

Risk Screening Documentation

NSWC Crane, SWMU 17/04
PCB Capacitor Burial-Pole Yard
NSWC Crane, Indiana

Unit Identification Code: N00164
Contract No. N62467- N6247-93-D-1106

December 1999

**Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina
29419-9010**

**RISK SCREENING DOCUMENTATION
SWMU 17/04
PCB CAPACITOR BURIAL-POLE YARD**

NSWC CRANE, INDIANA

December 1999

**CONTRACT N62467-93-D-1106
DELIVERY ORDER #0009
STATEMENT OF WORK #007**

Prepared for

**SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010**

Prepared by:

**MORRISON KNUDSEN CORPORATION
1500 West 3rd Street
Cleveland, Ohio 44113**

PREPARED/APPROVED BY:

Al Brillinger
MK Project Engineer

Date

APPROVALS:

G. J. Jones
MK Program Manager

Date

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION	1
1.1 SUMMARY OF FACILITY	1
1.2 SUMMARY OF SOLID WASTE MANAGEMENT UNIT (SWMU)	1
1.3 INTERIM MEASURE PERFORMED	4
2.0 IDENTIFICATION OF CONTAMINATED MEDIA	4
3.0 IDENTIFICATION OF CONTAMINANTS OF CONCERN	4
4.0 CURRENT CONDITIONS	6
5.0 CURRENT AND FUTURE LAND USES	6
6.0 DESCRIPTION OF EXPOSURE PATHWAYS	6
6.1 HUMAN RECEPTOR EXPOSURE PATHWAYS	6
6.2 ECOLOGICAL RECEPTOR EXPOSURE PATHWAYS	6
7.0 CURRENT RISKS VS. REMEDIATION LEVELS	6
8.0 RISK SCREENING EVALUATION SUMMARY	6
9.0 REFERENCES	7

LIST OF FIGURES

<u>FIGURE</u>	
1	NSWC Crane Vicinity Map
2	Surface Drainage of NSWC Crane
3	SWMU 17/04 Location at NSWC Crane

ACRONYMS AND ABBREVIATIONS

CAAA	Crane Army Ammunition Activity
HSWA	Hazardous and Solid Waste Amendments
IM	Interim Measure
MK	Morrison Knudsen Corporation
NEESA NSWC	Naval Energy and Environmental Support Activity Naval Surface Warfare Center
PCB	Polychlorinated biphenyls
RFI RCRA	RCRA Facilities Investigation Resource Conservation and Recovery Act
SWMU	Solid Waste Management Unit
U.S. EPA	United States Environmental Protection Agency
WES	United States Army Corps of Engineers Waterways Experiment Station

1.0 INTRODUCTION

1.1 SUMMARY OF FACILITY

Naval Surface Warfare Center (NSWC) Crane consists of 62,463 acres located approximately 75 miles south of Indianapolis, Indiana, as shown in Figure 1. The facility provides support for equipment, shipboard weapons systems, and ordnance. In addition, NSWC Crane supports the Crane Army Ammunition Activity (CAAA), including production and renovation of conventional ammunition, as well as storage, shipment, demilitarization, and disposal of conventional ammunition.

The topography of NSWC Crane consists of flat to gently rolling terrain dissected by numerous well-defined drainage ways. Surface elevation ranges from approximately 470 feet at the drainage exiting the southern boundary of NSWC Crane to 860 feet on a ridge in the west-central portion of the facility. Ridge crests generally lie at elevations of 750 to 800 feet [NEESA, 1983].

The surface drainage at NSWC Crane has formed a dense, dendritic pattern throughout the installation. Five drainage basins have been identified at NSWC Crane. The polychlorinated biphenyl (PCB) Capacitor Burial/Pole Yard is located in the northern portion of Basin IV which occupies the central portion of the facility as shown in Figure 2. Surface drainage in the immediate area of the PCB Capacitor Burial/Pole Yard empties into Turkey Creek. All surface drainage from the NSWC empties into the East Fork of the White River south of the installation [NEESA, 1983].

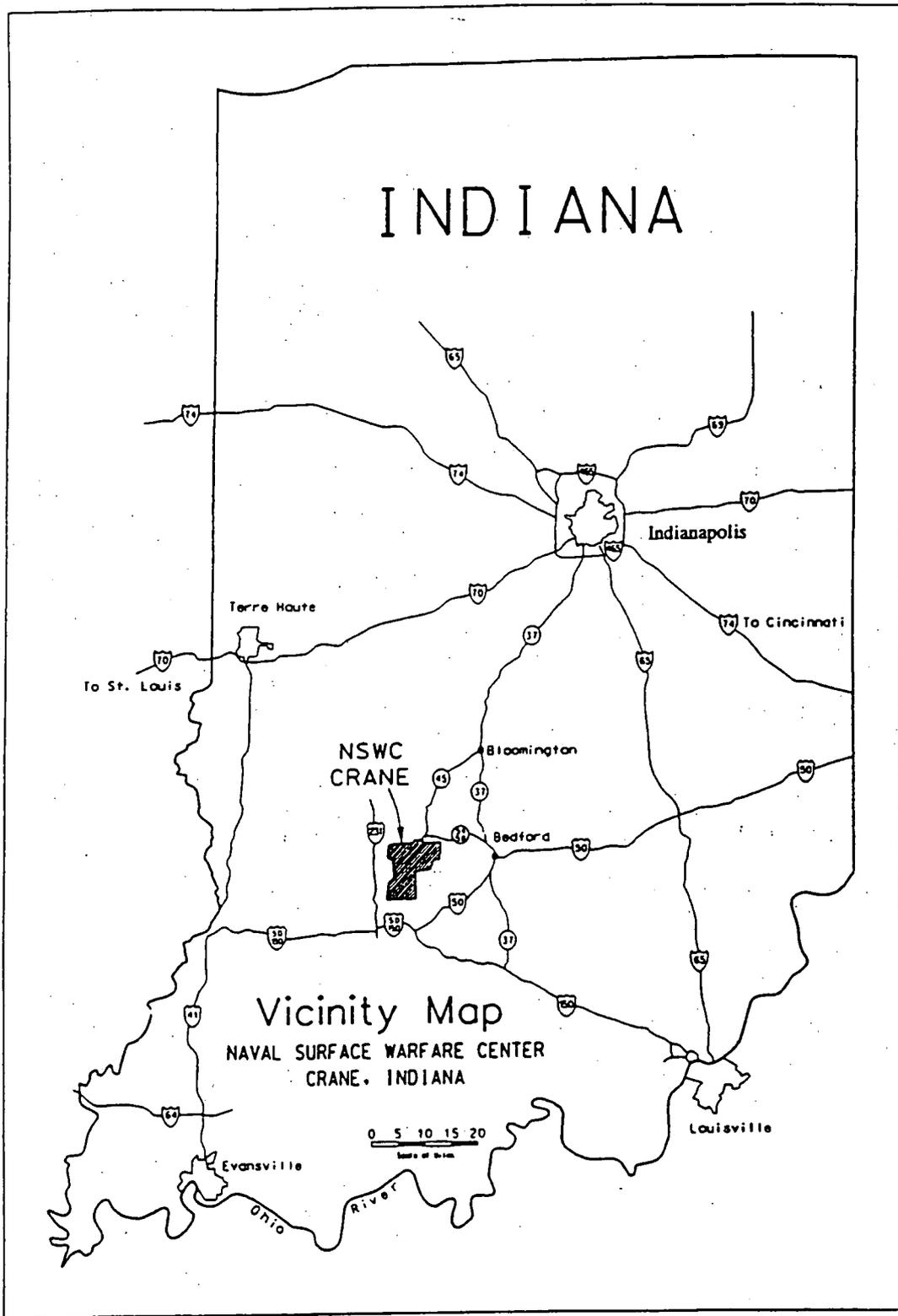
NSWC Crane is underlain by unconsolidated deposits of Quaternary (Pleistocene) age and residual soil derived from Pennsylvanian and Mississippian bedrock. The unconsolidated deposits are limited to the small floodplains and are composed of alluvial, colluvial, and paludal (marshland) silt, sand, and gravel; lacustrine clay, silt, and sand; and outwash plain gravel, sand, and silt. The remainder of NSWC Crane surficial deposits consist of residual clays and silt from the Pennsylvanian Raccoon Creek Group and Mississippian Stephensport and West Baden Groups with small areas of Quaternary clay, silt, and sand (Lacustrine deposits). The bedrock units beneath the facility, primarily Raccoon Creek and Stephensport Groups, reportedly dip gently from the Cincinnati Arch to the Illinois Basin in the southwest [NEESA, 1983].

From boring logs collected from the facility, the major soil type is a two to three-inch thick surface layer of brown to tan organic clay loam underlain by clay intermixed with silts and sand. Occasionally, a clay hardpan occurs between 25 and 32 inches below the surface [NEESA, 1983].

1.2 SUMMARY OF SOLID WASTE MANAGEMENT UNIT (SWMU)

Promulgation of the United States Environmental Protection Agency's (U.S. EPA's) regulatory program under the Resource Conservation and Recovery Act (RCRA) provided the impetus to identify and control environmental contamination from past practices at NSWC Crane. On December 23, 1989, the U.S. EPA issued the federal portion of the final RCRA Part B permit for NSWC Crane to the U.S. Navy and issued the permit renewal for a period of five years on July 31, 1995. This permit contains both the Federal and state permit conditions, which were issued separately by the State of Indiana RCRA program. It establishes the Hazardous and Solid Waste Amendment (HSWA) Corrective Action Requirements and Compliance Schedules obligating the U.S. Navy to perform RCRA Facility Investigations (RFIs) at 30 Solid Waste Management Units (SWMUs), to conduct Corrective Measures Studies, and to implement corrective measures if needed. Interim measures (IM) were performed at SWMU 17/04 (PCB Capacitor Burial-Pole Yard) as part of the RCRA Part B Permit requirements for NSWC Crane.

SWMU 17/00, PCB Capacitor Burial-Pole Yard, is located in the north-central portion of NSWC Crane, as shown in Figure 2. The Pole Yard is hilly (relief is approximately 25 feet) and grass covered. The



**FIGURE 1
NSWC CRANE VICINITY MAP**

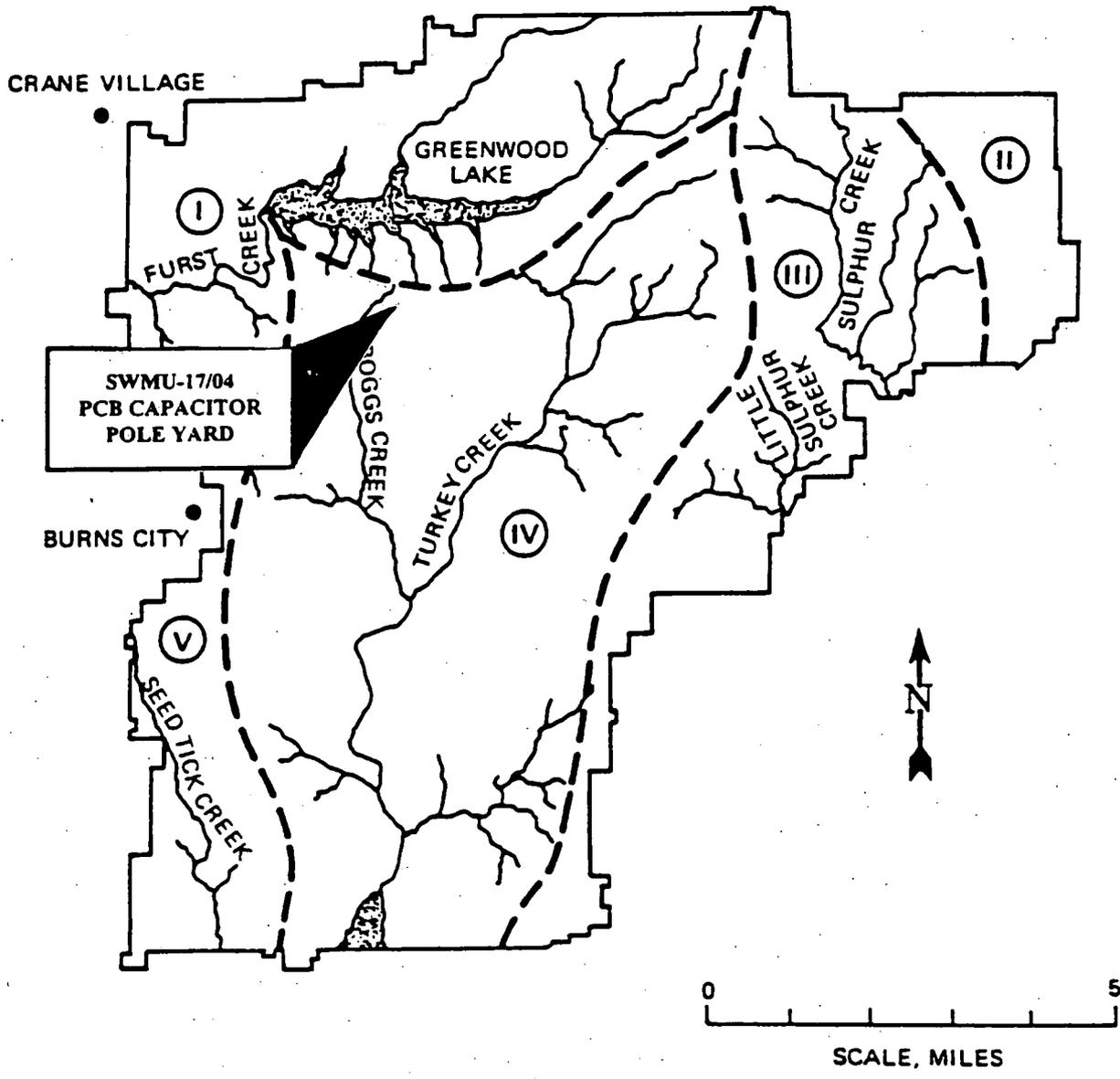


FIGURE 2
SURFACE DRAINAGE OF NSWCR CRANE

area surrounding the site is heavily wooded. Access to the site is via an access road off of Highway 5 (Figure 3).

In 1977, three sealed PCB capacitors were reported to have been buried at the Pole Yard.

1.3 INTERIM MEASURE PERFORMED

The objectives at SWMU 17/04 were to locate, excavate, remove, and dispose of buried PCB capacitors and contaminated soil. Morrison Knudsen Corporation (MK) prepared the following project documents to describe the procedures used to execute the voluntary IM at SWMU 17/04:

- *Work Plan and Task Specific Site Safety and Health Plan for Solid Waste Management Units 14/00 and 17/04, Revision 0, dated May 26, 1995, [MK, 1995a]*
- *General Project Plans for Interim Measures Cleanup, Revision C, August 18, 1995, consisting of the following plans:*
 - *Quality Control Plan, Rev. C, August 18, 1995, [MK, 1995b]*
 - *Quality Assurance Project Plan, Rev. C, August, 1995, [MK, 1995c]*
 - *Waste Management Plan, Rev. C, August 18, 1995, [MK, 1995d]*
 - *Sampling and Analysis Plan, Rev. C, August 18, 1995, [MK, 1995e]*
 - *Environmental Protection Plan, Rev. C, August 18, 1995, [MK, 1995f]*

MK received approval of the Work Plan for SWMU-17/04 from the U.S.EPA on June 13, 1995.

In November 1994, the U.S. Army Corps of Engineers, Waterways Experiment Station (WES) performed a thorough geophysical investigation of the site using a magnetometer. WES issued a final report of this investigation in January 1996 [WES, 1996], and it was approved by the U.S. EPA on June 9, 1999. This investigation identified five anomaly areas to be searched by excavation. Initial excavation of the five areas began on August 8, 1995. Each excavation was monitored with a metal detector and proceeded until the source of the magnetic anomaly was found. At each of the five anomaly areas, the source of the metal was found to be buried rebar, wire, natural iron deposits, etc. No PCB capacitors were discovered. Three additional areas were excavated at the direction of the U.S. Navy. These additional areas were excavated until undisturbed soil was encountered, and it was confirmed that no capacitors were buried at the excavated sites.

Soil that was excavated from SWMU 17/04 was placed on plastic and field tested for PCB content. No PCBs were detected in the excavated soil, and the material was determined to be clean. The soil was used to backfill the excavated areas. The disturbed areas were seeded after backfilling.

A complete report of the IM activities is in the *Draft Interim Measures Report, NSWC Crane, SWMUs 14/00 and 17/04, Sanitary Landfill and Lithium Disposal Area, and PCB Capacitor Burial-Pole Yard, NSWC Crane, Indiana, [MK, 1997]*.

2.0 IDENTIFICATION OF CONTAMINATED MEDIA

No contaminated media was discovered at SWMU 17/04 [MK, 1997].

3.0 IDENTIFICATION OF CONTAMINANTS OF CONCERN

The initial contaminant of concern at SWMU 17/04 were PCBs. No PCBs have been detected in the

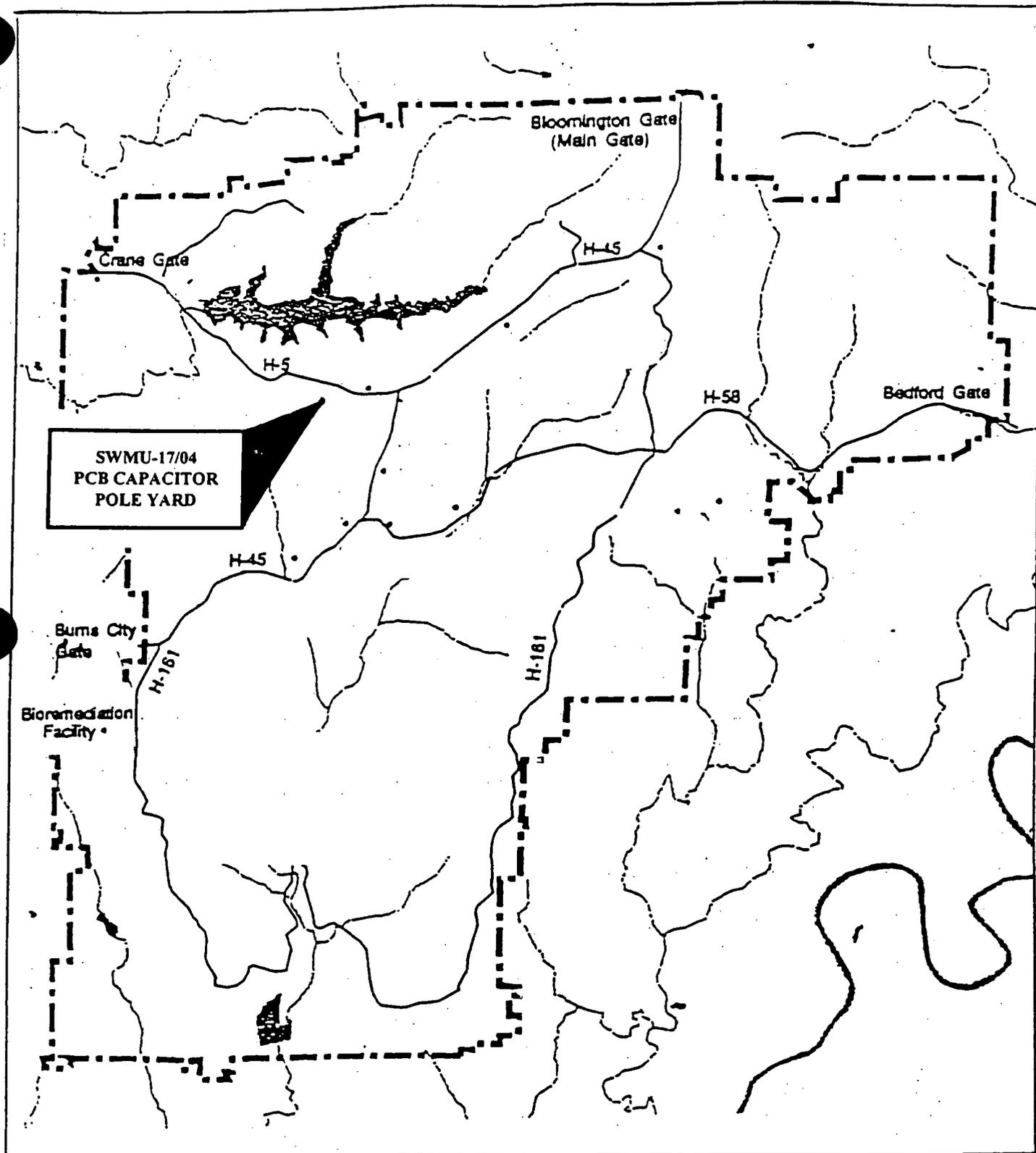


FIGURE 3
SWMU 17/04 LOCATION AT NSWC CRANE

soil at SWMU 17/04.

4.0 CURRENT CONDITIONS

No remediation of the site was performed because no PCB-containing material or PCB capacitors were detected during the IM. The site was restored by reusing the clean excavated soil to backfill the excavated areas, and reseeding the disturbed areas. The area currently is not being used.

No potential for exposure to contamination from PCBs exist in this area because PCBs were not detected at the site.

5.0 CURRENT AND FUTURE LAND USES

There are no plans to use the site of SWMU 17/04 in the future.

6.0 DESCRIPTION OF EXPOSURE PATHWAYS

6.1 HUMAN RECEPTOR EXPOSURE PATHWAYS

During the IM, no PCB capacitors or PCB contaminated soil were detected. There is no potential for human exposure to groundwater, air, surface water or soil.

6.2 ECOLOGICAL RECEPTOR EXPOSURE PATHWAYS

PCBs were not detected in the excavated soil at the site. There is no potential for ecological exposure to groundwater, air, surface water or soil.

7.0 CURRENT RISKS VS. REMEDIATION LEVELS

The target cleanup levels for these interim measures were taken from the *RCRA Corrective Action Guidance Human Data Quality Levels for RFI Projects* [U.S. EPA, 1994]. There are no exposure pathways by which human and ecological receptors can be exposed because no PCB contamination has been detected at the site. Therefore, there is currently little, or no, known risk to human and ecological receptors.

8.0 RISK SCREENING EVALUATION SUMMARY

Considering the work performed at SWMU-17/00, the requirements and objectives of the IM Cleanup Activities have been met. No PCB contaminated soil was detected at this site. Since there is no source of contamination at the site, there are no exposure pathways by which human and ecological receptors can be exposed. Therefore, there is no risk to human and ecological receptors. It is recommended that no further action be taken at NSWC Crane SWMU-17/04.

9.0 REFERENCES

- Morrison Knudsen Corporation, (MK) 1995a. *Work Plan and Task-Specific Site Safety and Health Plan for Interim Measures Cleanup at Solid Waste Management Units #14/00 and #17/04*, Revision 0, dated May 26, 1995.
- Morrison Knudsen Corporation, (MK) 1995b. *Quality Control Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 1995.
- Morrison Knudsen Corporation, (MK) 1995c. *Quality Assurance Project Plan for RCRA Corrective Action Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 1995.
- Morrison Knudsen Corporation, (MK) 1995d. *Waste Management Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 1995.
- Morrison Knudsen Corporation, (MK) 1995e. *Sampling and Analysis Plan for Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 1995.
- Morrison Knudsen Corporation, (MK) 1995f. *Environmental Protection Plan Interim Measures Cleanup, NSWC Crane, Crane, Indiana*, Revision C, August 1995.
- Morrison Knudsen Corporation, (MK) 1997. *Interim Measures Report, NSWC Crane, SWMUs 14/00 and 17/04, Sanitary Landfill and Lithium Disposal Area, and PCB Capacitor Burial-Pole Yard, NSWC Crane, Indiana*, Draft, February 1997.
- Naval Energy and Environmental Support Activity, (NEESA) 1983. *Initial Assessment Study of Naval Weapons Support Center Crane, Indiana*. NEESA 13-003, May.
- U. S. Army Corps of Engineers (USCOE) Waterways Experiment Station, (WES) 1996. *Geophysical Investigation at Solid Waste Management Units 14/00 and 17/04, Naval Surface Warfare Center, Crane, Indiana*. January 1996.
- U. S. Environmental Protection Agency (U.S. EPA) 1994. *RCRA Corrective Action Guidance Human Data Quality Levels for RFI Projects*. June 18, 1994.