:	68
Source of depth data:	driller	Project number:	461904700
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:	1987-08-20
Water quality data end date:	1989-10-06	Water quality data count:	8
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

**Q68**  
West  
1/2 - 1 Mile  
Lower

IA WELLS      IA30012846

Well Type:	Private Well Tracking System		
Wellnibr:	2082998	Permit #:	12181
Tier #:	83	Range #:	7
Range Dir:	W	Section #:	17
Qqqqq:	NW NW NW NW SE	Elevation:	721
Elev acc:	30 m. DEM	Well depth:	0
Water depth:	-99		
Latn:	42.0064		
Longn:	-91.6958		
Date Built:	Not Reported	County #:	0
County:	Linn		
Driller:	unknown		
Driller cmpy:	unknown		
Owner name:	Fox, Glenys Kemper		
Cnstr mthd:	Not Reported		
Remarks:	Not Reported		
Well use:	Monitoring	Status:	Retired
Heat pump #:	0	Permitted?:	X
Plugged?:	Not Reported	Renovated?:	Not Reported
Test Well:	Not Reported		
Xcoord:	0		
Ycoord:	0		
Use text:	Monitoring	Lithology:	0

**Q69**  
West  
1/2 - 1 Mile  
Lower

IA WELLS      IA30012845

Well Type:	Private Well Tracking System		
Wellnibr:	2082997	Permit #:	12181
Tier #:	83	Range #:	7
Range Dir:	W	Section #:	17
Qqqqq:	NW NW NW NW SE	Elevation:	721
Elev acc:	30 m. DEM	Well depth:	0
Water depth:	-99		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latn:	42.0064		
Longn:	-91.6958		
Date Built:	Not Reported	County #:	0
County:	Linn		
Driller:	unknown		
Driller cmpy:	unknown		
Owner name:	Fox, Glenys Kemper		
Cnstr mthd:	Not Reported		
Remarks:	Not Reported		
Well use:	Monitoring	Status:	Retired
Heat pump #:	0	Permitted?:	X
Plugged?:	Not Reported	Renovated?:	Not Reported
Test Well:	Not Reported		
Xcoord:	0		
Ycoord:	0		
Use text:	Monitoring	Lithology:	0

**Q70**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA30012844**

Well Type:	Private Well Tracking System		
Wellnbr:	2082996	Permit #:	12181
Tier #:	83	Range #:	7
Range Dir:	W	Section #:	17
Qqqqq:	NW NW NW NW SE	Elevation:	721
Elev acc:	30 m. DEM	Well depth:	0
Water depth:	-99		
Latn:	42.0064		
Longn:	-91.6958		
Date Built:	Not Reported	County #:	0
County:	Linn		
Driller:	unknown		
Driller cmpy:	unknown		
Owner name:	Fox, Glenys Kemper		
Cnstr mthd:	Not Reported		
Remarks:	Not Reported		
Well use:	Monitoring	Status:	Retired
Heat pump #:	0	Permitted?:	X
Plugged?:	Not Reported	Renovated?:	Not Reported
Test Well:	Not Reported		
Xcoord:	0		
Ycoord:	0		
Use text:	Monitoring	Lithology:	0

**Q71**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA30012847**

Well Type:	Private Well Tracking System		
Wellnbr:	2082999	Permit #:	12181
Tier #:	83	Range #:	7
Range Dir:	W	Section #:	17
Qqqqq:	NW NW NW NW SE	Elevation:	721
Elev acc:	30 m. DEM	Well depth:	0
Water depth:	-99		

## GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Latn:	42.0064		
Longn:	-91.6958		
Date Built:	Not Reported	County #:	0
County:	Linn		
Driller:	unknown		
Driller cmpy:	unknown		
Owner name:	Fox, Glenys Kemper		
Cnstr mthd:	Not Reported		
Remarks:	Not Reported		
Well use:	Monitoring	Status:	Retired
Heat pump #:	0	Permitted?:	X
Plugged?:	Not Reported	Renovated?:	Not Reported
Test Well:	Not Reported		
Xcoord:	0		
Ycoord:	0		
Use text:	Monitoring	Lithology:	0

**72**  
**SW**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA30012758**

Well Type:	Private Well Tracking System		
Wellnbr:	2077665	Permit #:	10840
Tier #:	83	Range #:	7
Range Dir:	W	Section #:	17
Qqqqq:	SW NW NE NE NE	Elevation:	776
Elev acc:	30 m. DEM	Well depth:	0
Water depth:	-99		
Latn:	41.99958		
Longn:	-91.6924		
Date Built:	Not Reported	County #:	0
County:	Linn		
Driller:	Gingerich, Klint		
Driller cmpy:	Gingerich Well Co.		
Owner name:	Duncan, Wade		
Cnstr mthd:	Not Reported		
Remarks:	Not Reported		
Well use:	Irrigation	Status:	Retired
Heat pump #:	0	Permitted?:	X
Plugged?:	Not Reported	Renovated?:	Not Reported
Test Well:	Not Reported		
Xcoord:	0		
Ycoord:	0		
Use text:	Irrigation	Lithology:	0

**P73**  
**West**  
**1/2 - 1 Mile**  
**Lower**

**IA WELLS      IA10001126**

Well Type:	Municipal Well		
Mnwlsmr area:	0		
Mnwlsmr perimete:	0		
Muniwu :	356		
Muniwu id:	359		
Permit :	1346	Pws:	CEDAR RAPIDS
Source:	WELL W3	Depth:	68

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Alluvial:	Y	Pleistocene:	
Cretaceous:		Pennsylvanian:	
Mississippian:		Devonian:	
Silurian:		Ordovician:	
Cambrian:		Pre-cambrian:	
Township:	T83N	Range:	R07W
Section:	17		

**P74  
West  
1/2 - 1 Mile  
Lower**

**FED USGS      USGS2538350**

Agency cd:	USGS	Site no:	420024091414601
Site name:	083N07W17BBBB	Cedar Rapids W3	
Latitude:	420024		
Longitude:	0914146	Dec lat:	42.00666574
Dec lon:	-91.69629186	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	19
State:	19	County:	113
Country:	US	Land net:	NWNWNWS17 T083N R07W 5
Location map:	CEDAR RAPIDS NORTH	Map scale:	24000
Altitude:	722.18	Altitude method:	M
Altitude accuracy:	1	Altitude datum:	NGVD29
Hydrologic:	Middle Cedar. Iowa. Area = 2410 sq.mi.		
Topographic:	Flood plain		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19930920	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Multiple wells (a group of wells that are pumped through a single header)		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	ALLUVIUM		
Well depth:	72	Hole depth:	72
Source of depth data:	Not Reported	Project number:	461907400
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:	1993-11-02
Water quality data end date:	1993-11-02	Water quality data count:	1
Ground water data begin date:	1993-11-01	Ground water data end date:	1993-11-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
-----		
1993-11-01	52	

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

## AREA RADON INFORMATION

State Database: IA Radon

### Radon Test Results

Zip	Min pCi/L	Max	Avg	# sites	# sites<4pCi/L	# sites>=4	# sites>=10	# sites>=20	# sites>=50	# sites>=100
52402	0.1	188	4.1	3241	2218	1023	254	49	14	4

Federal EPA Radon Zone for LINN 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.

Federal Area Radon Information for Zip Code: 52402

Number of sites tested: 8

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	6.588 pCi/L	62%	25%	12%

# 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<sup>R</sup> 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

#### **Iowa Municipal Wells and Surface Water Intakes**

Source: Iowa Department of Natural Resources, Geological Survey

Telephone: 319-335-1353

#### **Iowa Permitted Private Wells**

Source: Iowa Department of Natural Resources, Geological Survey

Telephone: 319-335-1353

#### **Iowa Private Well Tracking System Wells**

Source: Iowa Department of Natural Resources, Geological Survey

Telephone: 319-335-1353

## OTHER STATE DATABASE INFORMATION

### RADON

#### **State Database: IA Radon**

Source: Department of Public Health

Telephone: 515-281-4340

Radon Test Results

#### **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.

### 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

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## STREET AND ADDRESS INFORMATION

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Fax To: FMSM Engineers  
Contact: Robert Newman  
Fax : 502-212-5055  
Date: 07/14/2006

Fax From: Jeff Weiss  
EDR  
Phone: 1-800-352-0050

---

## EDR PUR-IQ<sup>®</sup> Report

*"the intelligent way to conduct historical research"*

for  
CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402  
Lat./Long. 42.00570 / 91.67750  
EDR Inquiry # 01715536.170r

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<sup>®</sup> 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 may exist for portions of Linn County, IA.
- 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 Linn 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 Linn County

Current: Target Property: TP | 1994 | 42091-A6 Cedar Rapids North, IA  
Additional required for 1 Mile radius: S | 1994 | 41091-H6 Cedar Rapids South, IA

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 CEDAR RAPIDS, IA. 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™** Environmental  
Data Resources Inc

## EDR - HISTORICAL SOURCE(S) ORDER FORM

**FMSM Engineers  
Robert Newman  
Account # 1022764**

**CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402  
Linn County  
Lat./Long. 42.00570 / 91.67750  
EDR Inquiry # 01715536.170r**

Should you wish to change or add to your order, fax this form to your EDR account executive:

**Jeff Weiss  
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:**

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Acct # \_\_\_\_\_

***Thank you***



**EDR**® Environmental  
Data Resources Inc

**The EDR-City Directory**  
*Abstract*

**CEDAR RAPIDS AFRC  
1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402**

**Inquiry Number: 1715536.174**

**Tuesday, July 18, 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](http://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 1958 through 2005. (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 18, 2006

**Target Property:**

1599 WENIG ROAD NE  
CEDAR RAPIDS, IA 52402

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1958	Address Not Listed in Research Source	Polk's City Directory
1963	Address Not Listed in Research Source	Polk's City Directory
1968	US Army Reserve Ctr	Polk's City Directory
	US Navy Reserve Training Ctr	Polk's City Directory
1973	US Army Reserve Ctr	Polk's City Directory
	US Navy Reserve Ctr	Polk's City Directory
1979	US Army Reserve Ctr	Polk's City Directory
	US Navy Reserve Ctr	Polk's City Directory
1984	US Army Reserve Ctr	Polk's City Directory
	US Navy Reserve Training Ctr & Recruitment Ofc	Polk's City Directory
	US Army 73 Combat Support Hospital	Polk's City Directory
1989	Address Not Listed in Research Source	Polk's City Directory
1996	Address Not Listed in Research Source	Polk's City Directory
2000	Not Verified	Polk's City Directory
2005	US Army Dept	Polk's City Directory

**Adjoining Properties**

**SURROUNDING**

Multiple Addresses  
CEDAR RAPIDS, IA 52402

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1958	<u>**WENIG RD NE**</u>	Polk's City Directory

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1958	Residence (1602)	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Address not listed in research source (1624)	Polk's City Directory
	No other addresses 1400-1624	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Street not listed in research source	Polk's City Directory
1963	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1602)	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1624	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Street not listed in research source	Polk's City Directory
1968	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1602)	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1624	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Street not listed in research source	Polk's City Directory
1973	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	No Return (1602)	Polk's City Directory

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1973	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1624	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Street not listed in research source	Polk's City Directory
1979	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1602)	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1624	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Street not listed in research source	Polk's City Directory
1984	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1699	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Under Construction (1701)	Polk's City Directory
	Residence (1702)	Polk's City Directory
1989	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1989	No other addresses 1400-1699	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Residence (1701)	Polk's City Directory
	Residence (1702)	Polk's City Directory
1996	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1699	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Not Verified (1701)	Polk's City Directory
	Residence (1702)	Polk's City Directory
2000	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Not Verified (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1699	Polk's City Directory
	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Not Verified (1701)	Polk's City Directory
	Residence (1702)	Polk's City Directory
2005	<b><u>**WENIG RD NE**</u></b>	Polk's City Directory
	Residence (1606)	Polk's City Directory
	Residence (1624)	Polk's City Directory
	No other addresses 1400-1699	Polk's City Directory

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2005	<b><u>**PIKES PEAK CT NE**</u></b>	Polk's City Directory
	Residence (1701)	Polk's City Directory
	Residence (1702)	Polk's City Directory