

MISCELLANEOUS ARCHITECT ENGINEER SERVICES  
FOR HAZARDOUS, TOXIC, AND  
RADIOLOGICAL WASTE (HTRW) PROJECTS  
FOR  
U.S. ARMY CORPS OF ENGINEERS  
WALLA WALLA DISTRICT

DRAFT REMEDIAL ACTION CLOSE-OUT REPORT

DELIVERY ORDER NO. 021

REMOVAL AND DISPOSAL OF PCB-CONTAMINATED MATERIAL  
HANFORD 1100-IU-1, WASHINGTON

CONTRACT NO. DACW68-94-D-0001

October 11, 1995

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**LIST OF ABBREVIATIONS AND ACRONYMS**

ALE	Arid Lands Ecology Reserve
CDM Federal	CDM Federal Programs Corporation
CLP	Contract Laboratory Program
CWM	Chemical Waste Management, Inc.
DOE	U.S. Department of Energy
EES	Evergreen Environmental Services
EPA	U.S. Environmental Protection Agency
ESE	Environmental Science & Engineering, Inc.
ft	feet, foot
gal	gallon
GFAA	Graphite Furnace Atomic Absorption
ICP	Inductively-coupled Plasma
in.	inch
MS/MSD	Matrix spike/matrix spike duplicate
NPD	USACE North Pacific Division Laboratory
NPL	National Priorities List
OU	Operable Unit
PCB	polychlorinated biphenyl
PPM	parts per million
QA	Quality Assurance
QAPjP	Quality Assurance Project Plan
QC	Quality Control
%R	Percent Recovery
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SAS	Sound Analytical Services, Inc.
SOW	Statement of Work
$\mu\text{g}/100\text{ cm}^2$	micrograms per one hundred square centimeters

USACE	U.S. Army Corps of Engineers, Walla Walla District
WTPH-D	Total Petroleum Hydrocarbon Analysis, Washington State Method - Hydrocarbon Identification Analysis
WTPH-G	Total Petroleum Hydrocarbon Analysis, Washington State Method - Gasoline Fraction
WTPH-HCID	Total Petroleum Hydrocarbon Analysis, Washington State Method - Hydrocarbon Identification Analysis

## 1.0 INTRODUCTION

CDM Federal Programs Corporation (CDM Federal) has prepared this Remedial Action Close-Out Report for the U.S. Army Corps of Engineers, Walla Walla District (USACE) under Contract No. DACW68-94-D-0001. The report describes the removal and disposal of polychlorinated biphenyl (PCB)-contaminated and non-PCB-contaminated material at the Hanford 1100 Area, IU-1 Operable Unit (1100-IU-1), Hanford Reservation, Richland, Washington. Activities described in this Close-Out Report were conducted as part of the remedial action for the 1100-IU-1 portion of the 1100 Area National Priorities List (NPL) Site. This work was conducted in accordance with the USACE Statement of Work (SOW) dated April 28, 1995.

### 1.1 OBJECTIVES

The primary objective of the work described in this Close-Out Report was to decontaminate two sumps located in former missile bunkers within 1100-IU-1. These sumps were previously determined to be contaminated with PCBs. Secondly, along with decontamination of the sumps and associated sump pumps, eight auxiliary jacks were to be labeled as containing PCBs. A third objective was the sampling and removal of non-PCB-contaminated fluids from hydraulic lift wells located in the missile bunkers.

### 1.2 SCOPE

The scope of this project relating to the above-described objectives is as follows:

Missile Bunker Sumps – This portion of the work entailed the surface decontamination of two sumps to meet the cleanup criterion for PCB of 10 micrograms per 100 square centimeters (10  $\mu\text{g}/100\text{ cm}^2$ ). Surfaces to be decontaminated were the sides and base of each sump and the exterior of the sub-floor portion of each sump pump. Successful decontamination was to be demonstrated through onsite screening and offsite analysis of wipe samples. Wastes generated during decontamination were to be characterized and appropriately disposed.

Auxiliary Jacks – Four mechanical jacks each in two missile bunker areas were to be labeled as containing PCBs based on the results of previous investigations.

Hydraulic Lift Wells – Waste fluids were to be removed from one sub-floor hydraulic lift well in each of two missile bunker areas. Fluids were to be characterized and properly disposed. Cleaning of the hydraulic lift wells was not included in this project.

## 2.0 SUMMARY OF PREVIOUS INVESTIGATIONS

The following section is based on the *Draft Field Investigation Report for the 1100 IU-1 Operable Unit* (USACE 1994a).

### 2.1 LOCATION AND DESCRIPTION OF THE IU-1 OPERABLE UNIT

The 1100 Area was placed on the NPL in July 1989. The 1100 Area has been divided into four OUs based on geographic area and common waste sources. The four OUs are identified as 1100-EM-1 (EM-1), 1100-EM-2 (EM-2), 1100-EM-3 (EM-3), and 1100-IU-1 (IU-1). The IU-1 OU is located approximately 20 kilometers (km) (12.5 miles [mi]) west-northwest of the city of Richland, Washington, within the Hanford Arid Lands Ecology Reserve (ALE). The location of the IU-1 OU is depicted on Figure 2-1.

### 2.2 NORTH AND SOUTH MISSILE BUNKERS

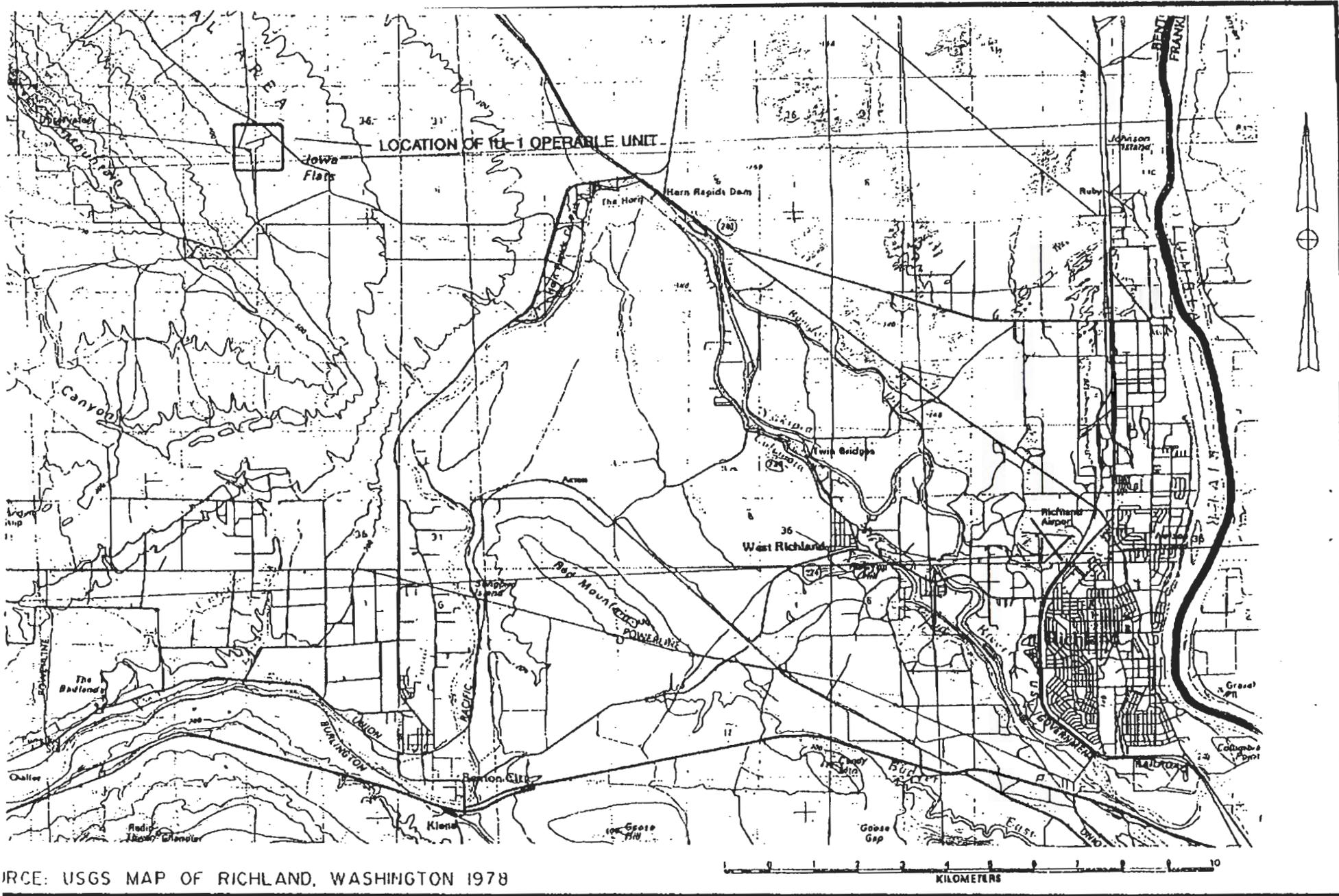
The H-52-L North and South Missile Bunkers lie within the IU-1 OU (Figure 2-2). Both bunkers were used as missile storage and launch facilities from approximately 1952 to 1962. The bunkers are underground facilities located near the former Nike Base headquarters that are now part of the ALE. As part of the operation of the facility, hydraulic fluids and PCBs were used.

### 2.3 RESULTS OF THE PREVIOUS INVESTIGATION

Equipment remaining in each bunker includes 4 auxiliary jacks, a hydraulic lift well, and a 1.2 meter (m) (4 feet [ft]) deep sump and sump pump (Figure 2-3). Each hydraulic lift well is 6 m (19 ft 10 inches [in.]) deep. The hydraulic lift wells consist of an inner and an outer casing. The inner casing is approximately 0.3 m (13 in.) in diameter, and the outer casing is approximately 0.4 m (15 in.) in diameter. The sumps are approximately 0.9 m (36 in.) in diameter. The fluid level in the North Missile Bunker lift well was approximately 5.5 m (18 1/2 ft) below the floor. The fluid level in the South Missile Bunker lift well was approximately 0.15 m (6 in.) below the floor.

PCB wipe-samples were collected from the sumps, the hydraulic lift wells, and the eight auxiliary jacks during July 15 and 16, 1994. The locations of the wipe-samples were as follows:

- The sump wipe-samples were collected from the interior walls of the sumps.
- The hydraulic lift well samples were collected from the interior of the wells.
- The auxiliary jack samples were collected from the tops of the jacks.

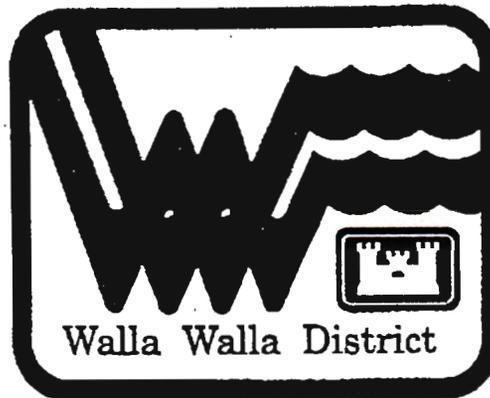


SOURCE: USGS MAP OF RICHLAND, WASHINGTON 1978

IU-1 OPERABLE UNIT  
 LOCATION MAP  
 HANFORD, WASHINGTON

 ENVIRONMENTAL FEDERAL PROGRAMS CORPORATION  
 a subsidiary of Camp Dresser & McKee Inc.

FIGURE No. 2-1

**FACSIMILE TRANSMITTAL HEADER SHEET****CORPS OF ENGINEERS  
ENVIRONMENTAL ENGINEERING BRANCH**

TO: Glenn Goldberg - DOE Richland  
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NUMBER OF PAGES (NOT INCLUDING HEADER) 49

CLASSIFICATION \_\_\_\_\_ (UNCLASSIFIED IF NOT FILLED)

MESSAGE: Report on ALE Missile Bunker Remediation. Because this was outside of CERCLA (not a release to the environment) it was not a part of the 1100-IU-1 (ALE) close out report issued in 1994. However, it was agreed that the bunker would be remediated as outlined in this report. Remediation was completed in the summer of 1995. All our former Hanford Project Manager's are gone so I don't have access to (couldn't find any) files which should contain a letter transmitting this report to you. Hope this is sufficient. Give me a call if you need more info.