

PROJECT SUMMARY SHEET  
FOR  
DERP-FUDS HTRW PROJECT NO. G05OH001815  
TNT AREA C  
PLUM BROOK ORDNANCE WORKS  
SANDUSKY, OHIO  
SITE NO. G05OH001800  
21 NOVEMBER 1998

**PROJECT DESCRIPTION:** The project area is former TNT Area C. 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. During this period, the PBOW facility housed operations for the manufacture of TNT and DNT in three primary areas, referred to as TNT Area A, TNT Area B, and TNT Area C.

**PROJECT ELIGIBILITY:** Records indicate that TNT Area C was utilized by DoD for the manufacture of TNT. Based on past site activities, nitroaromatics and residue from the TNT manufacturing process are likely contaminants of concern at the TNT areas.

**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. Any nitroaromatic contamination present at TNT Area C would be from direct DoD use of the site.

**PROPOSED PROJECT:** An HTRW project is proposed. The project consists of the preparation of a Remedial Investigation/Feasibility Study of TNT Area C.

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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PH. G0504001815

 <b>POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT</b> PART 1 - SITE INFORMATION AND ASSESSMENT		I. IDENTIFICATION	
		01 STATE	02 SITE NUMBER
<b>II. SITE NAME AND LOCATION</b>			
01 SITE NAME (Legal, common, or descriptive name of site) <b>PLUM BROOK ORNANCE WORKS</b>		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER	
03 CITY <b>SANDUSKY</b>	04 STATE <b>OH</b>	05 ZIP CODE	06 COUNTY <b>ERIE</b>
09 COORDINATES LATITUDE <b>41 22 04</b>		LONGITUDE <b>82 42 31</b>	
10 DIRECTIONS TO SITE (Starting from nearest public road) <b>I 80, NORTH 0.1 MILE ON RT 4, EAST 0.2 MILE ON RT 13. SITE NEAR BLOOMINGVILLE</b>			
<b>III. RESPONSIBLE PARTIES</b>			
01 OWNER (if known) <b>US ARMY CORPS OF ENGINEERS</b>		02 STREET (Business, mailing, residential) <b>502 8TH STREET</b>	
03 CITY <b>HUNTINGTON</b>	04 STATE <b>WV</b>	05 ZIP CODE <b>25701</b>	06 TELEPHONE NUMBER <b>304 529-5760</b>
07 OPERATOR (if known and different from owner)		08 STREET (Business, mailing, residential)	
09 CITY		10 STATE	11 ZIP CODE
12 TELEPHONE NUMBER			
13 TYPE OF OWNERSHIP (Check one)			
<input type="checkbox"/> A. PRIVATE <input checked="" type="checkbox"/> B. FEDERAL: <b>NASA</b> <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL (Agency name) <input checked="" type="checkbox"/> F. OTHER: <b>FORMER DOD USE</b> <input type="checkbox"/> G. UNKNOWN (Specify)			
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 (RCRA 103 ci) DATE RECEIVED: _____ MONTH DAY YEAR <input type="checkbox"/> C. NONE			
<b>IV. CHARACTERIZATION OF POTENTIAL HAZARD</b>			
01 ON SITE INSPECTION		BY (Check all that apply)	
<input checked="" type="checkbox"/> YES DATE <b>2, 90</b> 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: <b>NASHVILLE CORPS</b> (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		<b>1941   1945</b> BEGINNING YEAR    ENDING YEAR <input type="checkbox"/> UNKNOWN	
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED <b>TRI-NITROTOLUENE AND DERIVATIVES ACETONE, BARIUM, CHROMIUM MANGANESE</b>			
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION <b>SOIL AND GROUNDWATER CONTAMINATION</b>			
<b>V. PRIORITY ASSESSMENT</b>			
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)			
<b>VI. INFORMATION AVAILABLE FROM</b>			
01 CONTACT <b>FRANK ALBERT</b>		02 OF (Agency/Organization) <b>HUNTINGTON DISTRICT CORPS ENGINEERS</b>	
04 PERSON RESPONSIBLE FOR ASSESSMENT <b>SAME</b>		05 AGENCY	06 ORGANIZATION
		07 TELEPHONE NUMBER	03 TELEPHONE NUMBER <b>304 529-5760</b>
		08 DATE <b>11 21 98</b> 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

<p>01 PHYSICAL STATES (Check all that apply)</p> <p><input type="checkbox"/> SOLID <input type="checkbox"/> POWDER, FINES <input type="checkbox"/> SLUDGE</p> <p><input type="checkbox"/> OTHER _____ Specify:</p>	<p>02 WASTE QUANTITY AT SITE</p> <p>Measures of waste quantities (Must be independent)</p> <p>TONS <u>UNKNOWN</u> CUBIC YARDS _____</p> <p>NO. OF DRUMS _____</p>	<p>03 WASTE CHARACTERISTICS (Check all that apply)</p> <p><input checked="" type="checkbox"/> A TOXIC <input type="checkbox"/> B CORROSIVE <input type="checkbox"/> C RADIOACTIVE <input type="checkbox"/> D PERSISTENT</p> <p><input type="checkbox"/> E SOLUBLE <input type="checkbox"/> F INFECTIOUS <input type="checkbox"/> G FLAMMABLE <input type="checkbox"/> H IGNITABLE</p> <p><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</p>
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III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OC	OTHER ORGANIC CHEMICALS			
IC	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	1022-31-8	LAND	24,000	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	1,200	ppb
	2,4-DNT	25321-14-6	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 G0504001815



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  
03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_ 02  OBSERVED (DATE: 2/90)  POTENTIAL  ALLEGED  
04 NARRATIVE DESCRIPTION

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

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

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

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

01  F. CONTAMINATION OF SOIL  
03 AREA POTENTIALLY AFFECTED: 130 ACRES 02  OBSERVED (DATE: 2/90)  POTENTIAL  ALLEGED  
(Acres) 04 NARRATIVE DESCRIPTION

01  G. DRINKING WATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED: >100 02  OBSERVED (DATE: 2/90)  POTENTIAL  ALLEGED  
NO KNOWN WAYS OF AFFECTED ACQUISITION

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

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

02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED

01  K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (Include names of species)

02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED

01  L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED

01  M. UNSTABLE CONTAINMENT OF WASTES  
(Spills/runoff/standing liquids/leaking drums)

03 POPULATION POTENTIALLY AFFECTED: >100 04 NARRATIVE DESCRIPTION

02  OBSERVED (DATE: 2/90)  POTENTIAL  ALLEGED

SOIL CONTAMINATION DISCOVERED

01  N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED

01  O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED

01  P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02  OBSERVED (DATE: \_\_\_\_\_)  POTENTIAL  ALLEGED

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: >100

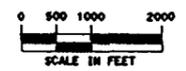
IV. COMMENTS

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

CONFIRMATION STUDY FEB 1990  
NASHVILLE DISTRICT CORPS OF ENGINEERS

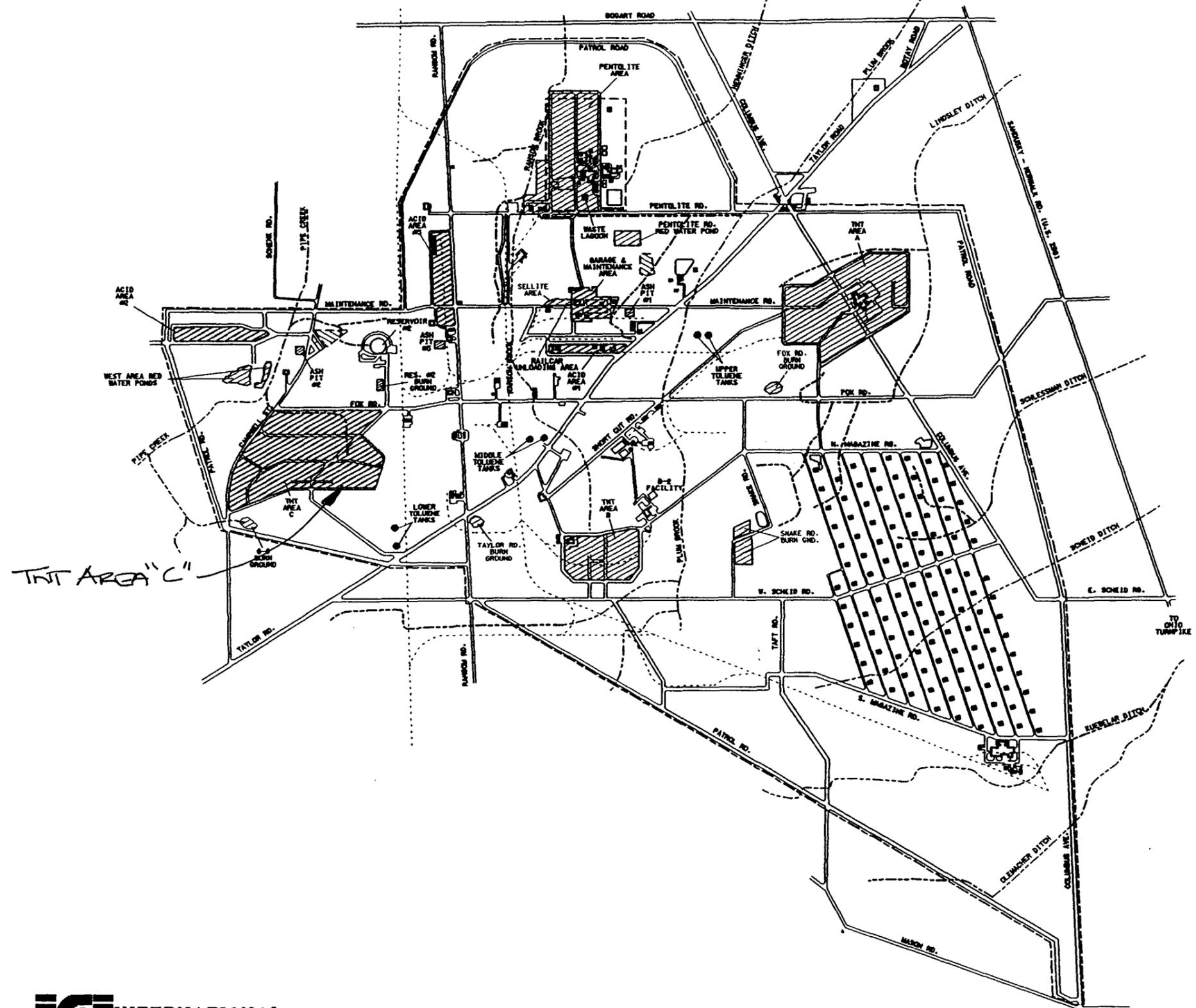
1. COMPONENT ARMY	FY 1999 MILITARY CONSTRUCTION PROJECT DATA			2. DATE NOV 1998
3. INSTALLATION AND LOCATION Plum Brook Ordnance Works Sandusky, Ohio			4. PROJECT TITLE DERP-FUDS HTRW - RI/FS	
5. PROGRAM ELEMENT DERP-FUDS	6. CATEGORY CODE HTRW	7. PROJECT NUMBER G05OH001815	8. PROJECT COST (\$000) \$1,171.4	
9. COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
Prepare Remedial Investigation/Feasibility Study				\$937.1
Contract Administration and Supervision by CELRN				\$187.4
Project Management by CELRH				<u>\$ 46.9</u>
TOTAL				\$1,171.4
<p>10. DESCRIPTION OF PROPOSED CONSTRUCTION</p> <p>Prepare a Remedial Investigation/Feasibility Study on the subject TNT Area C. Work will include:</p> <ol style="list-style-type: none"> <li>1. Installation of monitoring wells.</li> <li>2. Soil borings.</li> <li>3. Sampling and chemical analysis of soil and water samples</li> <li>4. Preparation of Feasibility Study that will identify alternatives for cleanup and their costs.</li> </ol>				

PLUM BROOK ORDNANCE WORKS  
SANDUSKY, OHIO



**LEGEND:**

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



**ICI** INTERNATIONAL CONSULTANTS, INC.

90504001815

**FIGURE 1-2**

LOCATIONS of AREAS of CONCERN (AOCs) at PBOW

DATE	12 JUL 95
PREPARED	JET
CHECKED	DBJ