

PROJECT SUMMARY SHEET
FOR
DERP-FUDS HTRW PROJECT NO. G05OH001826
GROUNDWATER
PLUM BROOK ORDNANCE WORKS
SANDUSKY, OHIO
SITE NO. G05OH001800
21 NOVEMBER 1998

PROJECT DESCRIPTION: The project area is site-wide groundwater. The former Plum Brook Ordnance Works (PBOW) was utilized by the Department of Defense (DoD) from 1941 until 1945 for the manufacture of 2,4,6-trinitrotoluene (TNT), dinitrotoluene (DNT), and pentolite. Site activities included the manufacturing and storage of acid and the storage and transport of process chemicals, including toluene and acetone. Waste water ("red water") from the TNT manufacturing process was transported throughout the site through buried pipelines and flumes to treatment facilities, and then to waste (red water) ponds for storage. Other support activities included equipment and vehicle maintenance. There is the possibility that leaks and spills from the above activities may have contributed to groundwater contamination. Additionally, decommissioning of the PBOW site may have contributed to groundwater contamination.

PROJECT ELIGIBILITY: Records indicate that the DoD utilized the former PBOW from 1941 until 1945 for the manufacture of TNT, DNT, and pentolite. These site activities could have contributed to groundwater contamination.

POLICY CONSIDERATIONS: Current DoD policy dictates eligibility for remediation of DoD generated hazardous and toxic waste even though there was no evidence of a hazard when the property was transferred from DOD. There may be groundwater contamination present throughout the site that could be attributed to direct DoD use of the site.

PROPOSED PROJECT: An HTRW project is underway, which consists of a site-wide groundwater investigation (Site Investigation). Sampling has been conducted, and additional wells have been installed. It is recommended that existing wells throughout the site be sampled and analyzed to determine the nature and extent of contamination. If significant DoD contamination is found, additional wells may need to be installed to monitor contaminant migration and determine its source. Additional groundwater background data may be required to prepare a risk assessment. Further work may involve hydrologic modeling to predict the fate and transport of site contaminants.

EPA Form 2070-12: Attached.

DD Form 1391: Attached.

District POC: Nancy O. Stouffer, CELRH-DL-M, (304) 529-5035, is the Geographic District Project Manager, and Linda S. Ingram, CELRN-EP-R-M, (615) 736-7122, is the Design District Technical Coordinator, for the PBOW site.

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PN. GOSCH 001826

 POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT PART 1 - SITE INFORMATION AND ASSESSMENT		I. IDENTIFICATION	
		01 STATE	02 SITE NUMBER
II. SITE NAME AND LOCATION			
01 SITE NAME (Legal, common, or descriptive name of site) <u>PLUM BROOK ORDNANCE WORKS</u>		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER	
03 CITY <u>SANDUSKY</u>	04 STATE <u>OH</u>	05 ZIP CODE	06 COUNTY <u>ERIE</u>
09 COORDINATES LATITUDE <u>41 22 12</u>		LONGITUDE <u>82 41 22</u>	
10 DIRECTIONS TO SITE (Starting from nearest public road) <u>I 20, NORTH 0.1 MILE ON RT 4, EAST 0.2 MILE ON RT 13. SITE NEAR BLOOMINGVILLE</u>			
III. RESPONSIBLE PARTIES			
01 OWNER (If known) <u>US Army Corps of Engineers</u>		02 STREET (Business, mailing, residential) <u>602 8TH STREET</u>	
03 CITY <u>HUNTINGTON</u>	04 STATE <u>WV</u>	05 ZIP CODE <u>25701</u>	06 TELEPHONE NUMBER <u>304 529-5760</u>
07 OPERATOR (If known and different from owner)		08 STREET (Business, mailing, residential)	
09 CITY		10 STATE	11 ZIP CODE
13 TYPE OF OWNERSHIP (Check one)		12 TELEPHONE NUMBER	
<input type="checkbox"/> A. PRIVATE <input checked="" type="checkbox"/> B. FEDERAL: <u>NASA</u> (Agency name) <input checked="" type="checkbox"/> F. OTHER: <u>FORMER DOD USE</u> (Specify)		<input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> G. UNKNOWN	
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)			
<input type="checkbox"/> A. RCRA 3001 DATE RECEIVED: _____ MONTH DAY YEAR <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (CERCLA 103 (c)) DATE RECEIVED: _____ MONTH DAY YEAR <input type="checkbox"/> C. NONE			
IV. CHARACTERIZATION OF POTENTIAL HAZARD			
01 ON SITE INSPECTION		BY (Check all that apply)	
<input checked="" type="checkbox"/> YES DATE <u>2 90</u> MONTH DAY YEAR <input type="checkbox"/> NO		<input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input checked="" type="checkbox"/> F. OTHER: <u>NASHVILLE CORPS</u> (Specify) CONTRACTOR NAME(S): _____	
02 SITE STATUS (Check one)		03 YEARS OF OPERATION	
<input type="checkbox"/> A. ACTIVE <input checked="" type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		<u>1941</u> <u>1945</u> BEGINNING YEAR ENDING YEAR <input type="checkbox"/> UNKNOWN	
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED <u>TRINITROTOLUENE AND DERIVATIVES ACETONE, BARIUM, CHROMIUM MANGANESE</u>			
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION <u>SOIL AND GROUNDWATER CONTAMINATION</u>			
V. PRIORITY ASSESSMENT			
01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)			
<input checked="" type="checkbox"/> A. HIGH (inspection required promptly) <input type="checkbox"/> B. MEDIUM (inspection required) <input type="checkbox"/> C. LOW (inspect on time available basis) <input type="checkbox"/> D. NONE (No further action needed, complete current disposition form)			
VI. INFORMATION AVAILABLE FROM			
01 CONTACT <u>FRANK ALBERT</u>		02 OF (Agency/Organization) <u>HUNTINGTON DISTRICT CORPS ENGINEERS</u>	
04 PERSON RESPONSIBLE FOR ASSESSMENT <u>SAME</u>		05 AGENCY	06 ORGANIZATION
07 TELEPHONE NUMBER <u>304 529-5760</u>		08 DATE <u>11 21 98</u> MONTH DAY YEAR	



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply) <input type="checkbox"/> SOLID <input type="checkbox"/> POWDER, FINES <input type="checkbox"/> SLUDGE <input type="checkbox"/> OTHER (Specify) _____ <input type="checkbox"/> SLURRY <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS	02 WASTE QUANTITY AT SITE <small>Measures of waste quantities must be independent!</small> TONS _____ CUBIC YARDS _____ NO. OF DRUMS _____ UNKNOWN	03 WASTE CHARACTERISTICS (Check all that apply) <input checked="" type="checkbox"/> A TOXIC <input type="checkbox"/> B CORROSIVE <input type="checkbox"/> C RADIOACTIVE <input type="checkbox"/> D PERSISTENT <input type="checkbox"/> E SOLUBLE <input type="checkbox"/> F INFECTIOUS <input type="checkbox"/> G FLAMMABLE <input type="checkbox"/> H IGNITABLE <input checked="" type="checkbox"/> I HIGHLY VOLATILE <input checked="" type="checkbox"/> J EXPLOSIVE <input type="checkbox"/> K REACTIVE <input type="checkbox"/> L INCOMPATIBLE <input type="checkbox"/> M NOT APPLICABLE
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III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
ELU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	BARIUM	10022-31-8	LAND	219,000	ppb
	CHROMIUM	7440-47-3	LAND	20,000	ppb
	1,3-DNB	99-65-0	LAND	6,400	ppb
	2,6-DNT	25321-14-6	LAND	1,700	ppb
	2,4-DNT	25321-14-4	LAND	20,000	ppb
	LEAD	7439-92-1	LAND	50,000	ppb
	MANGANESE	7439-96-5	LAND	2,600,000	ppb
	NITRATE		LAND	2,500,000	ppb
	NITROBENZENE	98-95-3	LAND	480	ppb
	NITROTOLUENE		LAND	480	ppb
	SODIUM	1310-73-2	LAND	3,420,000	ppb
	SULFATE		LAND	2,000,000	ppb
	1,3,5-TNB	118-96-7	LAND	15,000	ppb
	2,4,6-TNT	118-96-7	LAND	740	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

FEB 1990 CONFIRMATION STUDY
 NASHVILLE DISTRICT CORPS OF ENGINEERS
 (MAX. CONCENTRATION SHOWN)

PN G0504001826



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE: 2/90) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 B. SURFACE WATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: > 100 04 NARRATIVE DESCRIPTION

01 C. CONTAMINATION OF AIR 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 D. FIRE/EXPLOSIVE CONDITIONS 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 E. DIRECT CONTACT 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 F. CONTAMINATION OF SOIL 02 OBSERVED (DATE: 2/90) POTENTIAL ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) 04 NARRATIVE DESCRIPTION

01 G. DRINKING WATER CONTAMINATION 02 OBSERVED (DATE: 2/90) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: > 100 04 NARRATIVE DESCRIPTION
NO KNOWN USERS OF AFFECTED AQUIFER

01 H. WORKER EXPOSURE/INJURY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 J. DAMAGE TO FLORA 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

01 K. DAMAGE TO FAUNA 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION (include names of species)

01 L. CONTAMINATION OF FOOD CHAIN 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

01 M. UNSTABLE CONTAINMENT OF WASTES 02 OBSERVED (DATE: 2/90) POTENTIAL ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED: >100 04 NARRATIVE DESCRIPTION

SOIL CONTAMINATION DISCOVERED

01 N. DAMAGE TO OFFSITE PROPERTY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

01 O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

01 P. ILLEGAL/UNAUTHORIZED DUMPING 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

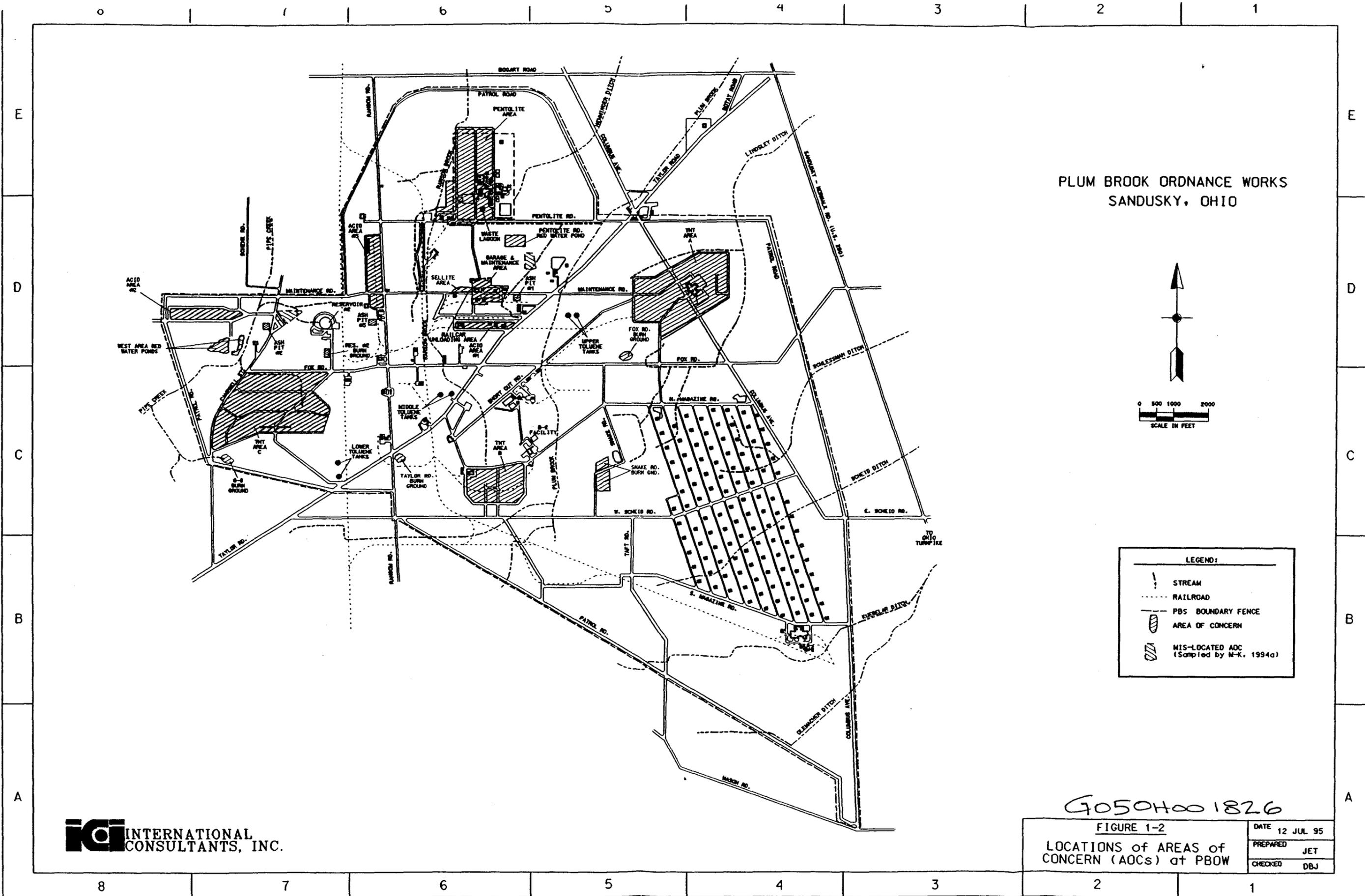
III. TOTAL POPULATION POTENTIALLY AFFECTED: >100

IV. COMMENTS

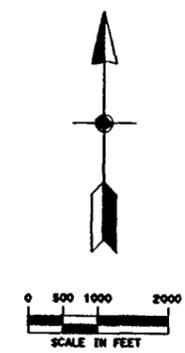
V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

CONFIRMATION STUDY FEB 1990
NASHVILLE DISTRICT CORPS OF ENGINEERS

1. COMPONENT ARMY		FY 1999 MILITARY CONSTRUCTION PROJECT DATA		2. DATE NOV 1998	
3. INSTALLATION AND LOCATION Plum Brook Ordnance Works Sandusky, Ohio			4. PROJECT TITLE DERP-FUDS HTRW – RI/FS		
5. PROGRAM ELEMENT DERP-FUDS		6. CATEGORY CODE HTRW	7. PROJECT NUMBER G05OH001826		8. PROJECT COST (\$000) \$1,245.0
9. COST ESTIMATES					
ITEM		U/M	QUANTITY	UNIT COST	COST (\$000)
Prepare Remedial Investigation/Feasibility Study					\$1,098.0
Contract Administration and Supervision by CELRN					\$ 122.0
Project Management by CELRH					\$ 25.0
TOTAL					\$1,245.0
					\$ 36.4
					\$910.6
10. DESCRIPTION OF PROPOSED CONSTRUCTION					
<p>Prepare a Remedial Investigation/Feasibility Study for the on-going Site-wide Groundwater Investigation. Work will include:</p> <ol style="list-style-type: none"> 1. Installation of additional monitoring wells, as required. 2. Soil borings. 3. Sampling and chemical analysis of soil and water samples. 4. Hydrologic modeling. 5. Preparation of Feasibility Study that will identify alternatives for cleanup and their costs. 					



PLUM BROOK ORDNANCE WORKS
SANDUSKY, OHIO



LEGEND:

- STREAM
- RAILROAD
- PBS BOUNDARY FENCE
- AREA OF CONCERN
- MIS-LOCATED AOC (Sampled by M-K, 1994a)

G050400 1826

FIGURE 1-2		DATE	12 JUL 95
LOCATIONS of AREAS of CONCERN (AOCs) at PBOW		PREPARED	JET
		CHECKED	DBJ

ICI INTERNATIONAL CONSULTANTS, INC.