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HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

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◆ = Revised this issue.

**2.0 PERMITTING STATUS FOR DANGEROUS WASTE TREATMENT, STORAGE,
AND/OR DISPOSAL UNITS**

This section contains a permitting status table and an explanation of the contents of the table.

PERMITTING STATUS TABLE

UNIT	CO-OP	AREA	PERMIT	UNIT TYPE	PART A			PART B	CLOSURE	REV	DATE CLOSED	COMMENT	CLASS
					INITIAL	LATEST	REV						
1324-N SURFACE IMPOUNDMENT	BHI	100	A/C	T	08/01/86	06/30/94	3	11/01/86		0		C	M
105-DR SODIUM FIRE FACILITY	WHC	100	A/C	TS	11/01/85	11/16/87	2	11/01/85	06/28/93	1		C	M
1706-KE WASTE TREATMENT SYSTEM	WHC	100	A	TS	08/01/86	11/16/87	2	04/01/87		0		P/C	M
183-H SOLAR EVAPORATION BASINS	BHI	100	A/C	TS	11/01/85	06/30/94	4		06/19/91	3		C	M
301-N LIQUID WASTE DISPOSAL FACILITY	BHI	100	A/C	D	08/01/86	07/21/95	5		04/01/87	0		C	M
325-N LIQUID WASTE DISPOSAL FACILITY	BHI	100	A/C	D	02/01/87	07/21/95	5		06/01/87	0		C	M
324-NA PERCOLATION POND	BHI	100	A/C	TD	08/01/86	06/30/94	3		04/24/87	0		C	M
00-D PONDS	BHI	100	A/C	TD	08/01/86	06/30/94	4		03/01/93	0		C	D
21-T CONTAINMENT SYSTEMS TEST FACILITY	WHC	200W	A	T	11/01/85	11/16/87	2	11/01/85		0		P/C	D
10 WEST AREA ASH PIT DEMOLITION SITE	WHC	200W	A/C	T	11/01/85	11/04/94	4	11/01/85	10/06/94	1	10/26/95	CL	D
18-E-B BORROW PIT DEMOLITION SITE	WHC	200E	A/C	T	11/01/85	11/04/94	4	11/01/85	10/21/94	1	10/26/95	CL	D
12-A EVAPORATOR	WHC	200E	A/B	TS	09/01/87	01/25/95	6	04/13/93				A	M
100-TREATMENT FACILITY	WHC	200E	A/B	TSD	09/01/87	07/22/92	4	07/24/92		2		S	M
100-PLANT COMPLEX	WHC	200W	A/B	TS	12/01/87	12/19/95	5	12/19/95		0		A	M
101-Z TREATMENT AND STORAGE TANKS	WHC	200W	A/B	TS	12/01/87	06/24/92	3					A	M
100-PLANT COMPLEX	WHC	200E	A/B	TS	12/01/87	05/17/96	4					A	M
102-S LABORATORY COMPLEX	WHC	200W	A/B	TS	12/01/87	11/04/94	3	12/21/91		0		A	M
104-AR WASTE LOADING STATION	WHC	200E	A/B	T	12/01/87	11/04/94	3					A	M
100-UREX PLANT	WHC	200E	A/C	TS	12/01/87	05/17/96	7					A,C	M
100-ENFORD WASTE PURIFICATION PLANT	WHC	200E	A/B	TS	05/01/88	09/30/91	4	10/01/91		2		S	M
100-AREA EFFLUENT TREATMENT FACILITY	WHC	200E	A/B	TS	06/26/91	08/25/93	1	08/31/93		0		A	M
100-WASTE RECEIVING AND PROCESSING	WHC	200W	A/B	TS	01/25/95	01/25/95	0	10/31/91		0		A	M
100-27-S STORAGE FACILITY	WHC	200W	A/C	S	11/01/85	11/16/87	2		10/07/92	3A	06/27/95	CL	D
100-DOUBLE-SHELL TANK SYSTEM	WHC	200EW	A/B	TS	09/01/87	11/04/94	7	06/28/91		0		A	M
100-WAXONE STORAGE AND TREATMENT FACILITY	BHI	200W	A/C	TS	12/01/87	06/30/94	3		11/24/92	0		C	M

PERMITTING STATUS TABLE

UNIT	CO-OP	AREA	PERMIT	UNIT TYPE	PART A			PART B	CLOSURE	REV	DATE CLOSED	COMMENT	CLASS
					INITIAL	LATEST	REV						
2727-WA SRE SODIUM STORAGE BUILDING	WHC	200W	A	S	12/01/87	12/03/87	0					P/C	M
PUREX STORAGE TUNNELS	WHC	200E	A/B	S	12/01/87	05/17/96	4	12/09/92		1		A	M
224-T TRANSURANIC WASTE STORAGE AND ASSAY FACILITY	WHC	200W	A/B	S	12/01/87	02/09/96	5	06/30/92		0		A	M
CENTRAL WASTE COMPLEX	WHC	200W	A/B	TS	05/01/88	01/25/95	3	10/31/91		0		A	M
SINGLE-SHELL TANK SYSTEM	WHC	200W	A/C	TS	02/01/88	12/22/93	3		09/30/89	Draft		A,C	M
207-A SOUTH RETENTION BASIN	WHC	200E	A/C	S	02/26/90	08/23/93	1					C	M
LIQUID EFFLUENT RETENTION FACILITY	WHC	200E	A/B	S	02/26/90	02/09/96	4	06/26/91		0		A	M
241-CX TANK SYSTEM	BHI	200E	A/C	S	07/10/90	06/30/94	3					C	M
LOW-LEVEL BURIAL GROUNDS	WHC	200EW	A/B	D	11/01/85	11/04/94	7	12/29/89		0		A	M
216-S-10 POND AND DITCH	BHI	200W	A/C	D	02/01/87	06/30/94	3		06/01/87	0		C	M
101-H POND	WHC	200E	A/C	D	08/01/86	11/16/87	2		07/01/94	2A	10/26/95	CL	D
16-A-29 DITCH	BHI	200E	A/C	TD	08/01/86	06/30/94	3		04/01/87	0		C	M
16-B-3 MAIN POND	BHI	200E	A/C	TD	08/01/86	06/30/94	5					C	M
16-B-63 TRENCH	WHC	200E	A/C	TD	08/01/86	11/16/87	2		04/01/87	0		C	M
16-A-10 CRIB	BHI	200E	A/C	D	08/01/87	06/30/94	3					C	M
16-U-12 CRIB	BHI	200W	A/C	D	08/01/87	06/30/94	3					C	M
16-A-36B CRIB	BHI	200E	A/C	D	02/01/88	06/30/94	1		02/01/88	0		C	M
16-A-37-1 CRIB	BHI	200E	A/C	D	02/26/90	06/30/94	2					C	M
16-B-3 EXPANSION POND	WHC	200E	A/C	TD	12/16/93	12/16/93	0		10/31/94	2	06/27/95	CL	H
718-F ALKALI METAL TREATMENT AND STORAGE AREA	WHC	300	A/C	TS	11/01/85	12/20/91	3	11/06/85	11/10/92	1		C	M
74 PILOT PLANT	PNNL	300	A	T	11/01/85	05/19/88	3	11/01/85		0		P/C	M
74 CONCRETION FACILITY	WHC	300	A/C	TS	08/01/86	06/21/90	4		11/30/93	2	11/30/95	CL	H
70 AREA SOLVENT VAPORATOR	WHC	300	A/C	TS	11/01/85	03/27/90	4		09/24/92	3B	06/27/95	CL	H
70 AREA WASTE CID TREATMENT SYSTEM	WHC	300	A/C	TS	09/01/87	03/13/96	4		06/29/90	0		C	M
93-M OXIDE FACILITY	WHC	300	A/C	T	05/01/88	05/19/88	0					C	M
95 HAZARDOUS WASTE TREATMENT UNITS	PNNL	300	A/B	TS	05/01/88	12/02/94	3	06/24/92		0		A	M

PERMITTING STATUS TABLE

UNIT	CO-OP	AREA	PERMIT	UNIT TYPE	PART A			PART B	CLOSURE	REV	DATE CLOSED	COMMENT	CLASS
					INITIAL	LATEST	REV						
BIOLOGICAL TREATMENT TEST FACILITIES	PNNL	300	A	T	05/01/88	05/19/88	0					P/C	M
PHYSICAL & CHEMICAL TREATMENT TEST FACILITIES	PNNL	300	A	TS	05/01/88	06/14/91	1				05/13/96	P/C	M
THERMAL TREATMENT TEST FACILITIES	PNNL	300	A	T	05/01/88	05/19/88	0				05/13/96	P/C	M
311 TANKS (INCORPORATED INTO 300 AREA WASTE ACID TREATMENT SYSTEM, REV. 3)	WHC	300											
303-K STORAGE UNIT	WHC	300	A/C	S	08/01/87	12/16/93	4		12/17/93	2		C	M
305-B STORAGE FACILITY	PNNL	300	A/B	S	05/01/88	12/20/90	1	04/03/92		2		A	M
332 STORAGE FACILITY	PNNL	300	A	S	05/01/88	05/19/88	0					P/C	M
300 AREA PROCESS TRENCHES	BHI	300	A/PC	D	11/01/85	05/25/95	4		11/06/85	0		C	M
337-MASF	WHC	400	A	T	11/01/85	11/16/87	2	11/01/85		0		P/C	M
343 ALKALI METAL STORAGE FACILITY	WHC	400	A/C	S	09/01/87	05/31/91	2		06/29/91	0		C	M
SODIUM STORAGE FACILITY AND SODIUM REACTION FACILITY	WHC	400	A/B	TS	05/01/95	05/01/95	0					A	M
ANFORD PATROL ACADEMY DEMOLITION SITES	WHC	600	A/C	T	11/01/85	12/15/94	4	11/01/85	12/15/94	1	10/26/95	CL	D
16 NONRADIOACTIVE DANGEROUS WASTE STORAGE FACILITY	WHC	600	A/B	S	11/01/85	09/08/93	5	10/31/91		2		A	D
00 AREA URGEWATER STORAGE AND TREATMENT FACILITY	WHC	600	A/B	TS	02/20/90	07/22/95	1					A	M
ONRADIOACTIVE DANGEROUS WASTE LANDFILL	BHI	600	A/C	D	11/01/85	06/30/94	4	11/06/85	09/30/90	0		C	D
INSULATED HIGH LEVEL WASTE SLURRY TREATMENT/STORAGE	PNNL	3000	A/C	TS	05/01/88	08/12/94	2		11/07/94	5A	09/06/95	CL	M

EXPLANATION OF PERMITTING STATUS TABLE

UNIT	Name of treatment, storage, and/or disposal (TSD) unit that is designated for permitting as part of the Hanford Facility (EPA/State Identification Number WA7890008967).
CO-OP	Co-operator with the U.S. Department of Energy, Richland Operations Office: BHI -- Bechtel Hanford, Inc. PNNL -- Pacific Northwest Laboratory. WHC -- Westinghouse Hanford Company.
REA	The area of the Hanford Facility in which the unit is located: 100 -- 100 Area 200E -- 200 East Area 200W -- 200 West Area 200EW -- Parts of a TSD unit are located in both the 200 East and the 200 West Areas 300 -- 300 Area 400 -- 400 Area 500 -- Unused designation 600 -- 600 Area 3000 -- 3000 Area
PERMIT	Type of permit application that is required to obtain the desired type of permit: A -- Part A B -- Part B C -- Closure plan PC -- Postclosure plan.
UNIT TYPE	T -- Treatment S -- Storage D -- Disposal.

EXPLANATION OF PERMITTING STATUS TABLE (cont)

INITIAL Date the initial Part A permit application was submitted to the Washington State Department of Ecology:
08/01/88 -- month/day/year.

LATEST Date the latest Part A permit application was submitted to the Washington State Department of Ecology:

REV Last revision of the Part A permit application.

PART B Date the last Part B permit application was submitted to the Washington State Department of Ecology:
08/01/88 -- month/day/year.

CLOSURE Date the last closure or postclosure plan permit application was submitted to the Washington State Department of Ecology:
08/01/88 -- month/day/year.

REV Revision of Part B or closure plan.

ABBREVIATIONS

A	Active TSD unit.
C	TSD unit closing under interim status.
CL	Unit is closed.
S	Standby.
P/C	Procedural closure.

CLASS

M	Mixed waste TSD unit.
D	Dangerous waste TSD unit.

from the front.

ESSES (continued)

FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Refer to following pages.

SECTION OF DANGEROUS WASTES

DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contents of those dangerous wastes.

ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which are characteristic or contaminant.

UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

For all records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the waste's density or specific gravity of the waste.

ES

PROCESS CODES:

For each listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to show how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or contaminant.

Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

Enter one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of waste. Treatment will be in an incinerator and disposal will be in a landfill.

DANGEROUS WASTE NO. (code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES						
			1. PROCESS CODES (enter)			2. PROCESS DESCRIPTION (if a code is not entered in D(1))			
X 4	900	P	T	0	3	D	8	0	
X 2	400	P	T	0	3	D	8	0	
X 1	100	P	T	0	3	D	8	0	
X 2			T	0	3	D	8	0	included with above

FORM 3 DANGEROUS WASTE PERMIT APPLICATION
U.S. ENVIRONMENTAL PROTECTION AGENCY/STATE IDENTIFICATION NUMBER WA7890008967

Section III.C., Description of Process Codes Listed in Section III.A.

B Plant, constructed in 1943, is located in the northwestern portion of the 200 East Area of the Hanford Facility. The first mission for B Plant was the recovery of plutonium using a bismuth phosphate chemical separation process (1945 to 1952). In the early 1960's, B Plant was modified for a second mission, the recovery and purification of cesium and strontium. The Waste Encapsulation and Storage Facility (WESF) was built adjacent to B Plant to perform the encapsulation and long-term storage of cesium and strontium.

Presently, the B Plant Complex consists of three primary structures (the 221-B Building, the 271-B Building, and the 225-B WESF, shown on pages 11 and 14) and various support structures. However, the 271-B Building and 225-B WESF do not treat, store, and/or dispose of mixed and/or dangerous waste and therefore are not included in the B Plant Complex treatment, storage, and/or disposal (TSD) unit boundary. The 221-B Building contains four dangerous waste storage and/or treatment tank systems, Cell 4 container storage, and containment building storage. A typical cell is 5.5 meters (18 feet) long by 3.9 meters (13 feet) wide by 8.5 meters (28 feet) deep. Each cell is covered with four concrete cover blocks. In addition, the 221-B Building is made of reinforced concrete and is 259.1 meters (850 feet) long by 20.7 meters (68 feet) wide by 22.5 meters (74 feet) high, covering an area of 5,369.8 square meters (57,800 square feet).

The B Plant Complex currently supports the safe management and storage of B Plant and WESF radionuclide inventory. Mixed and/or dangerous waste activities at the B Plant Complex include organic mixed waste storage, containerized non-liquid waste storage, and other waste handling operations. These operations are carried out in the 221-B Building, which uses a remote process cell design to house the process tanks and associated equipment as discussed in the paragraph above.

S02/T01

The neutralized current acid waste (NCAW) was transferred to the B Plant Complex (221-B Building) for the Tank Waste Remediation pretreatment project. The NCAW inventory was then transferred back to the Double-Shell Tank System in May 1993. Although no waste currently is being stored or treated, and there is no intention of future storage or treatment of any waste in this tank system, the system is included to reflect past operations. The tanks that comprise the NCAW storage and treatment tank system are as follows: TK-6-2 [19,684 liter (5,200 gallon) capacity], TK-7-1 [19,306 liter (5,100 gallon) capacity], TK-7-2 [18,927 liter (5,000 gallon) capacity], TK-8-1 [19,684 liter (5,200 gallon) capacity], TK-8-2 [19,684 liter (5,200 gallon) capacity], TK-13-1 [15,142 liter (4,000 gallon) capacity], TK-14-2 [14,763 liter (3,900 gallon) capacity], TK-29-3 [15,520 liter (4,100 gallon) capacity], TK-39-2 [6,814 liter (1,800 gallon) capacity], and TK-39-5 [7,571 liter (2,000 gallon) capacity].

The following tanks comprise the low-level waste storage and treatment tanks: TK-24-1 [52,617 liter (13,900 gallon) capacity], TK-25-1 [18,548 liter (4,900 gallon) capacity], and TK-25-2 [18,548 liter (4,900 gallon) capacity]. Treatment of low-level waste (to meet Double-Shell Tank System anticorrosion specifications) includes the addition of sodium hydroxide until the pH is greater than 12.0. Treatment also includes the addition of sodium nitrite until the nitrite concentration is above 600 parts per million and any other chemicals required to meet the acceptance criteria. The low-level waste tank

Section III.C., Description of Process Codes Cont.

storage is intended for waste generated at the 221-B Building and WESF that will not be transferred within 90 days to the Double-Shell Tank System. There is no intent or plan to store low-level waste at the 221-B Building from sources other than the B Plant Complex. In addition, NCAW was never handled in or transferred through TK-24-1.

The maximum storage process design capacity for the NCAW and low-level waste tanks is 246,807 liters (65,200 gallons). The maximum treatment process design capacity for the NCAW and low-level waste tanks is 79,493 liters (21,000 gallons) per day.

T01

The low-level waste concentrator (formerly known as the single-stage thermal siphon reboiler), located in Cell 23 of the 221-B Building, was operated to concentrate the low-level waste in the low-level waste storage and treatment tank system. The low-level waste concentrator is a thermal siphon and shell and tube heat exchanger. This system has been used only for concentration of the B Plant Complex low-level waste stream. No NCAW waste has been concentrated with the B Plant low-level waste concentrator. This system currently is inactive with no intention of resuming operation and is included to reflect past operations. The low-level waste concentrator system includes the following equipment: the waste concentrator (E-23-3), tube bundles (E-23-3-1 and E-23-3-2), the deentrainer (D-23-2), the condenser (E-23-4), and receiving tank (TK-23-1).

The maximum process design capacity for the low-level waste concentrator is 27,633 liters (7,300 gallons) per day.

S01

The Cell 4 containerized waste storage unit is used for the storage of 208-liter (55-gallon) containers of solid mixed waste that does not contain free liquids. Waste stored in Cell 4 includes light bulbs with lead solder.

The maximum process design capacity for container storage is 51,008 liters (13,475 gallons).

S06

The designation S06 (containment building/storage) has been used to indicate that the solid mixed waste stored on the canyon deck and in various cells is considered to be in a containment building subject to the requirements of 40 CFR 265, Subpart DD. The solid mixed waste consists of radioactively contaminated failed canyon process equipment and jumpers (or isolated components thereof) containing lead used as weights, counterweights, or radiation shielding. The solid mixed waste also may be contaminated with residues from waste processing of tank wastes.

The maximum process design capacity for storage on the canyon deck and in the cells is 35,170 cubic meters (46,000 cubic yards).

Section III.C., Description of Process Codes Cont.

S02

The organic mixed waste storage tank system, contained in Cells 26 through 30 of the 221-B Building, includes the following tanks: TK-26-1 [14,763 liter (3,900 gallon) capacity], TK-27-2 [7,571 liter (2,000 gallon) capacity], TK-27-3 [14,385 liter (3,800 gallon) capacity], TK-27-4 [1,060 liter (280 gallon) capacity], TK-28-3 [14,385 liter (3,800 gallon) capacity], TK-28-4 [1,060 liter (280 gallon) capacity], TK-29-4 [492 liter (130 gallon) capacity], and TK-30-3 [15,520 liter (4,100 gallon) capacity].

Two external waste storage tanks [each with a nominal 17,500 liter (4,623 gallon) design capacity] will be used to store organic mixed waste transferred from the organic mixed waste storage tank system located in cells 26 through 30 of the 221-B Building. The organic mixed waste will be stored until transfer to an onsite TSD unit or to a permitted offsite TSD facility.

The maximum process design capacity for organic mixed waste storage in Cells 26 through 30 of the 221-B Building and for the two external organic mixed waste storage tanks is 104,236 liters (27,536 gallons).

from page 2.
 photocopy this page before completing if you have more than 26 wastes to list.

ERR (entered from page 1)

8 9 0 0 0 8 9 6 7

DESCRIPTION OF DANGEROUS WASTES (continued)

DANGEROUS WASTE NO. (code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
			1. PROCESS CODES (enter)			
02	41,146*	K	S02	T01		Storage-Tank/Treatment-Tank
04						(NCAW storage and treatment tank
ugh						system)
11						
01						
ugh						
05						
01						
02						Included With Above

The quantity of waste represents the total amount of NCAW that was transferred to the B Plant Complex for a test run of the Tank Waste Remediation pretreatment process. The quantity of the B Plant Complex for the Tank Waste Remediation pretreatment process was canceled; therefore, the entire NCAW inventory was transferred back to the Double-Shell Tank System. There will be no future use of the NCAW storage and treatment tank system for dangerous waste activities at the B Plant Complex.

02	1,044,732	K	S02	T01		Storage-Tank/Treatment-Tank
04						(Low-level waste storage and
ugh						treatment tank system)
11						
01						
ugh						
05						
01						
02						Included With Above

and from page 2.
 Photocopy this page before completing if you have more than 26 wastes to list.

WASTE NUMBER (entered from page 1)

8 9 0 0 0 8 9 6 7

DESCRIPTION OF DANGEROUS WASTES (continued)

A. DANGEROUS WASTE NO. <i>(enter code)</i>	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE <i>(enter code)</i>	D. PROCESSES				
			1. PROCESS CODES <i>(enter)</i>				2. PROCESS DESCRIPTION <i>(if a code is not entered in D(1))</i>
0 2	18.927*	K	S02				Storage-Tank (Organic mixed waste storage)
0 4							
ough							
1 1							
0 1							
ough							
0 5							
0 1							
0 2							Included With Above

The quantity of waste represents the total amount of organic mixed waste that is stored at the B Plant Complex. There are no plans to generate additional organic mixed waste in the future.

0 2	90,992**	K	T01				Treatment-Tank (Low-level waste concentrator treatment tank system)
0 4							
ough							
1 1							
0 1							
ough							
0 5							
0 1							
0 2							Included With Above

The quantity of waste represents past operational activities of the low-level waste concentrator. There are no plans to use the low-level waste concentrator for dangerous waste activities in the future.

continued from page 2.
 Photocopy this page before completing if you have more than 26 wastes to list.

WASTE NUMBER (entered from page 1)

8 9 0 0 0 8 9 6 7

DESCRIPTION OF DANGEROUS WASTES (continued)

A. WASTE NUMBER (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES			
			1. PROCESS CODES (enter)			2. PROCESS DESCRIPTION (if a code is not entered in D(1))
0 8	6,804	K	S01			Storage - Container
0 1		↓	↓			(Cell 4 Container Storage)
0 2		↓	↓			Included With Above
0 2	6,804	K	S06			Containment Building/Storage
0 4		↓	↓			
ugh		↓	↓			
1 1		↓	↓			
0 1		↓	↓			
ugh		↓	↓			
0 5		↓	↓			
0 1		↓	↓			
0 2		↓	↓			Included With Above
0 2	34,324	K	S02			Storage - Tank
0 4		↓	↓			(External organic mixed waste
ugh		↓	↓			storage)
1 1		↓	↓			
0 1		↓	↓			
ugh		↓	↓			
0 5		↓	↓			
0 1		↓	↓			
0 2		↓	↓			Included With Above

ed from the front.

DESCRIPTION OF DANGEROUS WASTES (continued)

THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The B Plant Complex is used for the storage and/or treatment of mixed and/or dangerous waste. The mixed and/or dangerous waste, depending on the source, can be transferred to, the 221-B Building Cell 4 container storage, other onsite TSD units, or to an offsite TSD facility.

The dangerous waste numbers identified in Section IV.A. are associated with waste that could be stored and/or treated at the B Plant Complex. The mixed and/or dangerous waste consists of listed waste, characteristic waste, toxicity characteristic waste, and state-only waste (extremely hazardous and dangerous waste).

The NCAW was transferred back to the Double-Shell Tank System in May 1993. There are no plans to use the NCAW storage and treatment tank systems to store or treat mixed and/or dangerous waste. Also, there are no plans to use the low-level waste concentrator to treat mixed and/or dangerous waste.

The estimated annual quantities of mixed and/or dangerous waste identified for Process Codes S01, S02, S06 and T01 represent the maximum quantities of waste that could be stored and/or treated in the B Plant Complex. Future operations might necessitate an increase in excess of these estimates and a revision -- could be pursued as required by dangerous waste regulations.

Y DRAWING Refer to attached drawing.

facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

GRAPHS Refer to attached photographs.

facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and are storage, treatment or disposal areas (see instructions for more detail).

TY GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos.

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

TY OWNER

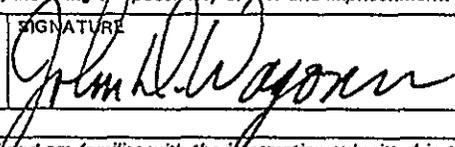
facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX

facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER				2. PHONE NO. (area code & no.)			
3. STREET OR P.O. BOX				4. CITY OR TOWN		5. ST.	6. ZIP CODE

3 CERTIFICATION

er penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my ose individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that nificant penalties for submitting false information, including the possibility of fine and imprisonment.

if or type/ agoner, Manager rtment of Energy Operations Office FOR CERTIFICATION	SIGNATURE 	DATE SIGNED 5/17/96
--	---	------------------------

er penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my ose individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that nificant penalties for submitting false information, including the possibility of fine and imprisonment.

if or type/ SEE ATTACHMENT	SIGNATURE	DATE SIGNED
-------------------------------	-----------	-------------

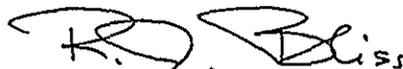
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

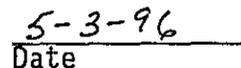


Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

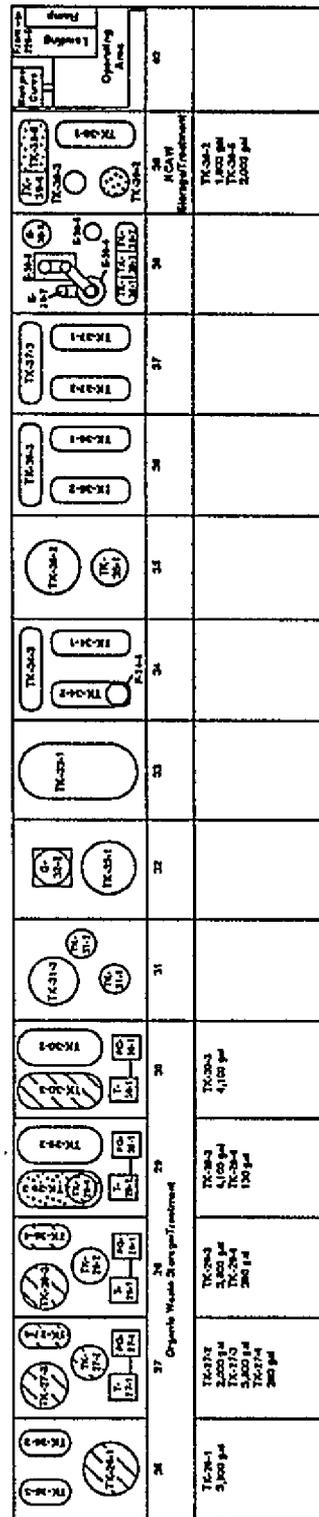
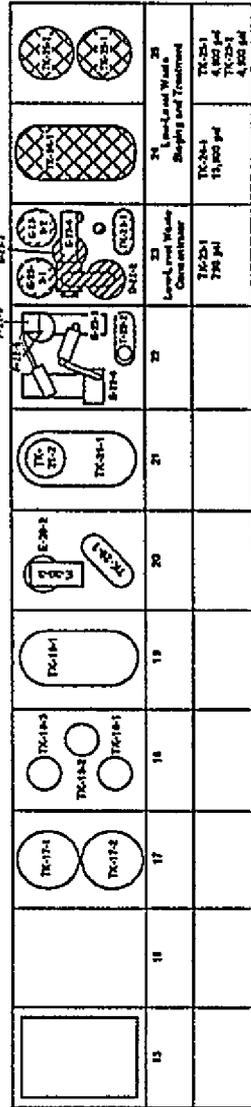
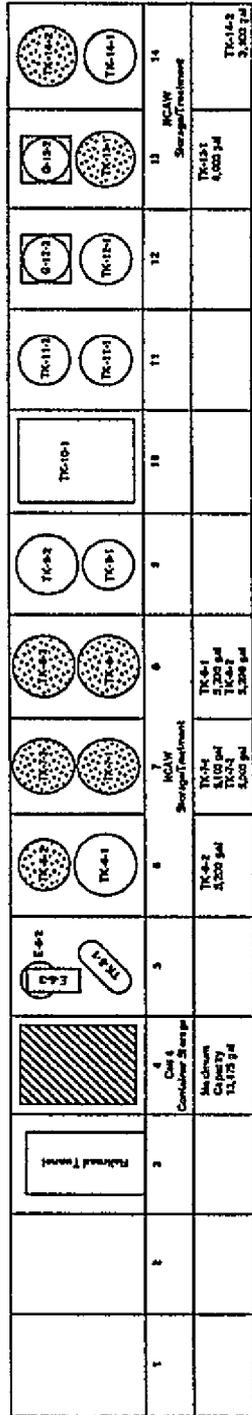

Date



Co-operator
R. J. Bliss, Vice President and Manager
Transition Projects
Westinghouse Hanford Company


Date

221-B Building Process Cells.

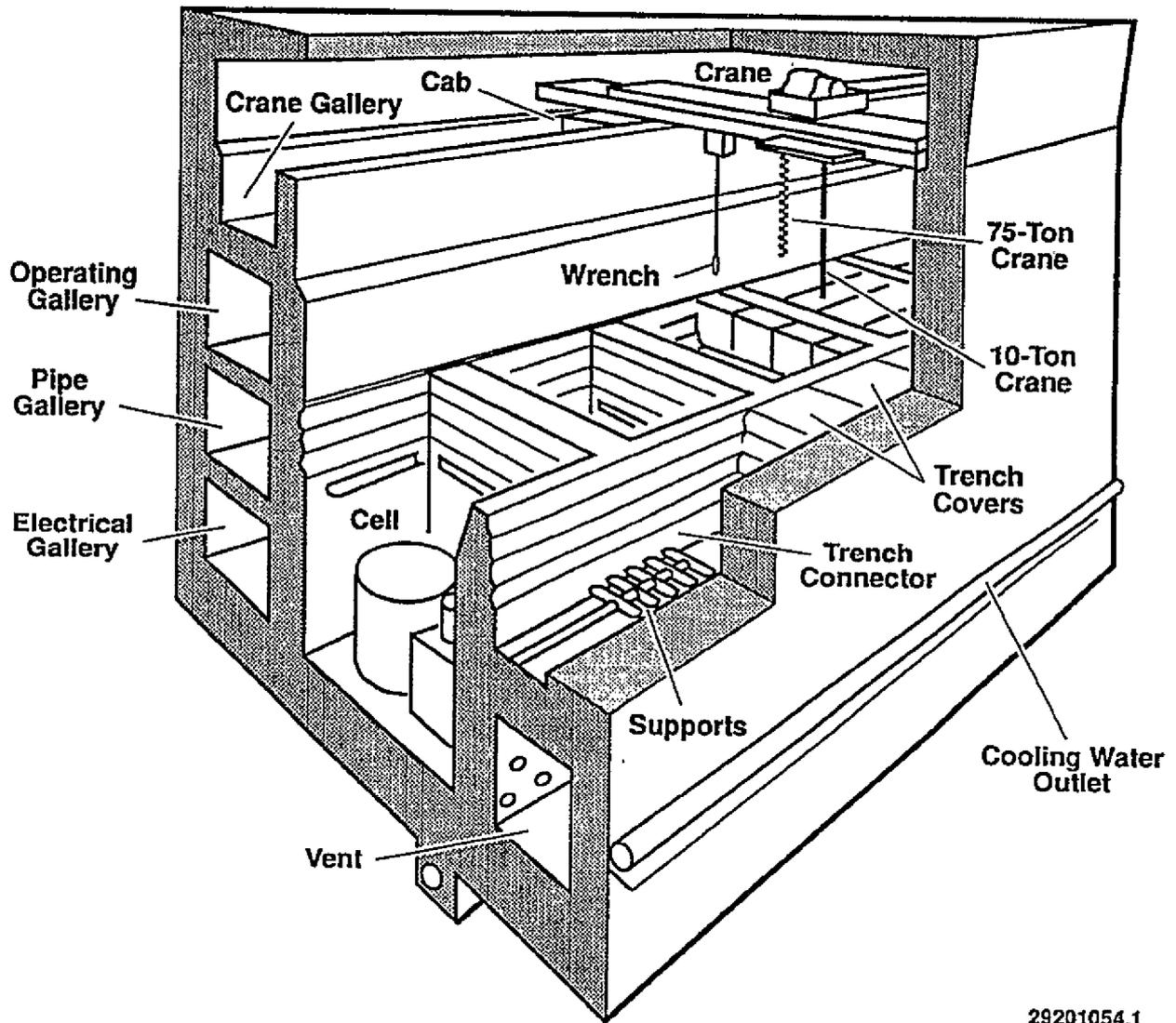


Key:
 NCAW = neutralized current acid waste
 gal = gallon
 G = generator
 P = pump
 PG = pulse generator
 T = tank
 E = heat transfer equipment
 F = filter
 TK = tank

Note: For process cell configuration refer to the 221-B Building TSD Unit Boundary (Plan View) graphic on page 14 of 25.

3400004.1

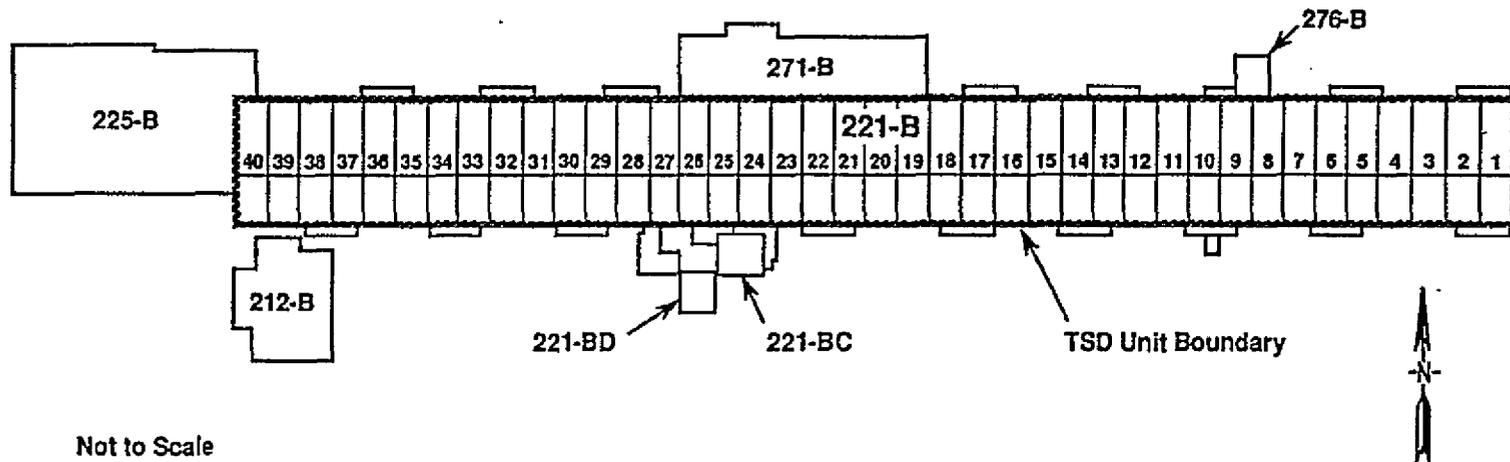
B Plant Cutaway (Typical)



29201054.1

221-B Building TSD Unit Boundary (Plan View)

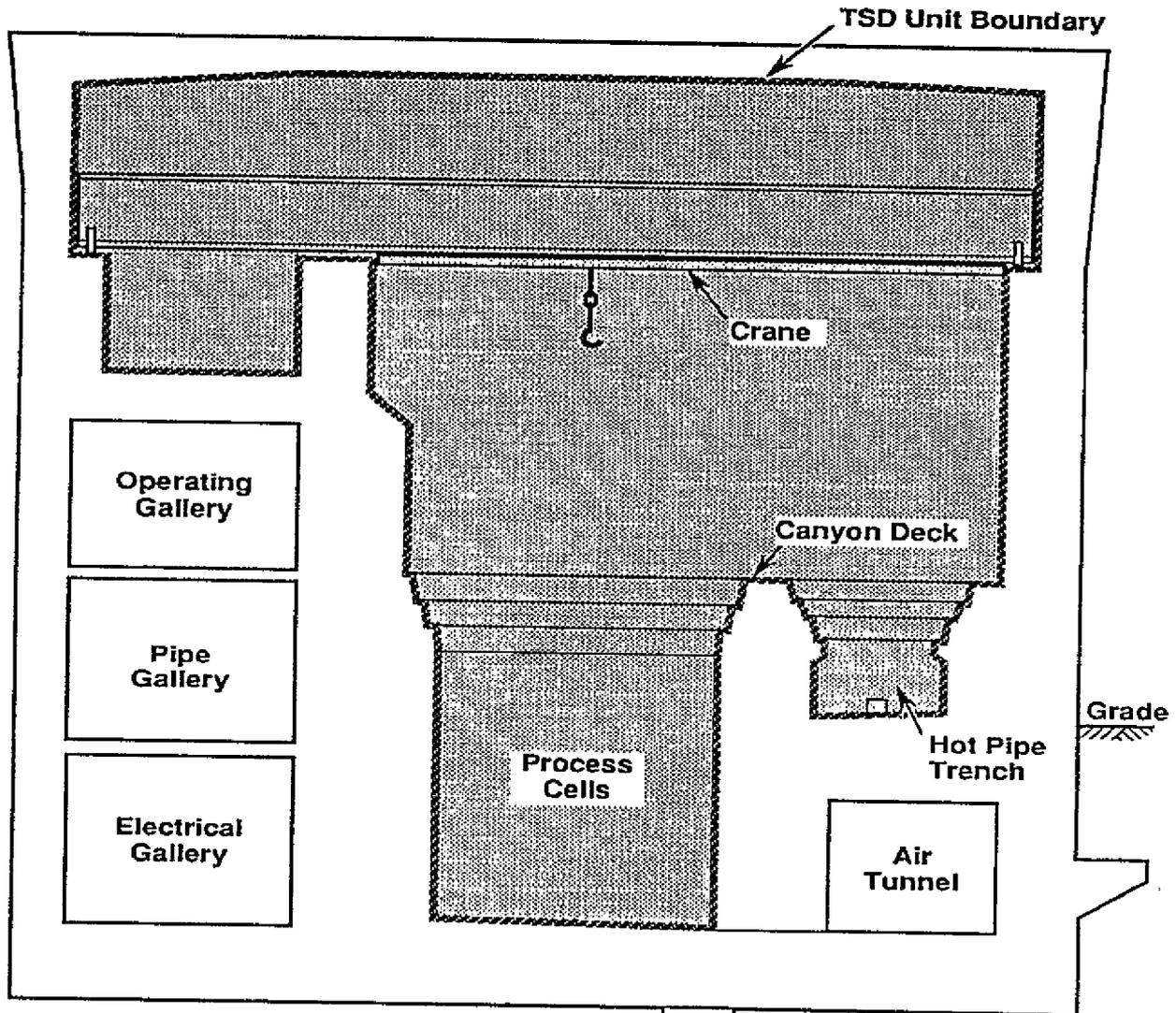
WA7890008967



Not to Scale

H96030202.2

221-B Building TSD Unit Boundary (typical cross-sectional view)

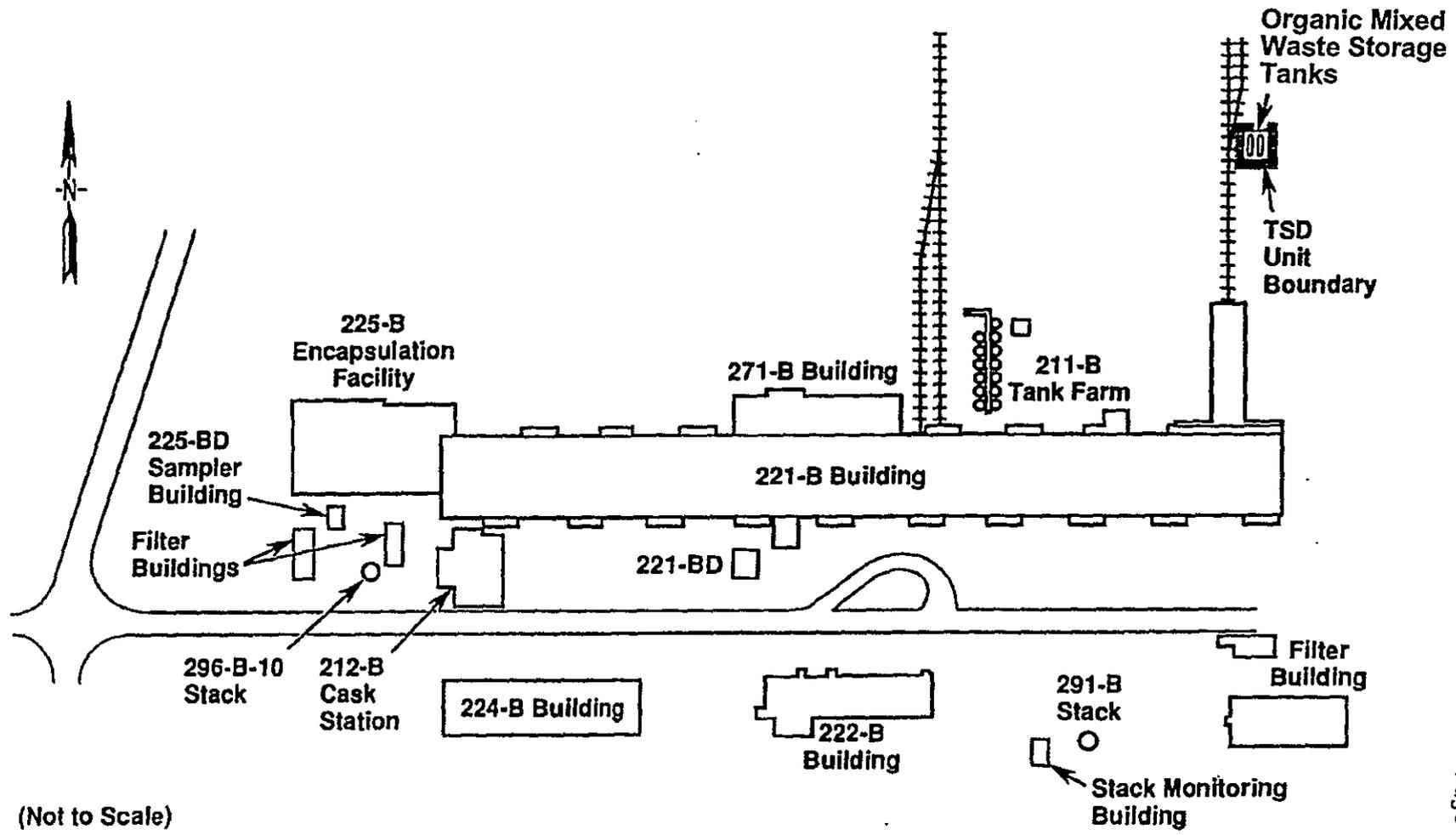


Not to Scale

Note: Shaded portions denote areas that are within the TSD Unit Boundary

Organic Mixed Waste Storage Tanks (External) TSD Unit Boundary

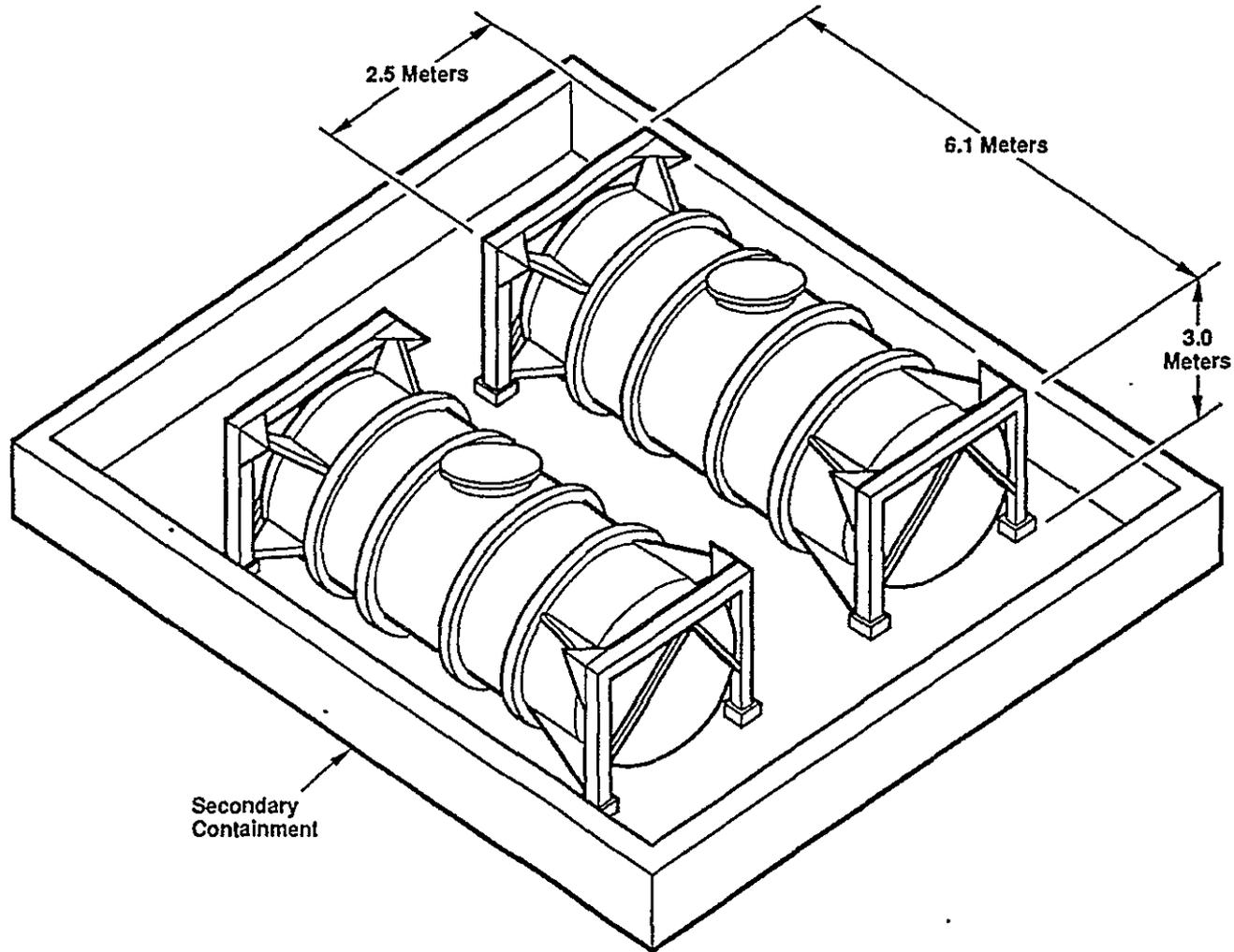
WA7890008967



H95110328.3

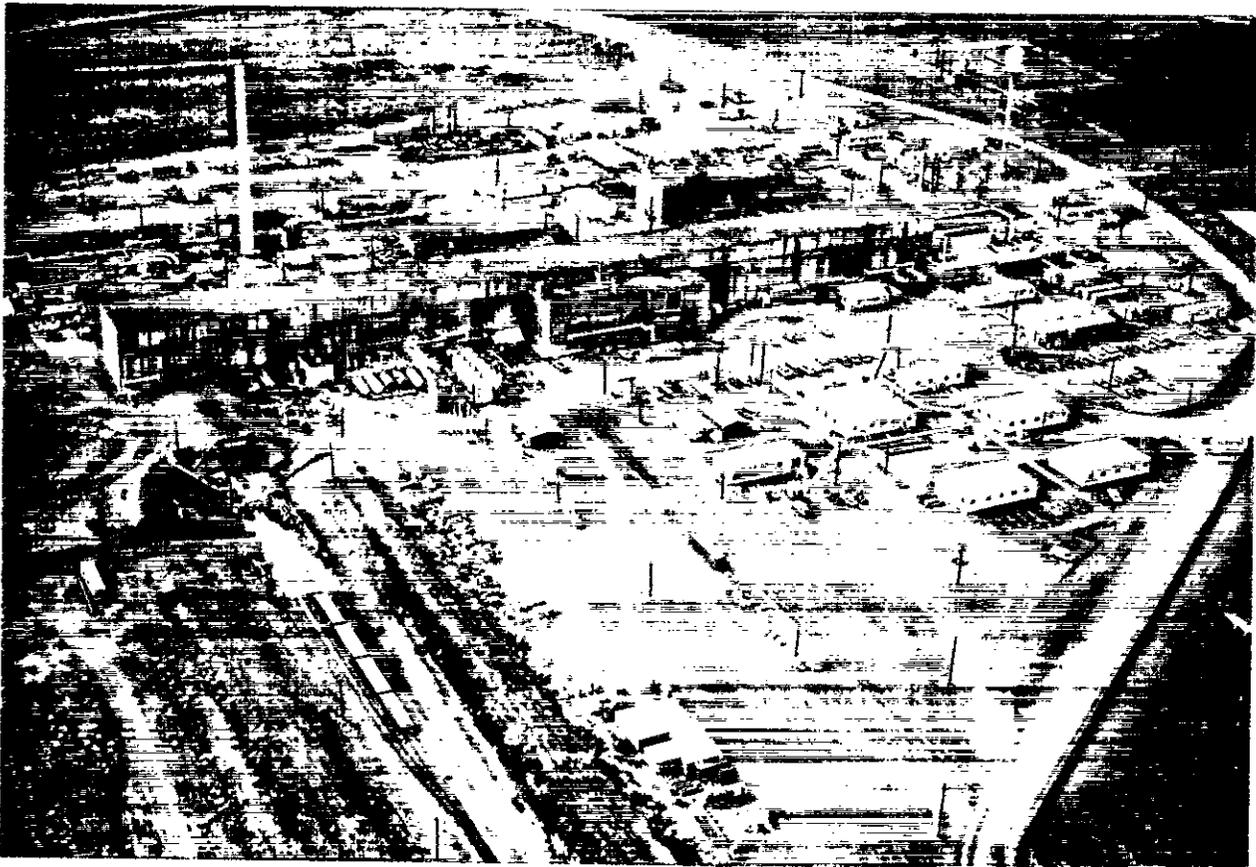
Organic Mixed Waste Storage Tanks (Proposed Configuration)

WA7890008967



H95110328.1

B PLANT COMPLEX AERIAL VIEW



46°33'34"
119°32'28"

93030994-91CN
(PHOTO TAKEN 1993)

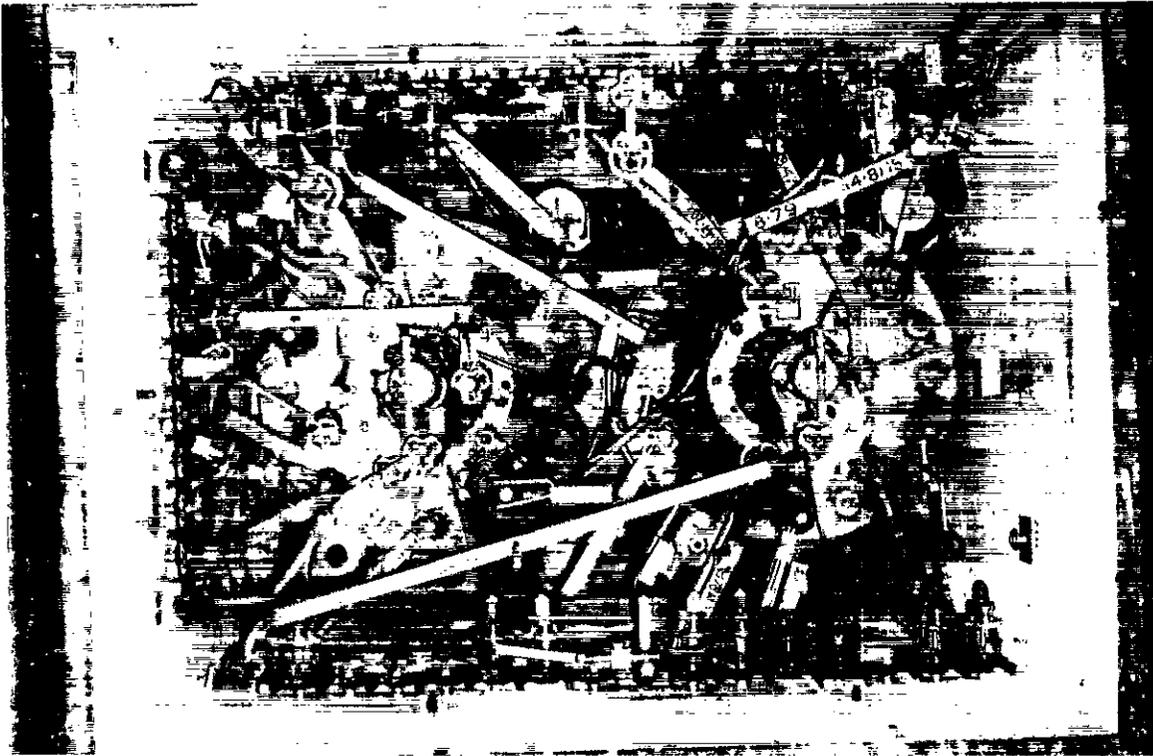
221-B BUILDING CANYON



46°33'34"
119°32'28"

81094257-1CN
(PHOTO TAKEN 1981)

221-B BUILDING CELL 8

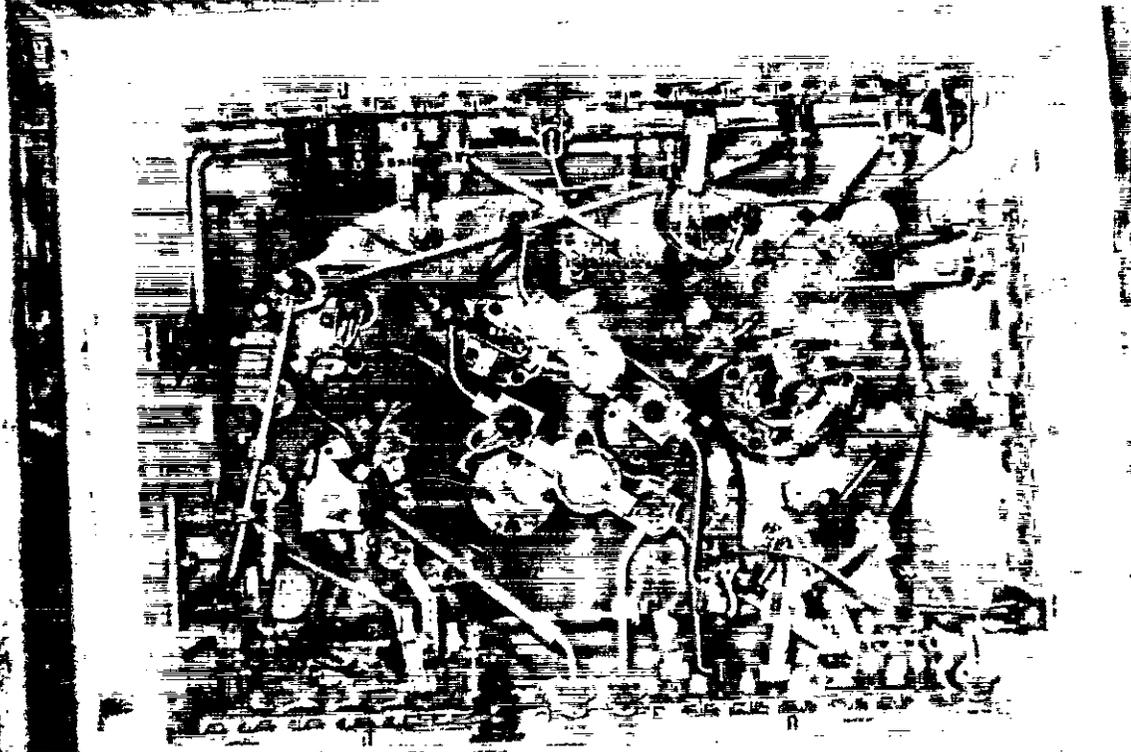


TOP VIEW - TYPICAL NCAW STORAGE AND TREATMENT TANK

46°33'34"
119°32'28"

83107243-11CN
(PHOTO TAKEN 1983)

221-B BUILDING CELL 24



TOP VIEW - LOW-LEVEL WASTE STORAGE AND TREATMENT TANKS; TK-24-1

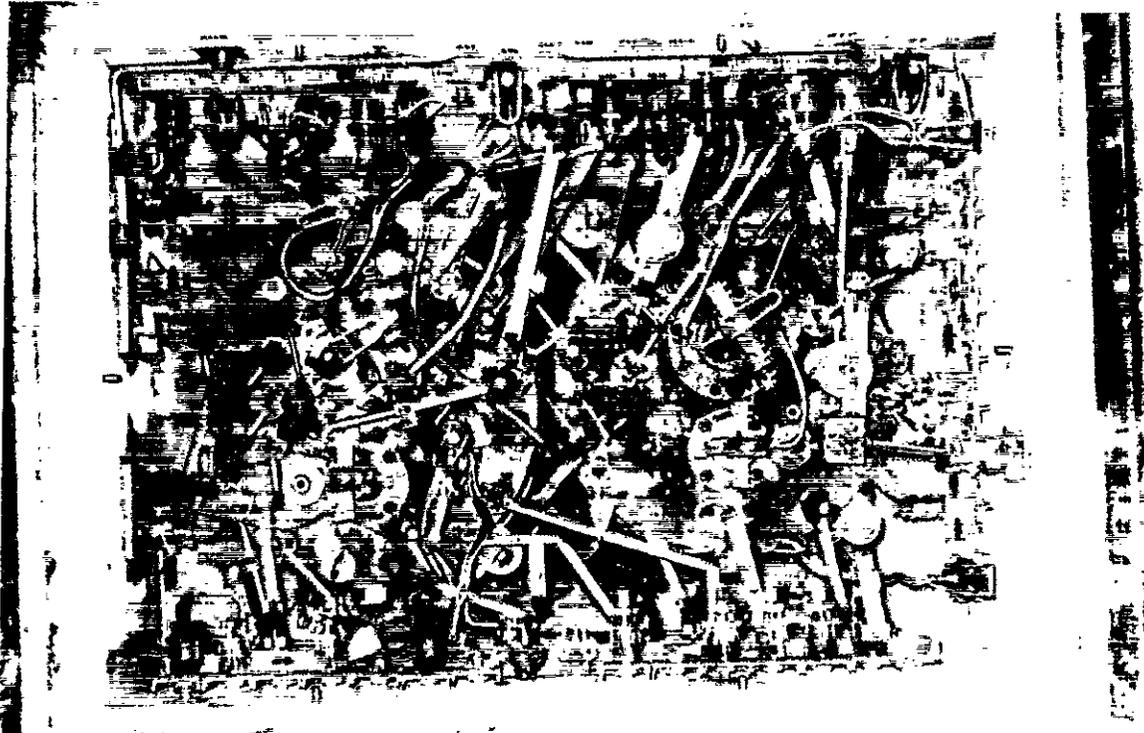
46°33'34"

119°32'28"

83106298-6CN

(PHOTO TAKEN 1983)

CELL 25



TOP VIEW - LOW-LEVEL WASTE STORAGE AND TREATMENT TANKS; TK 25-1, TK25-2

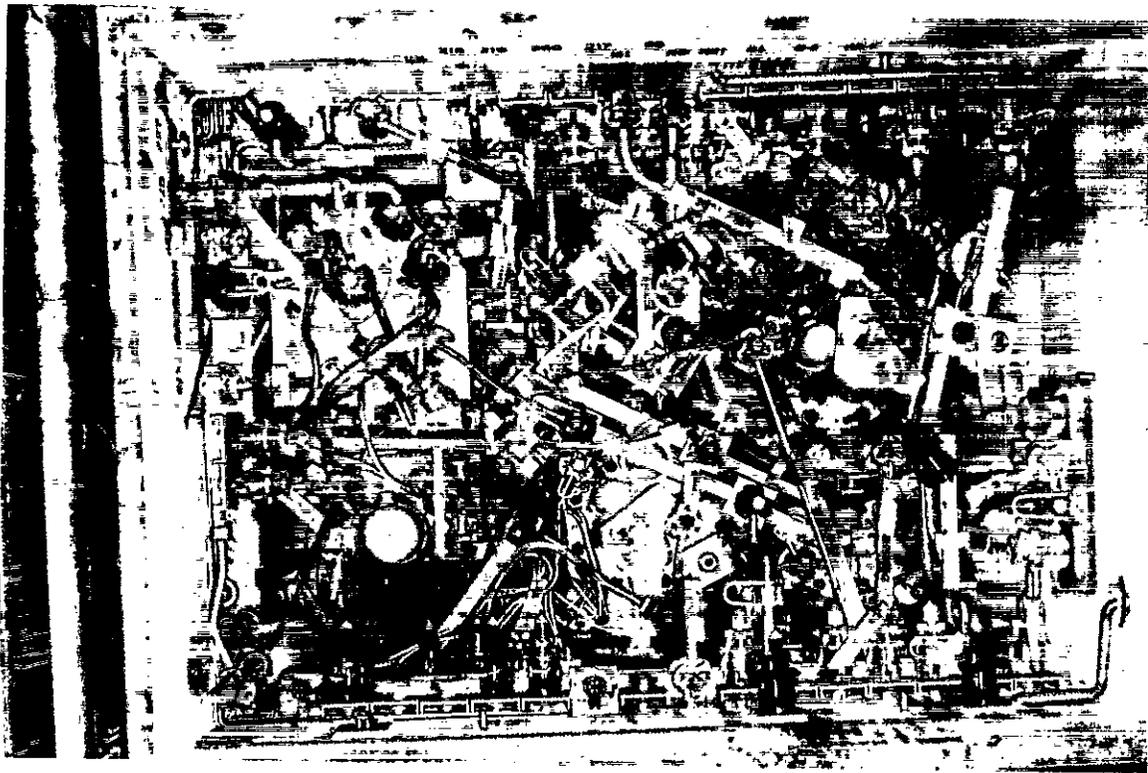
46°33'34"

119°32'28"

83107243-45CN

(PHOTO TAKEN 1983)

221-B BUILDING CELL 28

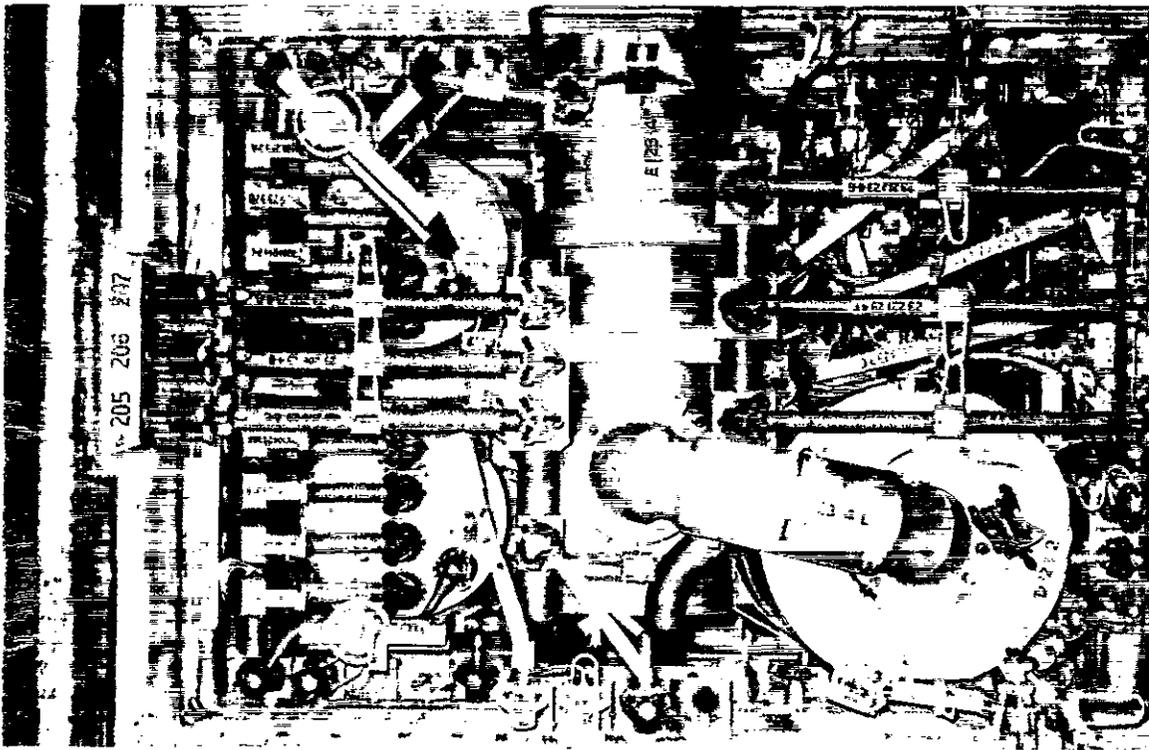


TOP VIEW - TYPICAL ORGANIC STORAGE TANK

46°33'34"
119°32'28"

83107243-67CN
(PHOTO TAKEN 1983)

221-B BUILDING CELL 23

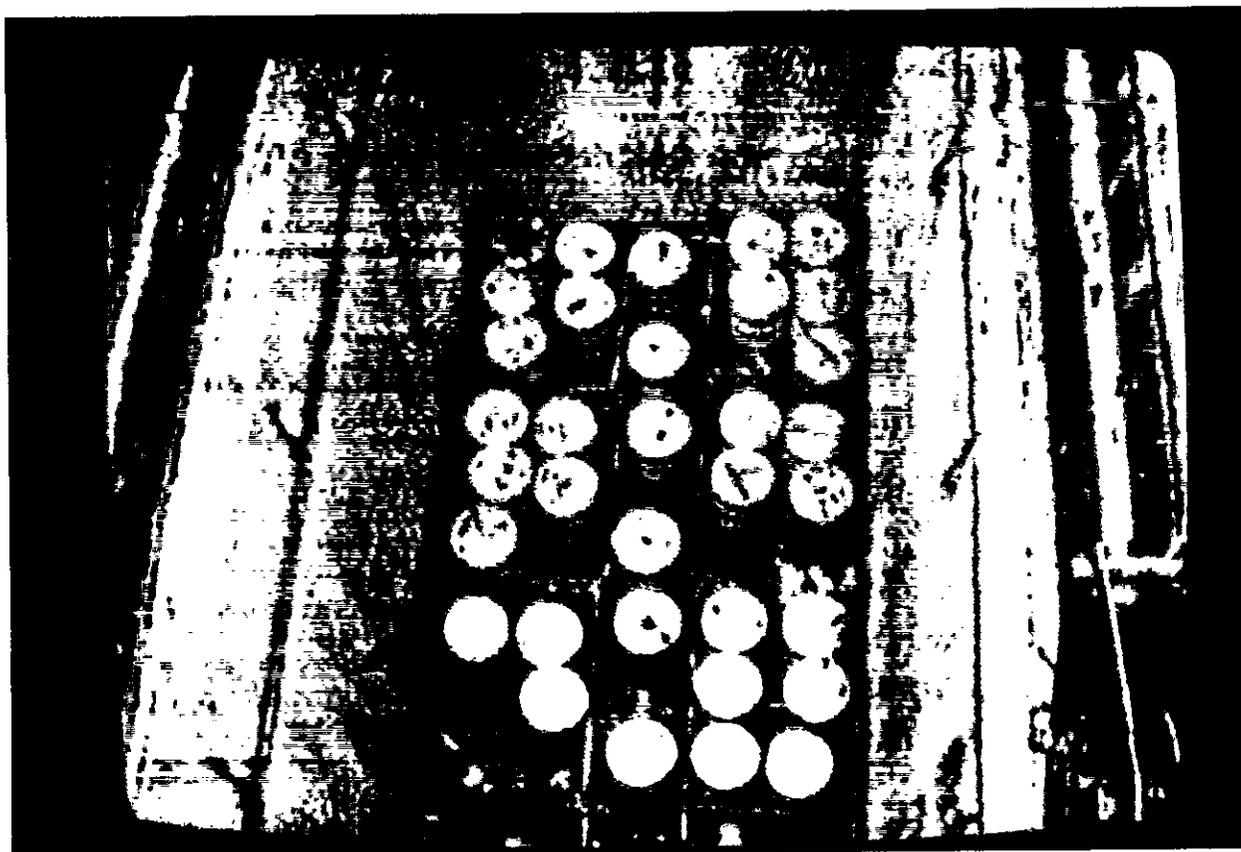


TOP VIEW - LOW-LEVEL WASTE CONCENTRATOR

46°33'34"
119°32'28"

83107243-40CN
(PHOTO TAKEN 1983)

221-B BUILDING CELL 4

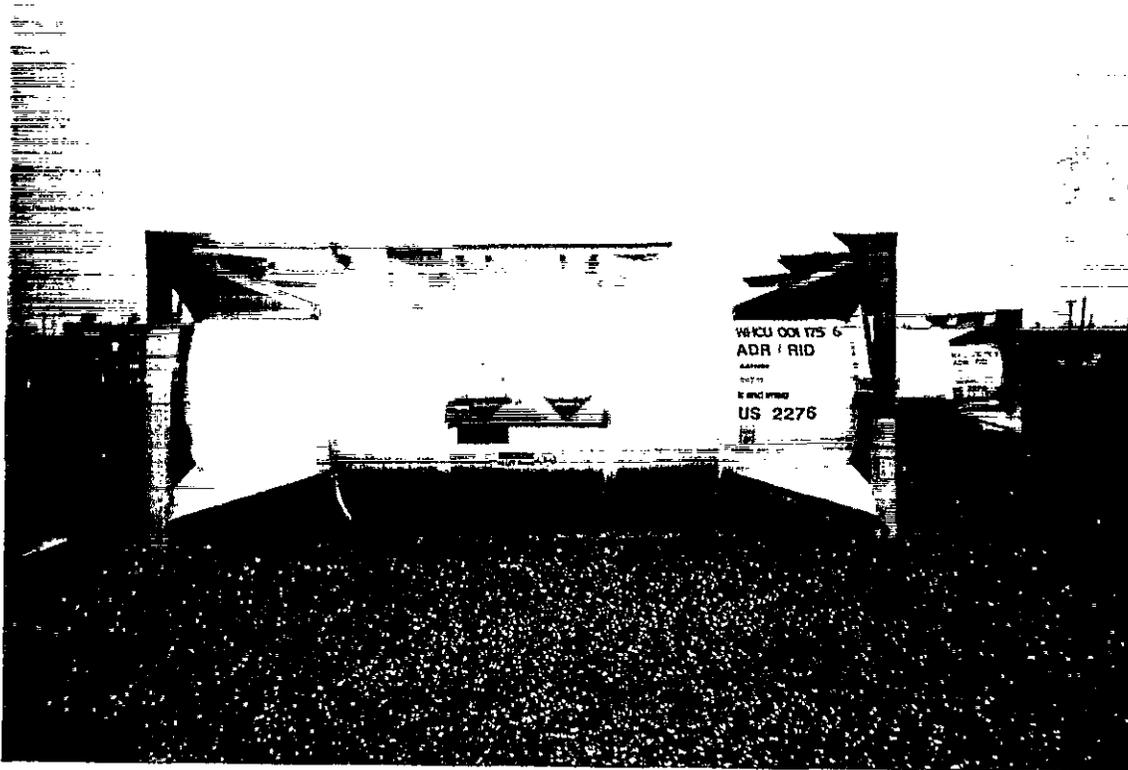


TOP VIEW - CONTAINER STORAGE

46°33'34"
119°32'28"

94040656-5CN
(PHOTO TAKEN 1994)

ORGANIC MIXED WASTE STORAGE TANK



TYPICAL

46°33'34"
119°32'28"

95030807-9CN
(PHOTO TAKEN 1995)

Print or type in the unshaded areas only
 as are spaced for elite type, i.e., 12 character/inch.

DANGEROUS WASTE PERMIT APPLICATION

1. EPA/STATE I.D. NUMBER

W	A	7	8	9	0	0	0	8	9	6	7
---	---	---	---	---	---	---	---	---	---	---	---

ORIGINAL USE ONLY

DATE RECEIVED	COMMENTS
(mo., day, & yr.)	

FOR REVISED APPLICATION

Mark in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

APPLICATION (place an "X" below and provide the appropriate date)

1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.) 2. NEW FACILITY (Complete item below)

J.	DAY	YR.	FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)	MO.	DAY	YR.	FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN
1	15	56					

APPLICATION (place an "X" below and complete Section I above)

1. FACILITY HAS AN INTERIM STATUS PERMIT 2. FACILITY HAS A FINAL PERMIT

PROCESSES - CODES AND CAPACITIES

PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

DESIGN CAPACITY - For each code entered in column A enter the capacity of the process.

AMOUNT - Enter the amount.

UNIT OF MEASURE - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. The units of measure that are listed below should be used.

PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
STORAGE TANK	S01	GALLONS OR LITERS	Treatment:		
DRUM	S02	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
PILE	S03	CUBIC YARDS OR CUBIC METERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
IMPOUNDMENT	S04	GALLONS OR LITERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
WELL	D80	GALLONS OR LITERS	OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Section III-C.)	T04	GALLONS PER DAY OR LITERS PER DAY
WELL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
DISPOSAL	D82	ACRES OR HECTARES			
DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY			
IMPOUNDMENT	D84	GALLONS OR LITERS			

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
.....	G	LITERS PER DAY	V	ACRE-FEET	A
.....	L	TONS PER HOUR	D	HECTARE-METER	F
.....	Y	METRIC TONS PER HOUR	W	ACRES	B
.....	C	GALLONS PER HOUR	E	HECTARES	Q
.....	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING SECTION III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

B. PROCESS DESIGN CAPACITY				FOR OFFICIAL USE ONLY	L I N E N U M B E R	A. PRO-CESS CODE (from list above)	B. PROCESS DESIGN CAPACITY				FOR OFFICIAL USE ONLY
1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)						1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)			
600	G				5						
20	E				6						
392,167	V				7						
1,263,233	L				8						
434	C				9						
					10						

from the front.

PROCESSES (continued)

FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

REFER TO FOLLOWING PAGES

DESCRIPTION OF DANGEROUS WASTES

DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle other dangerous wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contents of those dangerous wastes.

ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If you use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the density or specific gravity of the waste.

PROCESSES

PROCESS CODES:

Listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to describe how the waste will be stored, treated, and/or disposed of at the facility.

Non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or contaminant.

Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

Enter one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

INSTRUCTIONS FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of waste. Treatment will be in an incinerator and disposal will be in a landfill.

DANGEROUS WASTE NO. (code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	900	P	T 0 3 D 8 0	
X-2	400	P	T 0 3 D 8 0	
X-3	100	P	T 0 3 D 8 0	
X-4			T 0 3 D 8 0	included with above

FORM 3 DANGEROUS WASTE PERMIT APPLICATION
U.S. ENVIRONMENTAL PROTECTION AGENCY/STATE IDENTIFICATION NUMBER WA7890008967

Section III.C., Description of Process Codes Listed in Section III.A.

The Plutonium-Uranium Extraction (PUREX) Plant, constructed in 1956, is located in the southeast corner of the 200 East Area of the Hanford Facility. The PUREX Plant was used for the recovery of uranium and plutonium from irradiated reactor fuel. Liquid-liquid processes were used to separate the plutonium and uranium from fission products and to separate the plutonium from the uranium.

The PUREX Plant consists of the 202-A Building and various support structures. The 202-A Building is a reinforced concrete structure 306.3 meters (1,005 feet) long, 36.3 meters (119 feet) wide (at its maximum), and 30.5 meters (100 feet) high with approximately 12.2 meters (40 feet) of the height below grade. The 202-A Building consists of three main structural components: (1) a thick walled, concrete canyon containing remotely operated process equipment (in cells below grade); (2) the pipe and operating, sample, and storage galleries; and (3) an annex that includes offices, process control rooms, laboratories, and the building services.

The PUREX Plant is currently undergoing a transition phase where past process solutions will be either removed from the 202-A Building in bulk for treatment, storage, and/or disposal, or treated and stored until the waste is transferred to the Double-Shell Tank (DST) System. Dangerous waste activities at the PUREX Plant include the treatment and storage of regulated materials that support the transition of this treatment, storage, and/or disposal unit. Also, the 202-A Building may receive and temporarily stage mixed waste from onsite sources prior to storage in the PUREX Storage Tunnels.

The following are treatment and storage processes for the PUREX Plant.

TO1 Tank E5 [19,873 liter (5,250 gallon) design capacity] - mixed waste is treated with NaOH and NaNO₂ before sending the waste to the DST System.

The concentrator [E-F11; 9,804 liter (2,590 gallon) design capacity] and tank G7 [TK G7; 56,781 liter (15,000 gallon) design capacity]- Ammoniacal mixed waste was processed in the concentrator with the ammonia distillate going to the 216-A-36B Crib before September 1987. From September 1987 to March 1990, ammoniacal waste was collected in tank G7 and treated with NaOH and NaNO₂ before being transferred to the DST System. During PUREX Plant transition, the E-F11 may be used to minimize the volume of liquid waste sent to the DST System by evaporation of water from flush solutions (both regulated and nonregulated) with the distillate (nonregulated) being discharged to the atmosphere via the PUREX main stack (291-A-1). The concentrate generated in the E-F11 is treated with NaOH and NaNO₂ in tank F18 [19,798 liter (5,230 gallon) design capacity] or TK-G7 before transfer to the DST System. Tank G7 also will be used to treat the flush and other waste solutions before transferring them to the DST System during transition.

Section III.C., Description of Process Codes (continued)

Tank F15 [19,419 liter (5,130 gallon) design capacity] and tank F16 [19,870 liter (5,249 gallon) design capacity]- The mixed waste may be sent to the E-F11 for volume reduction. Residual liquids are treated with NaOH and NaNO₂ in tanks F15 or F18 before transfer to the DST System.

Tank F18 [19,798 liter (5,230 gallon) design capacity], tank U3 [31,124 liter (8,222 gallon) design capacity], and tank U4 [31,184 liter (8,238 gallon) design capacity] - The mixed waste is collected from all sections of the PUREX Plant (E-F11 bottoms, other vessels, sumps, sinks, drains, overflows, laboratory waste) and treated with NaOH and NaNO₂ before being transferred to the DST System.

Tank Q21 [81 liter (21 gallon) design capacity] and tank Q22 [968 liter (256 gallon) design capacity] - During deactivation, nitric acid was treated with NaOH before being transferred to tank F18. The waste was then transferred to the DST System.

The total process design capacity for tank treatment is 392,167 liters (103,600 gallons) per day.

S02 Vessels storing mixed waste in the PUREX Plant are shown on the PUREX Plant Vessel Table (page 5 of 21), which includes the vessel identification (ID) number, tank location, and tank capacity. The total process design capacity for tank storage is 1,263,233 liters (333,712 gallons).

S06 The designation S06 (containment building/storage) has been used to indicate that the solid mixed waste in the canyon and in F-Cell is stored in a containment building subject to the requirements of 40 CFR 265, Subpart DD. The solid mixed waste in the canyon may consist of contaminated discarded canyon process equipment, jumpers (or isolated components thereof) or other material from various onsite sources. The solid mixed waste in F-Cell consists mainly of concrete and tank dunnage corrosion products. The process design capacity of the storage areas in the canyon and in F-Cell is 434 cubic meters (567 cubic yards).

PUREX PLANT VESSEL TABLE

VESSEL ID	LOCATION	CAPACITY (LITERS)
TK-D5	D Cell	19,851
TK-E5	E Cell	19,873
TK-E6	E Cell	19,813
TK-E3	E Cell	19,964
TK-F4	F Cell	19,593
T-F5	F Cell	1,132
E-F11	F Cell	9,804
TK-F15	F Cell	19,419
TK-F16	F Cell	19,870
TK-F18	F Cell	19,798
TK-G1	G Cell	18,662
TK-G2	G Cell	7,064
T-G2	G Cell	8,248
TK-G5	G Cell	55,403
TK-G7	G Cell	50,827
TK-G8	G Cell	19,881
TK-H1	H Cell	19,593
T-H2	H Cell	7,003
E-H4	H Cell	10,137
TK-J1	J Cell	19,926
TK-J3	J Cell	19,911
T-J6	J Cell	6,057
T-J7	J Cell	6,730
TK-J21	J Cell	1,162
T-J22	J Cell	568
T-J23	J Cell	393
TK-K1	K Cell	19,828
T-K2	K Cell	5,194
T-K3	K Cell	6,507
TK-K6	K Cell	19,593
T-L2	L Cell	447
TK-L3	L Cell	488
T-L4	L Cell	139
TK-M2	M Cell	6,852
TK-Q21	Q Cell AMU*	81
TK-Q22	Q Cell AMU*	968
TK-R1	R Cell	18,121
TK-R2	R Cell	6,746
T-R2	R Cell	8,282
TK-R7	R Cell	35,174
TK-U3	U Cell	31,124
TK-U4	U Cell	31,184
TK-P4	203-A	402,930
TK-40	211-A	247,360
TK-156	AMU	1,533
Total Capacity		1,263,233.00

* Q Cell AMU is located in the storage gallery (refer to the PUREX Plant cross section figure, page 12 of 21).

For conversion, apply the following:
 liters to gallons - multiply liters by 0.26417

ed from the front.

DESCRIPTION OF DANGEROUS WASTES (continued)

THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

During PUREX operation, the following tanks were operated in the manner described below. Waste managed in these tanks was treated to DST standards before transferring the waste to storage.

- o Tank E5 contained (1) decladding waste consisting of NH_4F , $(NH_4)_2ZrF_6$, $(NH_4)_2UF_6$, and NH_4NO_3 ; (2) metathesis solutions consisting of KOH and KF; or (3) metathesis rinse and miscellaneous flushes with similar chemical makeups. Following treatment of these streams with NaOH, the resulting waste stream consisted mainly of NaF, KF, UO_2 , ZrO_2 , NH_3 , NH_4OH , and $NaNO_3$.
- o The concentrator (E-F11) bottoms, containing NH_4NO_3 and NH_4OH , were transferred to tank F18.
- o Tanks F15 and F16 contained acid waste with HNO_3 and possibly $Al(NO_3)_3$.
- o Tank F18 and tanks U3 and U4 received miscellaneous waste with a constantly changing composition consisting mainly of water and HNO_3 .

During PUREX deactivation, all vessels (refer to PUREX Plant Vessel Table on page 5 of 21) may have received and stored dangerous waste solutions. Waste and flush solutions received in tanks E5, F15, F16, F18, G7, U3, and U4 are treated to DST standards before transferring the waste to storage. These solutions might also be concentrated in the E-F11 and/or treated prior to storage.

Solutions found in tanks Q21 and Q22 during deactivation were treated with NaOH to neutralize the solution before transfer to tank F18, where the solution was treated to DST standards, before being transferred to storage.

The PUREX Plant containment building stores material containing barium, cadmium, chromium, lead, silver, selenium and/or light mineral oil (WTO2) contained in oil absorbent material.

ATTACHED DRAWING Refer to attached drawing.

Facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

ATTACHED GRAPHS Refer to attached photographs.

Facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and future storage, treatment or disposal areas (see instructions for more detail).

ATTACHED GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos.

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

ATTACHED OWNER

If the facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX.

If the facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER				2. PHONE NO. (area code & no.)			
3. STREET OR P.O. BOX				4. CITY OR TOWN		5. ST.	6. ZIP CODE

OWNER CERTIFICATION

Under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my knowledge I am immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature of Facility Owner Department of Energy Operations Office	SIGNATURE <i>John D. Wayman</i>	DATE SIGNED 5/17/96
---	------------------------------------	------------------------

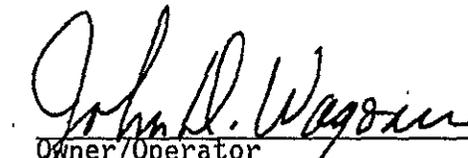
OPERATOR CERTIFICATION

Under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my knowledge I am immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature of Facility Operator	SIGNATURE	DATE SIGNED
SEE ATTACHMENT		

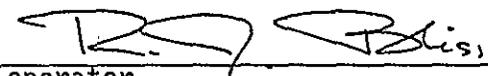
X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

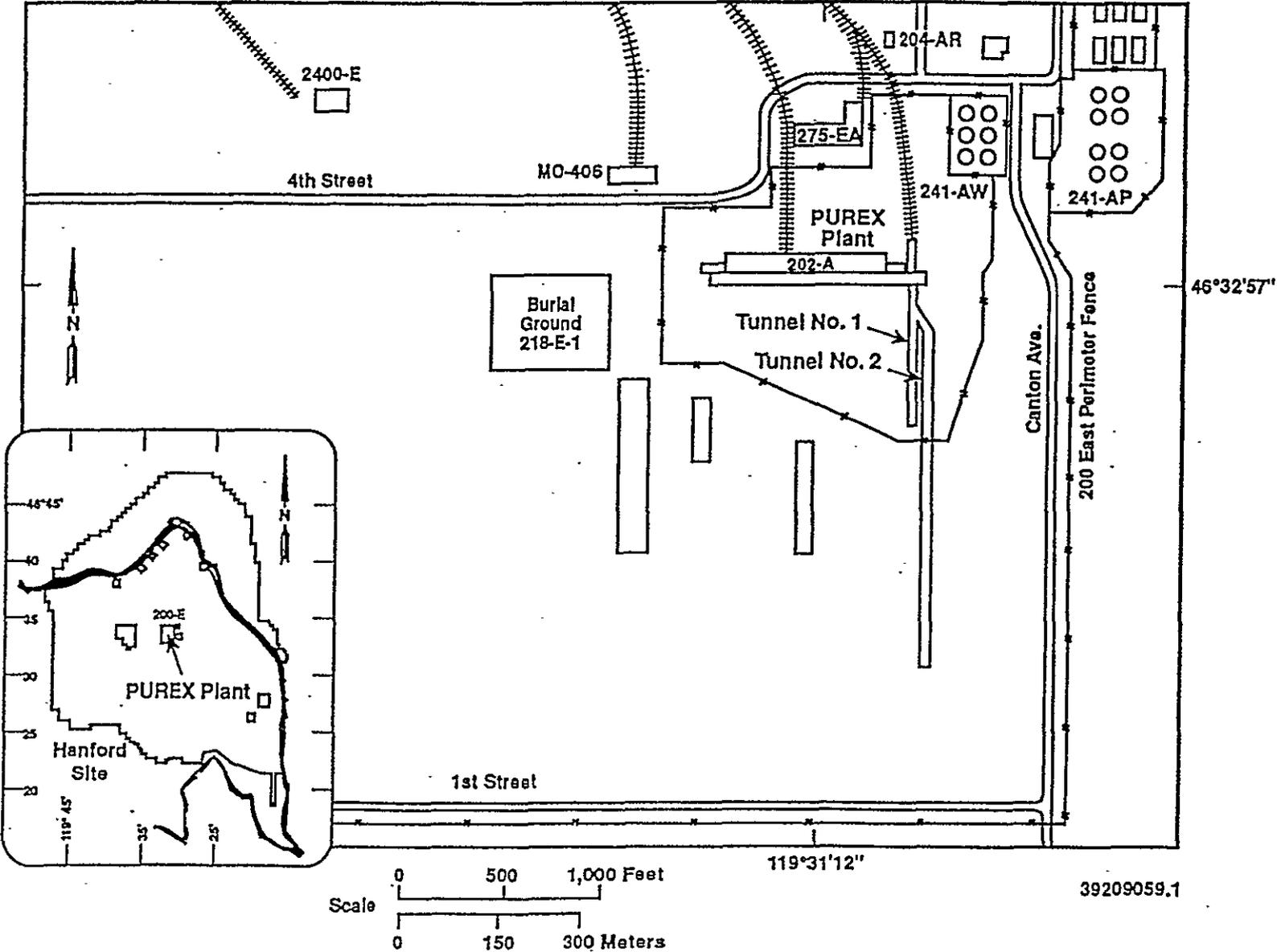
5/17/96
Date



Co-operator
R. J. Bliss, Vice President and Manager
Transition Projects
Westinghouse Hanford Company

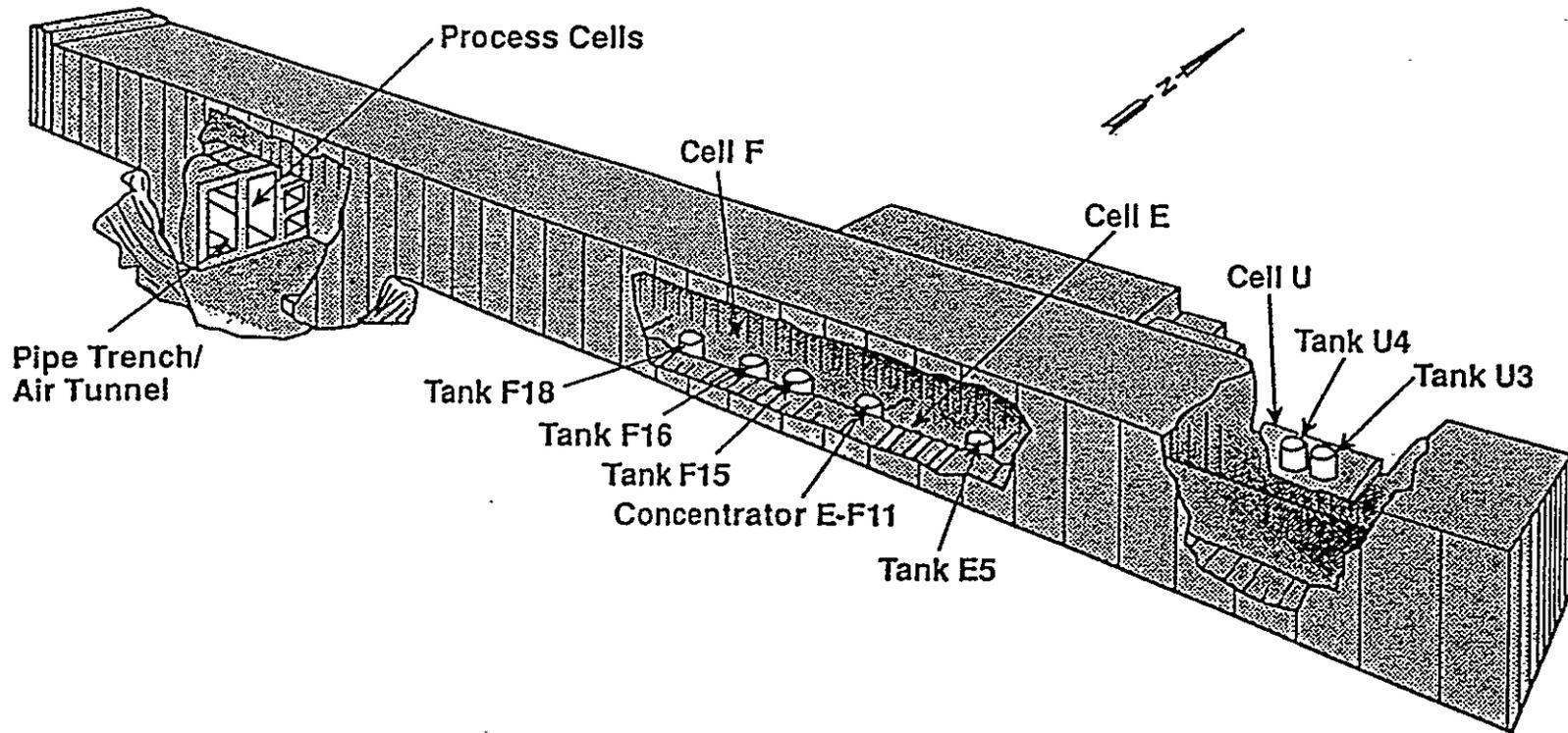
5-3-96
Date

PUREX Plant Site Plan



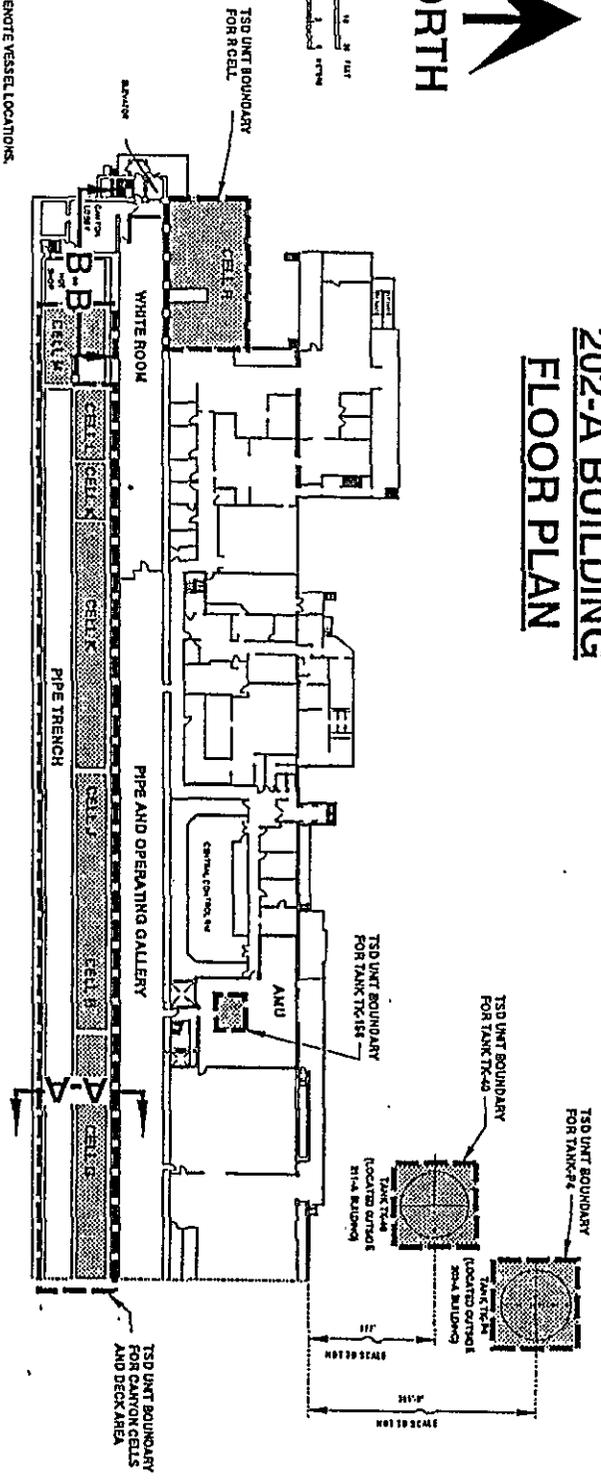
39209059.1

PUREX Plant Cutaway View (202-A Building)

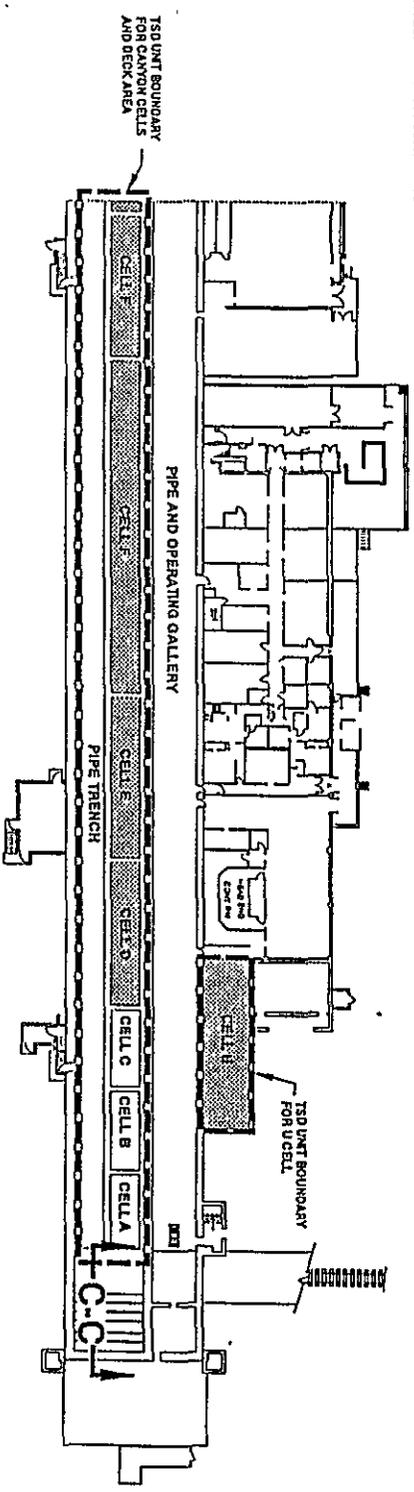


39201061.7

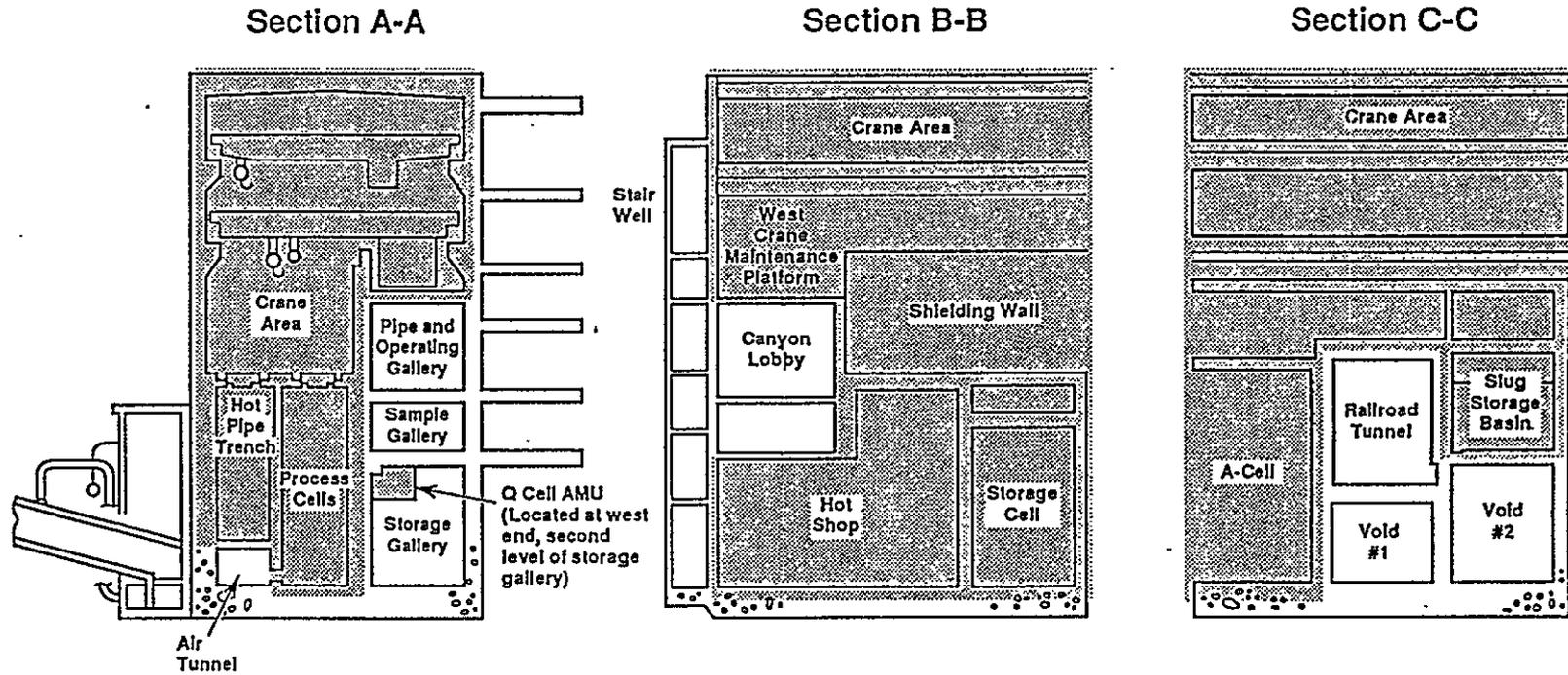
202-A BUILDING FLOOR PLAN



NOTE 1: SHADDED AREAS DENOTE VESSEL LOCATIONS.
SEE PUREX VESSEL TABLE FOR SPECIFIC
LOCATIONS.
NOTE 2: FOR D CELL LOCATION AND TSD UNIT BOUNDARY,
REFER TO THE 202-A BUILDING CROSS SECTION A.A.



202-A Building Cross Sections



(Not to Scale)

Note: Shaded portions denote areas that are within the TSD boundary.

H96020325.1a

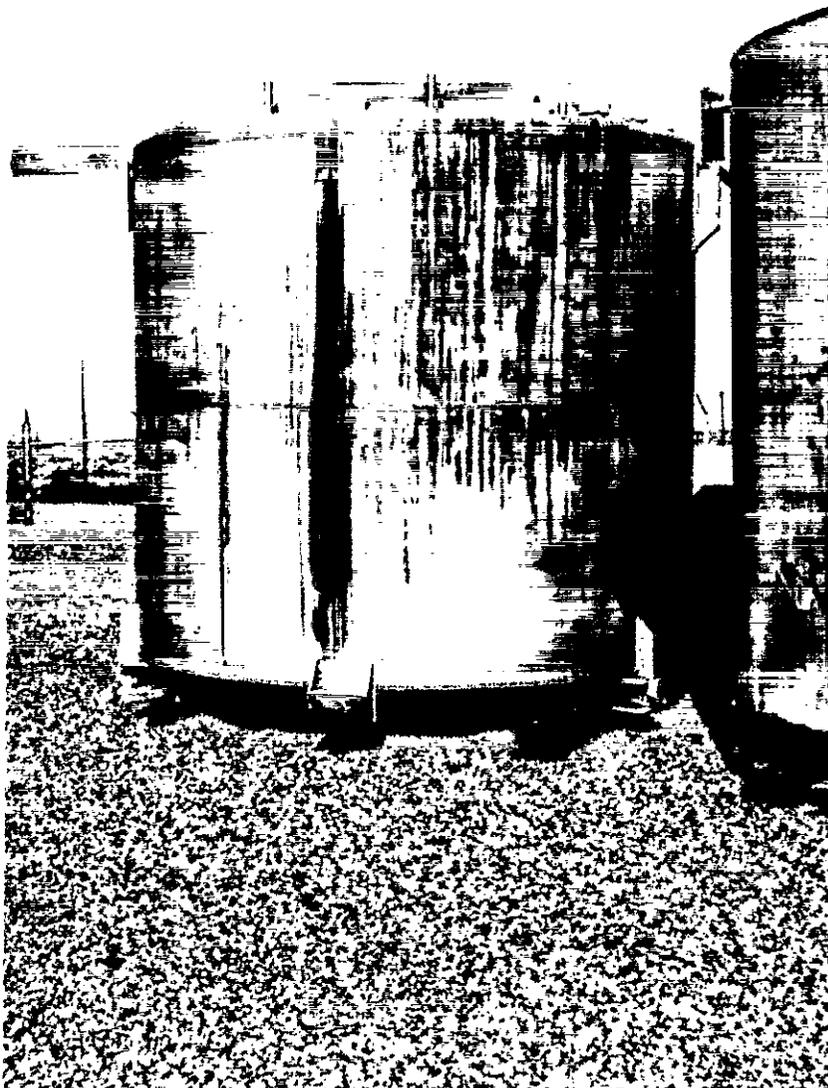
PUREX PLANT (SOUTH SIDE)



46°32'57"
119°31'12"

8706243-4CN
(PHOTO TAKEN 1987)

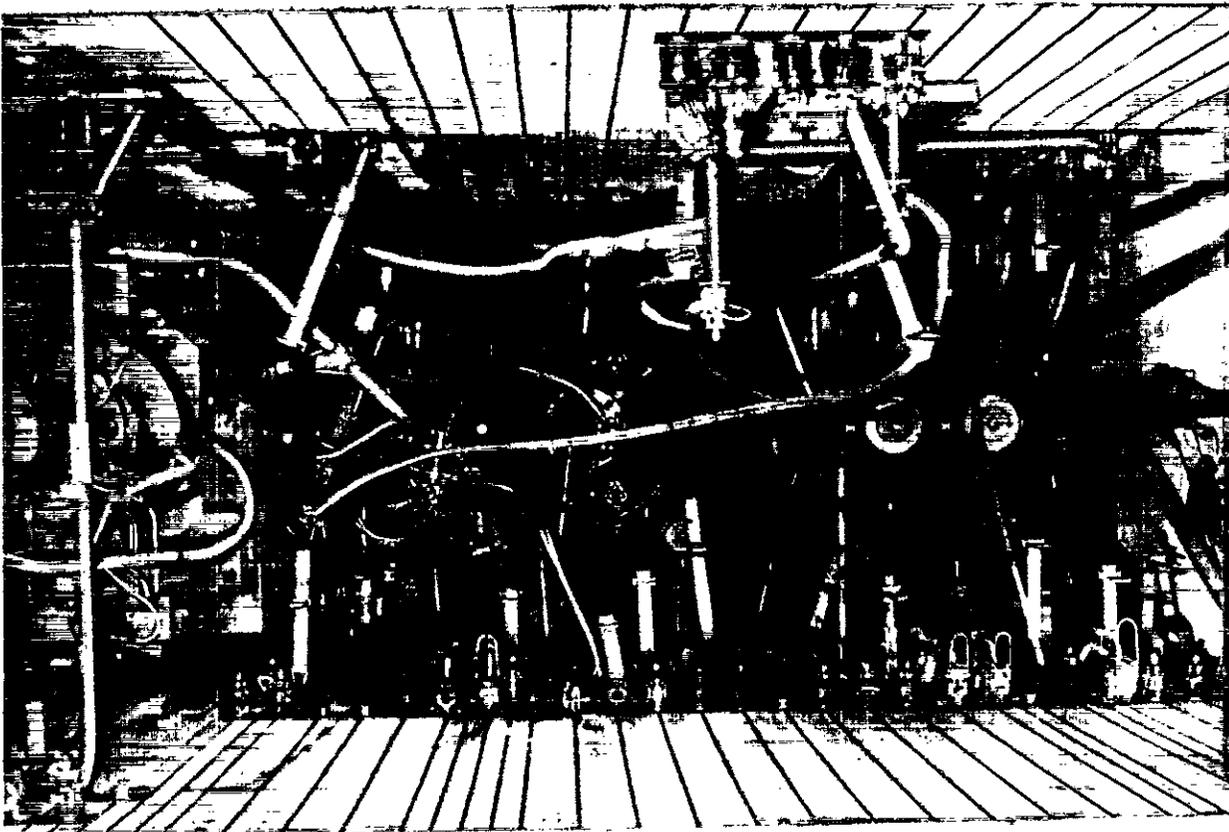
**STANDARD 5,000-GALLON
TANK (TYPICAL OF E5, F15, F16,
AND F18)**



8706243-5CN
(PHOTO TAKEN 1987)

TANK E5

Pipe Trench Wall - Top View

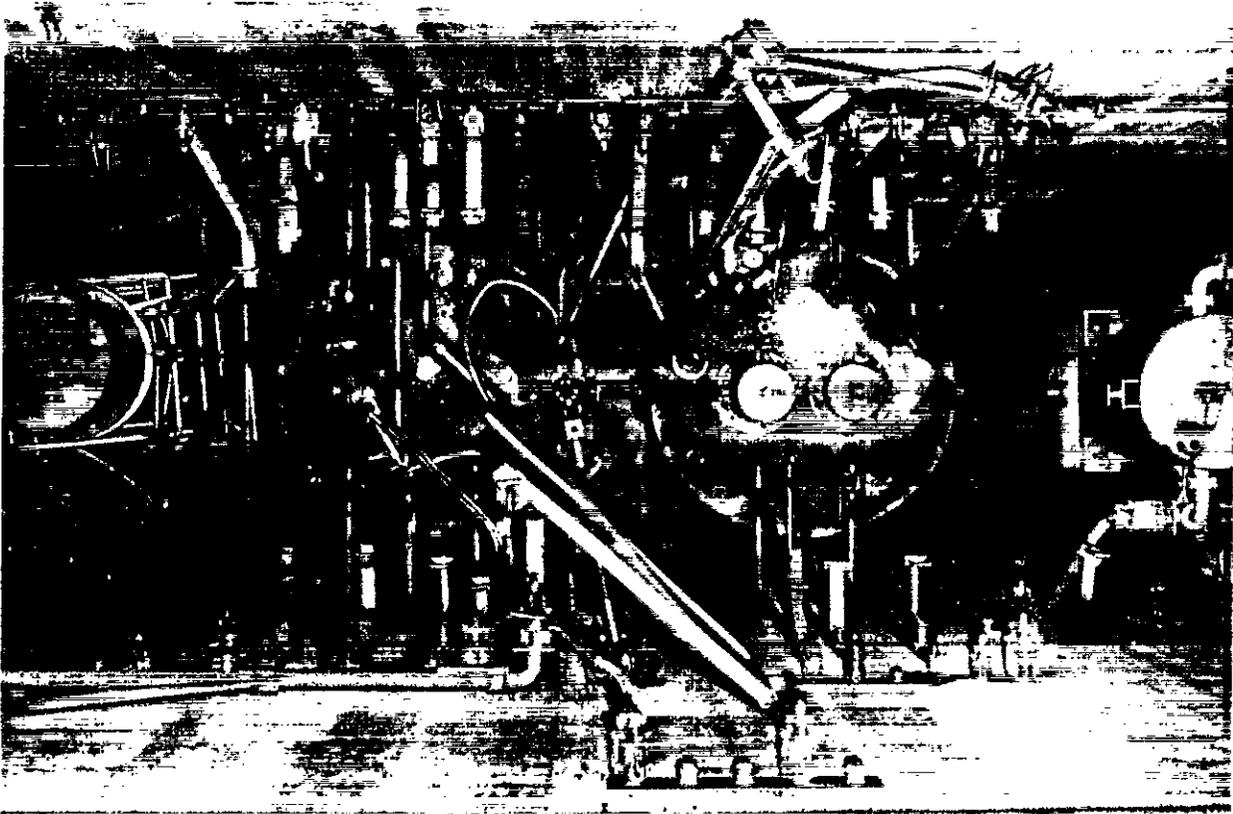


46°32'46"
119°07'58"

099948-38CN
(PHOTO TAKEN 1982)

TANK F15 AND TANK F16

Pipe Trench Wall - Top View

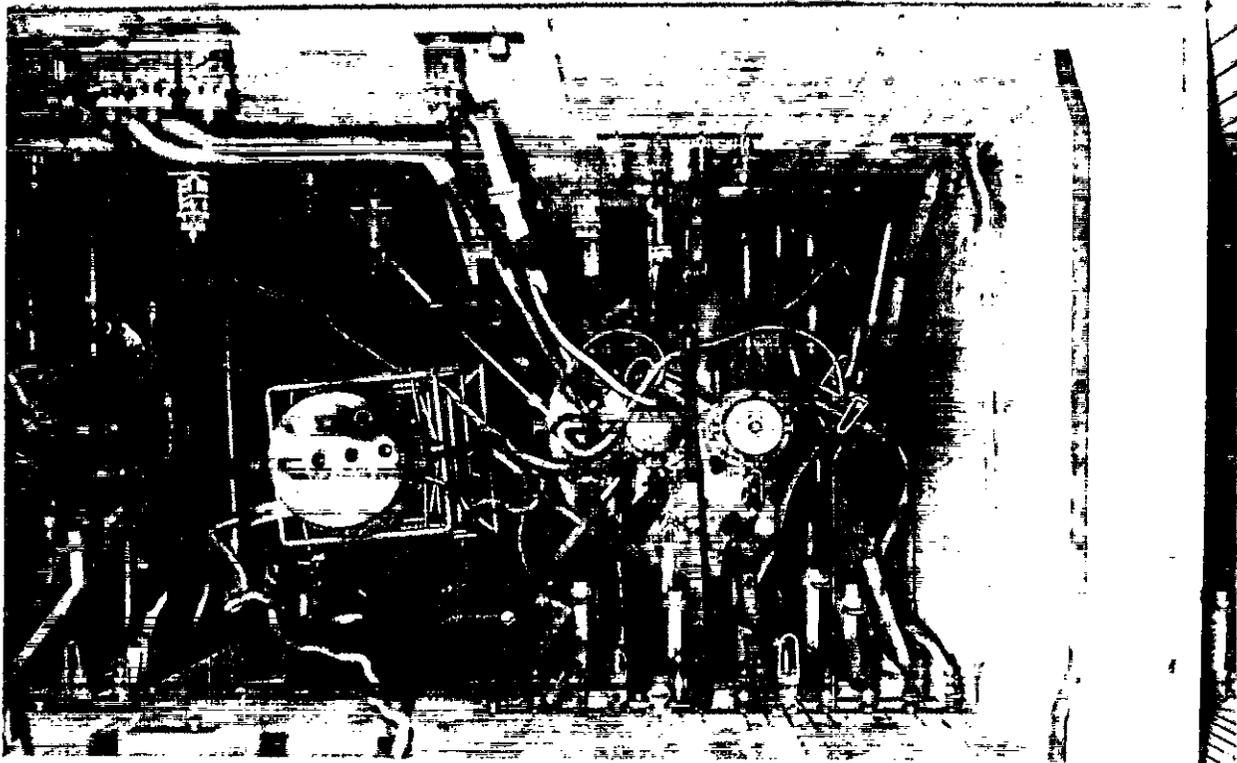


46°32'46"
119°08'00"

099948-71CN
(PHOTO TAKEN 1982)

TANK F18

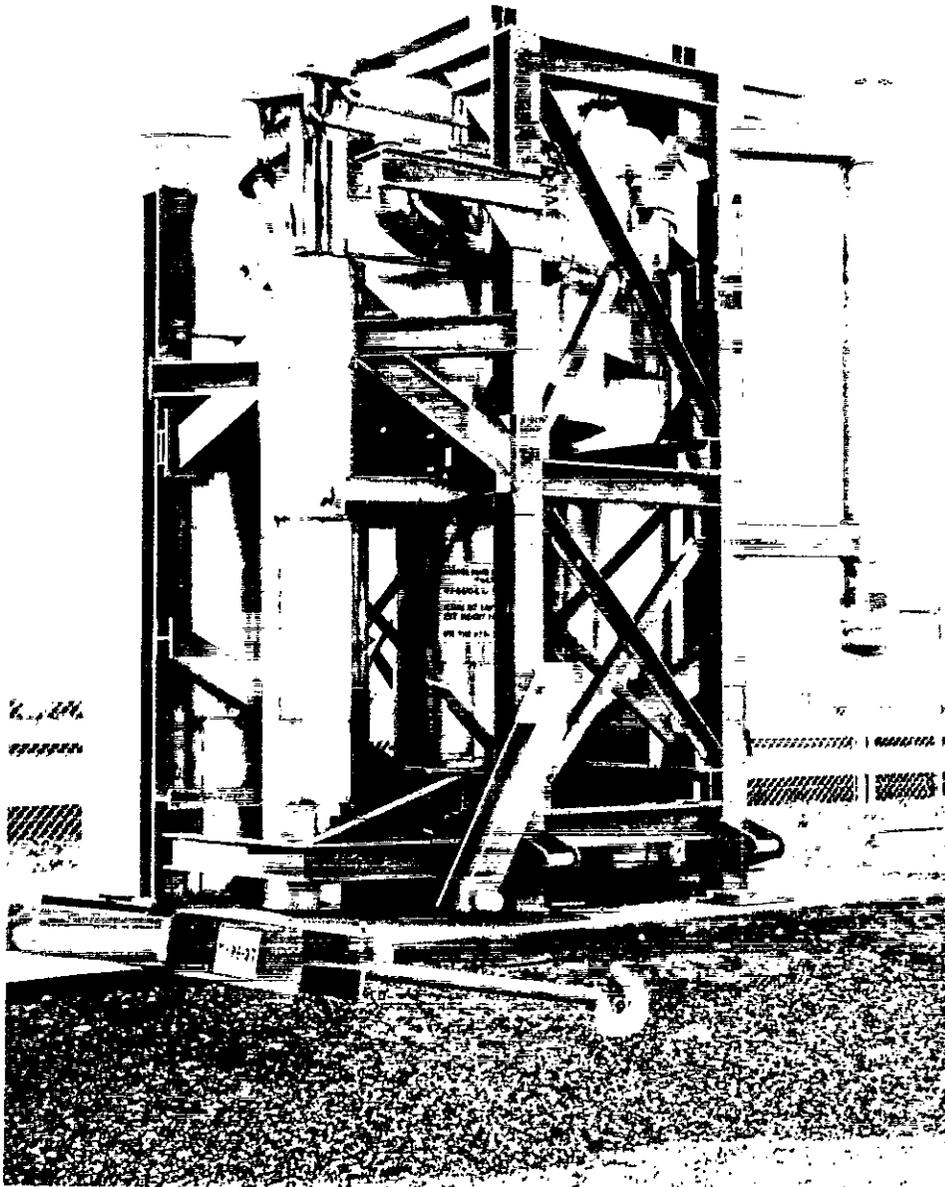
Pipe Trench Wall - Top View



46°32'46"
119°08'01"

099948-74CN
(PHOTO TAKEN 1982)

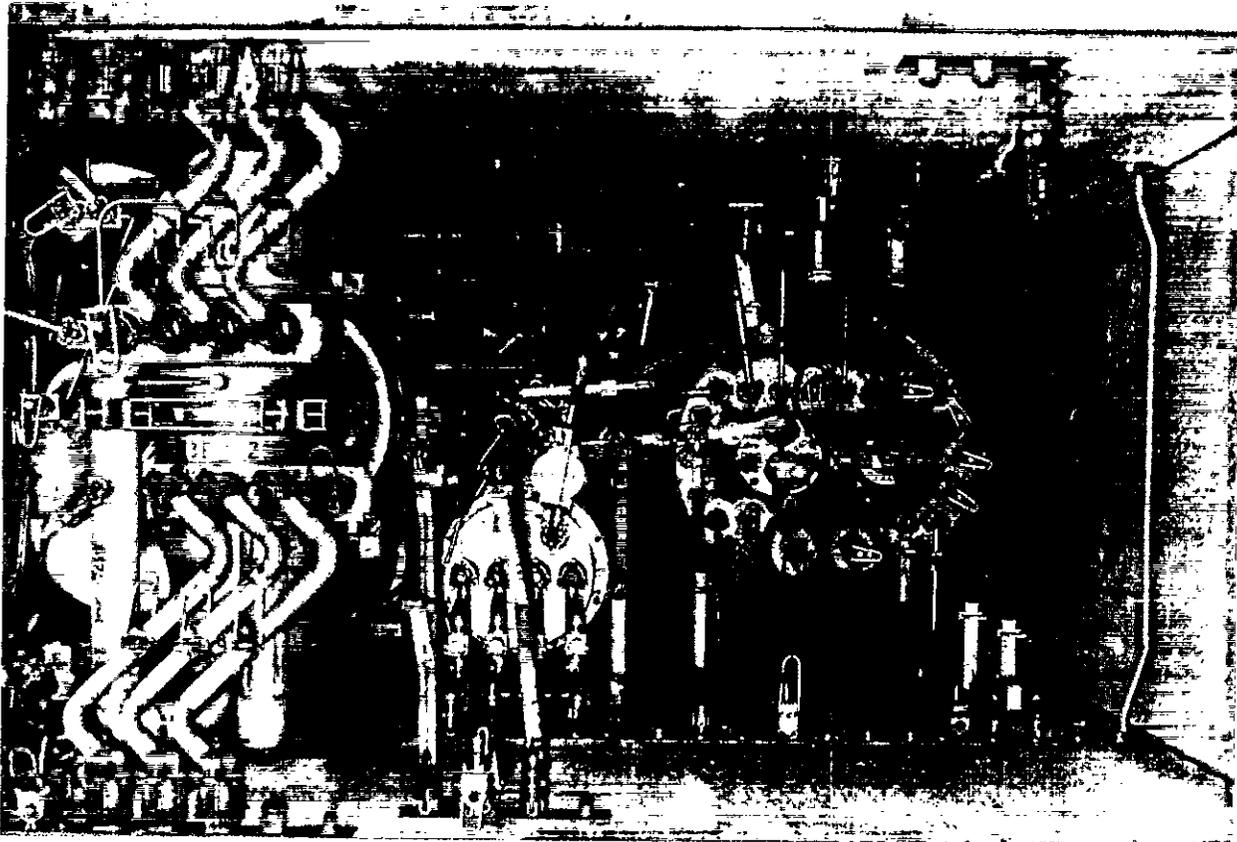
E-F11 CONCENTRATOR



8706243-8CN
(PHOTO TAKEN 1987)

E-F11 CONCENTRATOR

Pipe Trench Wall - Top View

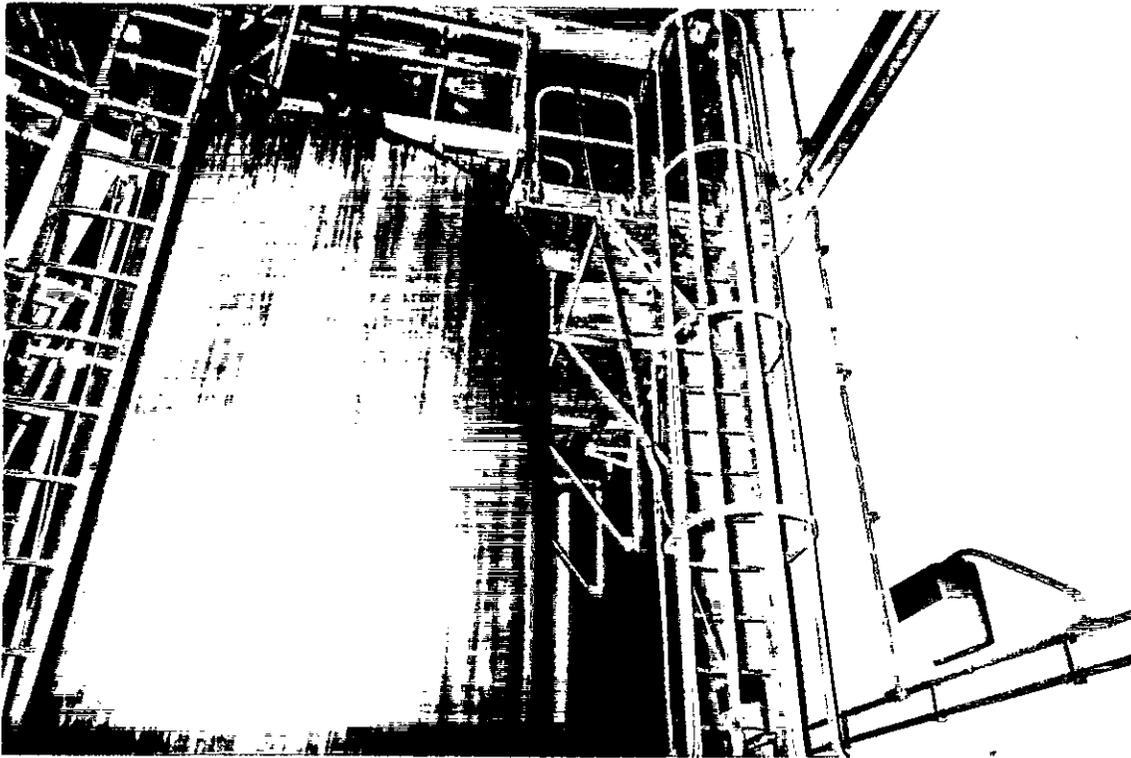


46°32'46"
119°07'59"

099948-64CN
(PHOTO TAKEN 1982)

U CELL

Top of Tank U3 (Typical of Tank U4)



46°32'48"
119°07'56"

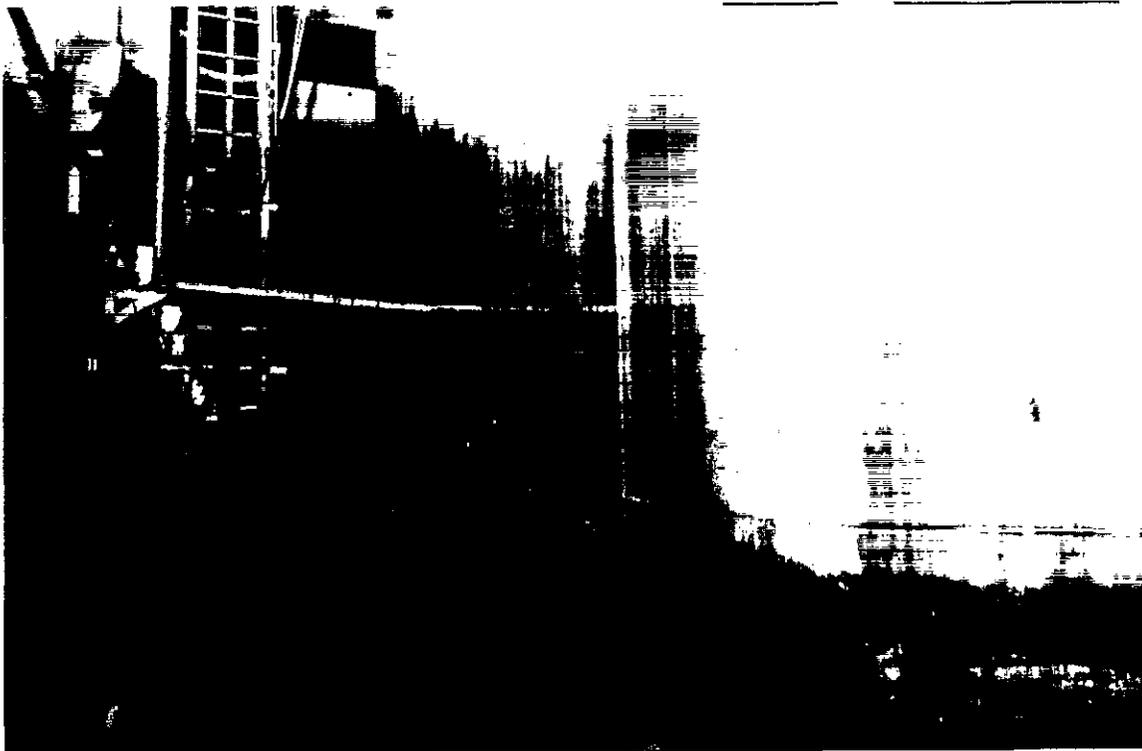
92102839-10CN
(PHOTO TAKEN 1992)

U CELL

Bottom of Tanks

Tank U3

Tank U4



46°32'48"
119°07'56"

92102839-7CN
(PHOTO TAKEN 1992)

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

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♦ = Revised this issue.

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♦ = Revised this issue.

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V
O
L
U
M
E

3
0
F

3

◆ = Revised this issue.

from the front.

USES (continued)

FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESS (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

05

The PUREX Storage Tunnels are a miscellaneous unit (S05) used for storage of mixed waste subject to the requirements of WAC 173-303-680. The two tunnels store waste from the PUREX Plant and other onsite sources. Since being placed into service, mixed waste has been stored in the tunnels on railcars. Not all material stored in the tunnels contains mixed waste.

The construction of Tunnel 1 was completed in 1956. The tunnel is approximately 5.8 meters (19 feet) wide by 7 meters (22 feet) high by 109 meters (358 feet) long and provides storage space for eight railcars. Between June 1960 and January 1965, all eight railcar positions were filled and the tunnel was subsequently sealed. The combined volume of the equipment stored in Tunnel 1 is approximately 596 cubic meters (780 cubic yards). The maximum process design capacity for storage in Tunnel 1 is approximately 4,129 cubic meters (5,400 cubic yards).

The construction of Tunnel 2 was completed in 1964. Tunnel 2 is approximately 5.8 meters (19 feet) wide by 7 meters (22 feet) high by 514 meters (1,686 feet) long and provides storage space for 40 railcars. The first railcar was placed in Tunnel 2 in December 1967 and as of April 1996, 24 railcars have been placed in the tunnel. The combined volume of equipment stored on the 24 railcars presently in Tunnel 2 is approximately 1,923 cubic meters (2,515 cubic yards). The maximum process design capacity for storage in Tunnel 2 is approximately 19,878 cubic meters (26,000 cubic yards).

DESCRIPTION OF DANGEROUS WASTES

DANGEROUS WASTE NUMBER - Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle wastes which are not listed in Chapter 173-303 WAC, enter the four digit number(s) that describes the characteristics and/or the toxic contents of those dangerous wastes.

ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which have that characteristic or contaminant.

UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

For all records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the density or specific gravity of the waste.

PROCESS CODES:

Process code for listed dangerous waste: For each listed dangerous waste entered in column A select the code(s) from the list of process codes contained in Section III to show how the waste will be stored, treated, and/or disposed of at the facility.

Process code for non-listed dangerous wastes: For each characteristic or toxic contaminant entered in Column A, select the code(s) from the list of process codes contained in Section III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed dangerous wastes that possess that characteristic or contaminant.

Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right column IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

DANGEROUS WASTES DESCRIBED BY MORE THAN ONE DANGEROUS WASTE NUMBER - Dangerous wastes that can be described by more than one Waste Number shall be described on the form as follows:

Enter one of the Dangerous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

In column A of the next line enter the other Dangerous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

FOR COMPLETING SECTION IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of waste. Treatment will be in an incinerator and disposal will be in a landfill.

WASTE NO. (code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
4	900	P	T 0 3 D 8 0	
2	400	P	T 0 3 D 8 0	
1	100	P	T 0 3 D 8 0	
0 2			T 0 3 D 8 0	Included with above

ad from the front.

DESCRIPTION OF DANGEROUS WASTES (continued)

THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM SECTION D(1) ON PAGE 3.

The waste stored in the tunnels includes barium (D005), chromium (D007), cadmium (D006), lead (D008), mercury (D009), selenium (D010), silver (D011), and light mineral oil contained in oil absorption material (WT02). The silver is predominately in the form of salts and is considered ignitable (D001) because of the presence of silver nitrate (AgNO₃). Cadmium may also be considered toxic, dangerous waste (WT02).

SCALE DRAWING Refer to attached drawing.

Facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

PHOTOGRAPHS Refer to attached photographs.

Facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and fire storage, treatment or disposal areas (see instructions for more detail).

PHYSICAL GEOGRAPHIC LOCATION This information is provided on the attached drawings and photos.

LATITUDE (degrees, minutes, & seconds)				LONGITUDE (degrees, minutes, & seconds)			

TYPE OF OWNER

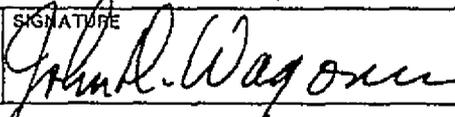
If facility owner is also the facility operator as listed in Section VII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX.

If facility owner is not the facility operator as listed in Section VII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER				2. PHONE NO. (area code & no.)			
3. STREET OR P.O. BOX		4. CITY OR TOWN		5. ST.	6. ZIP CODE		

CERTIFICATION

Under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my own knowledge and the information immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

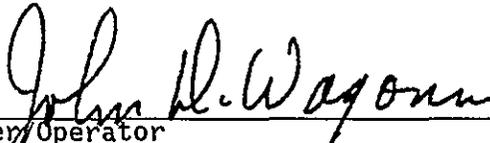
I am (or type) Facility Owner, Manager Department of Energy Operations Office	SIGNATURE 	DATE SIGNED 5/17/96
--	---	------------------------

Under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my own knowledge and the information immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

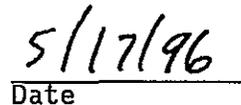
I am (or type) SEE ATTACHMENT	SIGNATURE	DATE SIGNED
----------------------------------	-----------	-------------

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

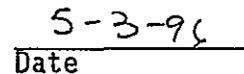


Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
Richland Operations Office

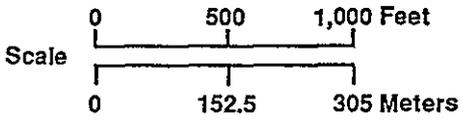
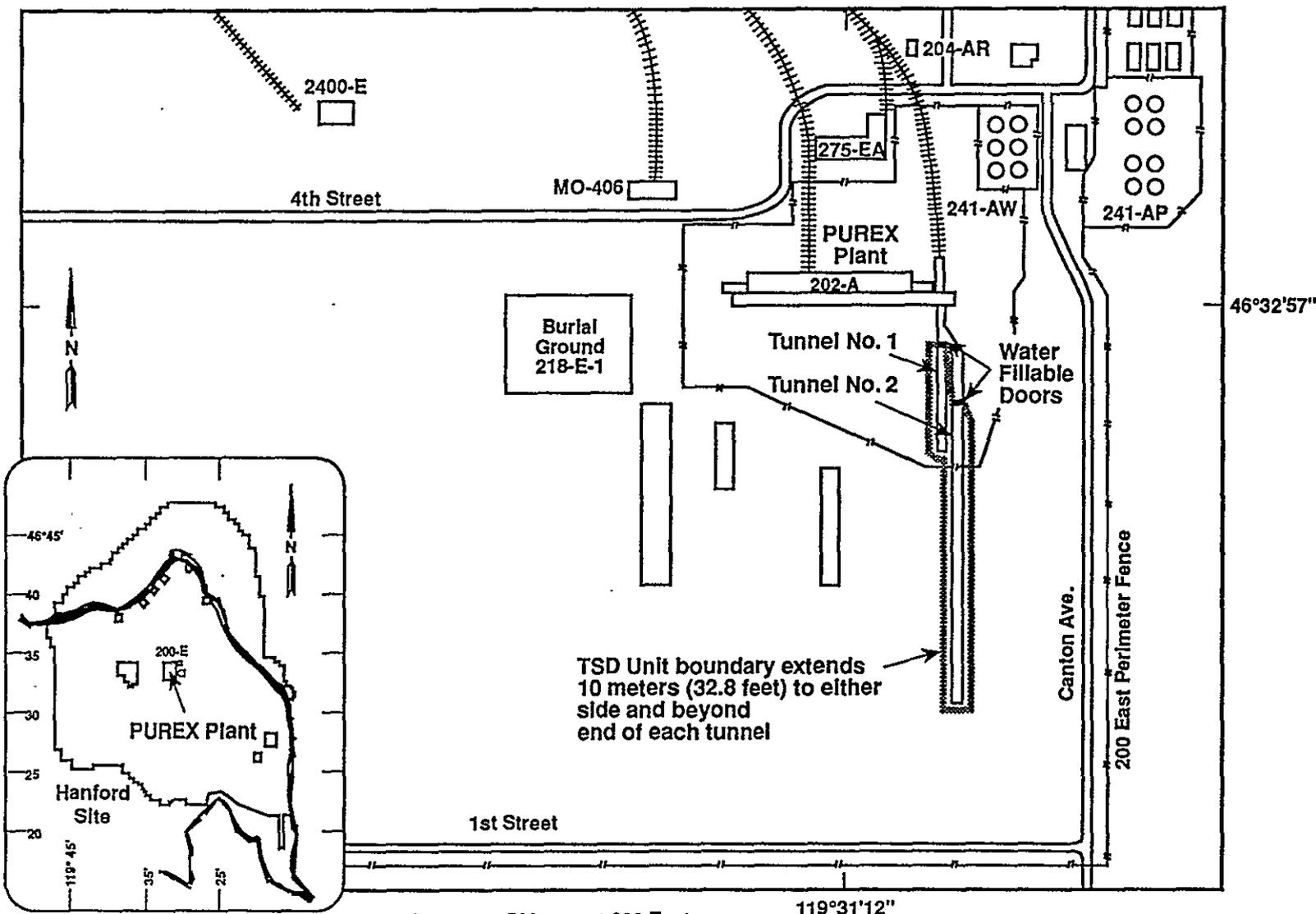

Date



Co-operator
R. J. Bliss, Vice President and Manager
Transition Projects
Westinghouse Hanford Company


Date

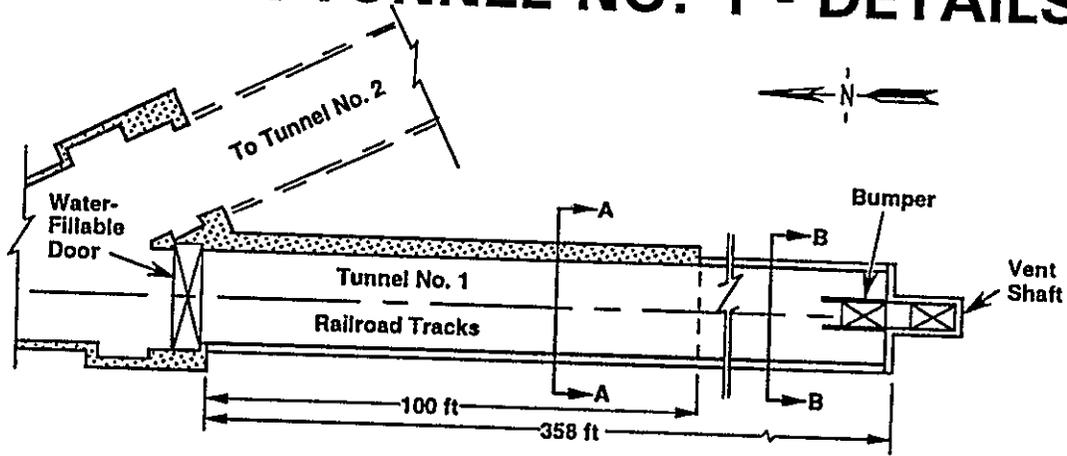
PUREX Storage Tunnels Site Plan



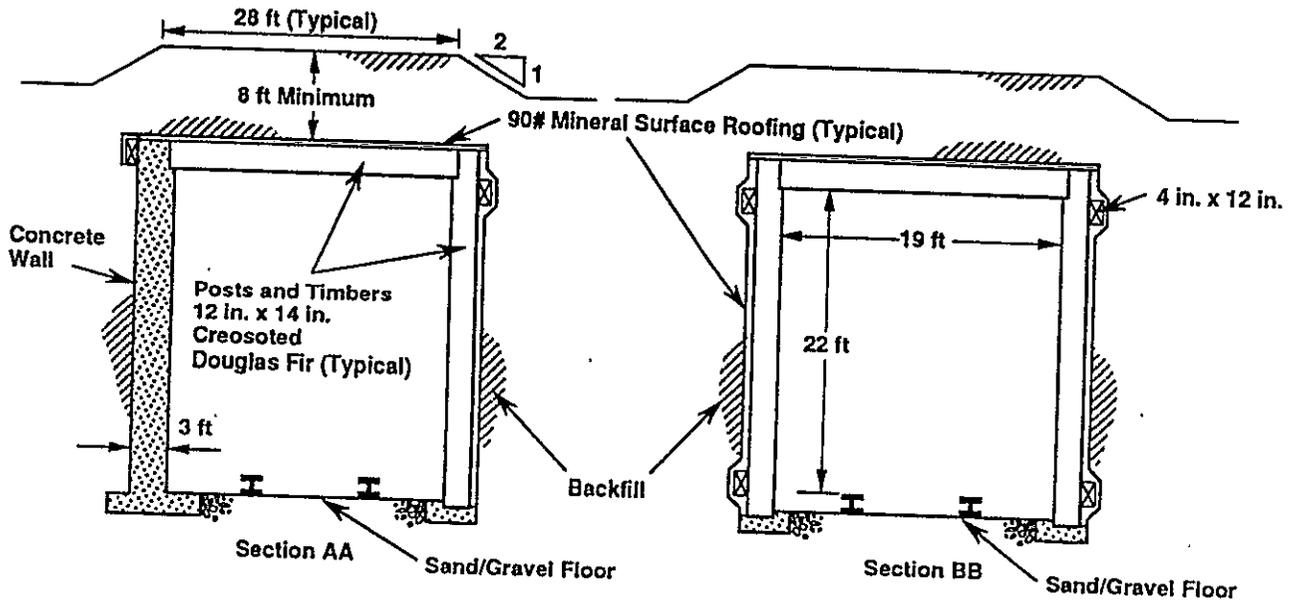
H9411012.1

Water-Fillable Door
 Grade 1%
 Position J
 Vent Shaft

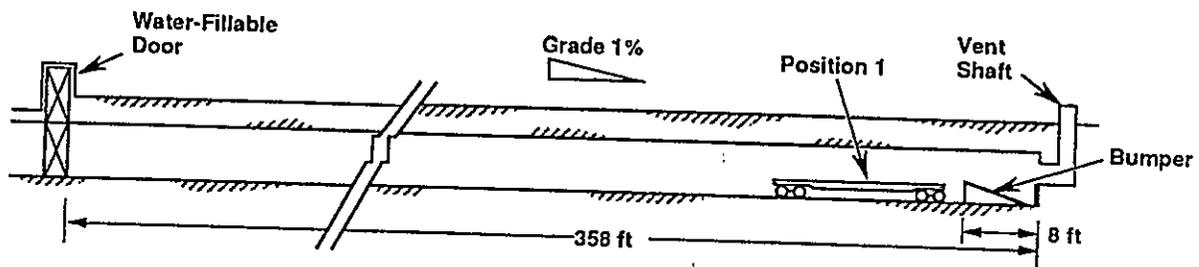
PUREX TUNNEL NO. 1 - DETAILS



Tunnel No. 1 - Plan View



PUREX Tunnel No. 1 - Section Views

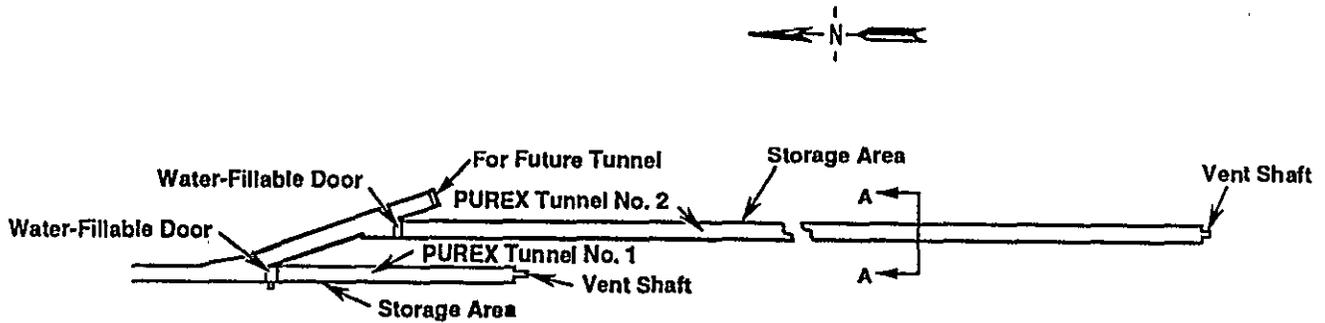


PUREX Tunnel No. 1 - Elevation View

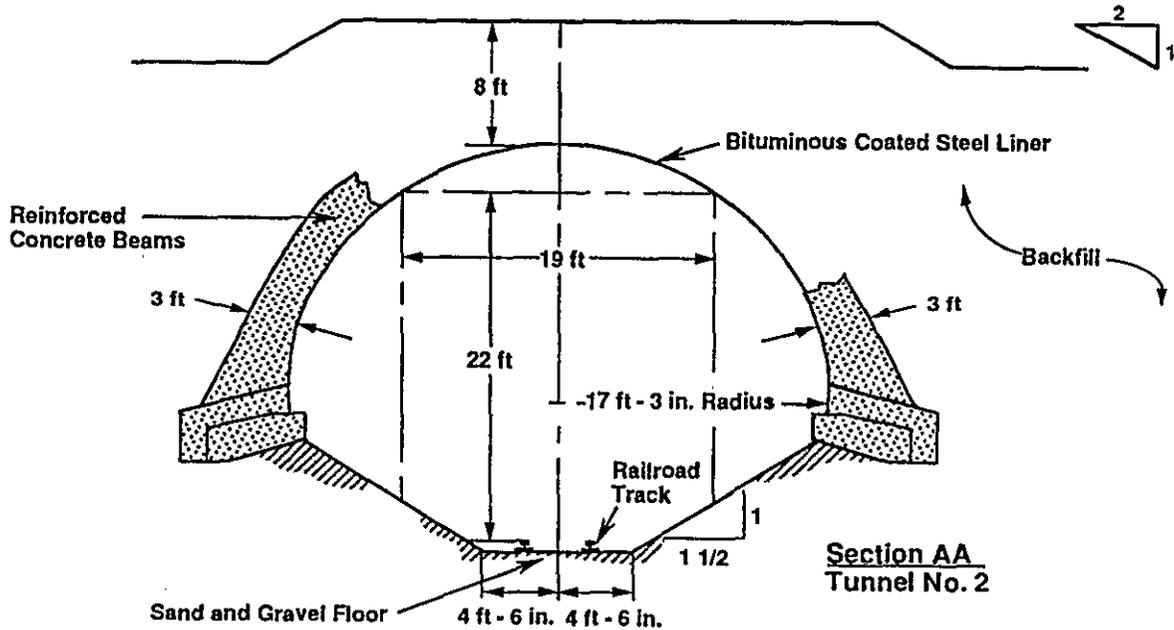
For conversion to meters, multiply feet by 0.3048.
 For conversion to centimeters, multiply inches by 2.54.

H96030186.2

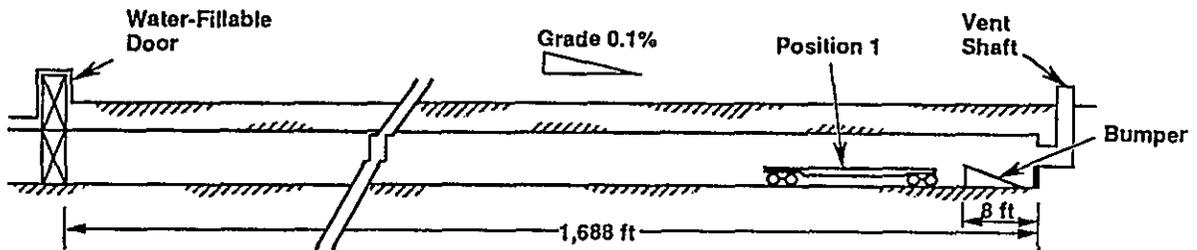
PUREX TUNNEL NO. 2 - DETAILS



PUREX Tunnels - Plan View



Section AA
Tunnel No. 2

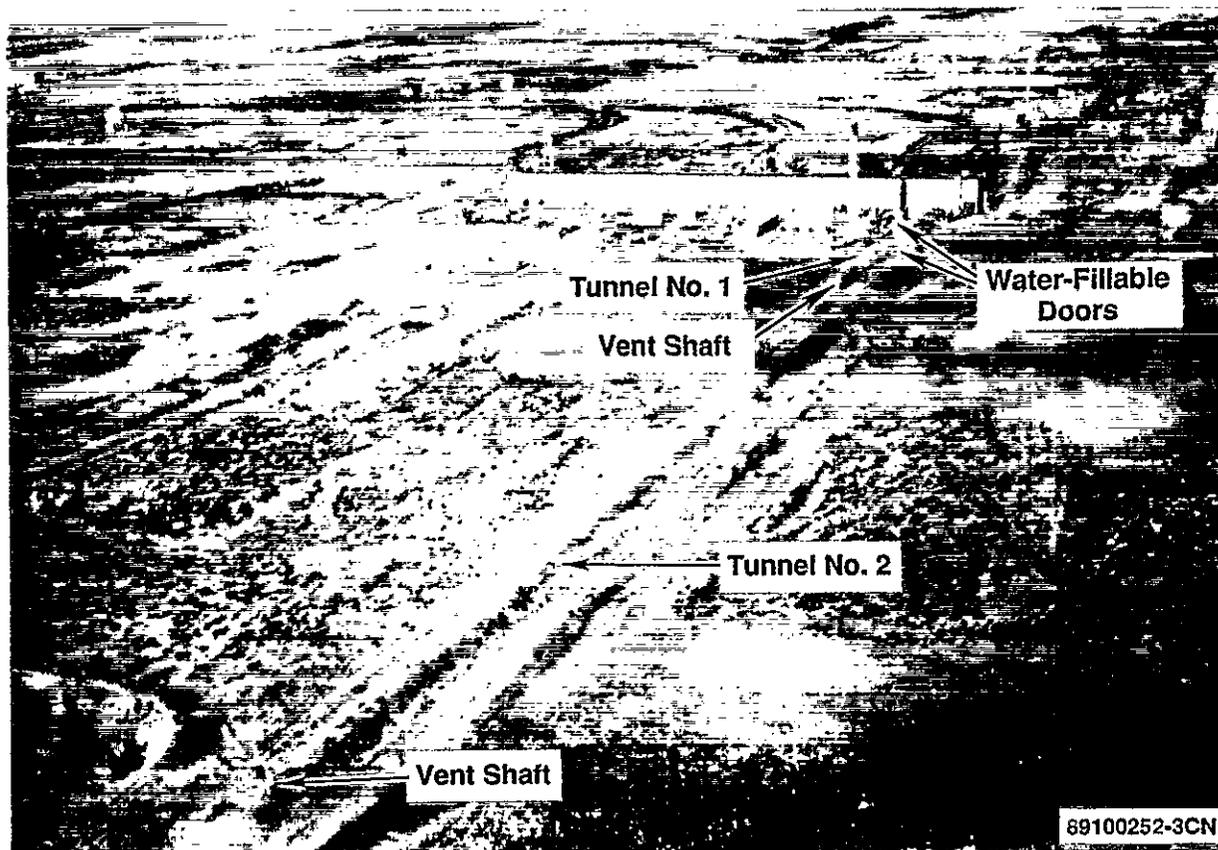


PUREX Tunnel No. 2 - Elevation View

For conversion to meters, multiply feet by 0.3048.
 For conversion to centimeters, multiply inches by 2.54.

H96030186.1

PUREX STORAGE TUNNELS



46°32'47"
119°31'07"

89100252-3CN
(PHOTO TAKEN 1989)

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION

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◆ = Revised this issue.

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♦ = Revised this issue.

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VOLUME OF 3

◆ = Revised this issue.

Print or type in the unshaded areas only
Spaces are spaced for nine type, i.e., 12 characters each

DANGEROUS WASTE PERMIT APPLICATION

1. EPA/STATE I.D. NUMBER

WA 7890008967

OFFICIAL USE ONLY

LOCATION PROVIDED	DATE RECEIVED (mo., day, yr.)	COMMENTS

FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

IF APPLICATION (place an "X" below and provide the appropriate date)

1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below)
2. NEW FACILITY (Complete item below)

FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATIONS BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

MO: 01 DAY: 7 YR: 79

MO: DAY: YR:

FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATIONS BEGAN OR IS EXPECTED TO BEGIN

IF REVISED APPLICATION (place an "X" below and complete Section I above)

1. FACILITY HAS AN INTERIM STATUS PERMIT
2. FACILITY HAS A FINAL PERMIT

PROCESSES — CODES AND DESIGN CAPACITIES

PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more than one process is used, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

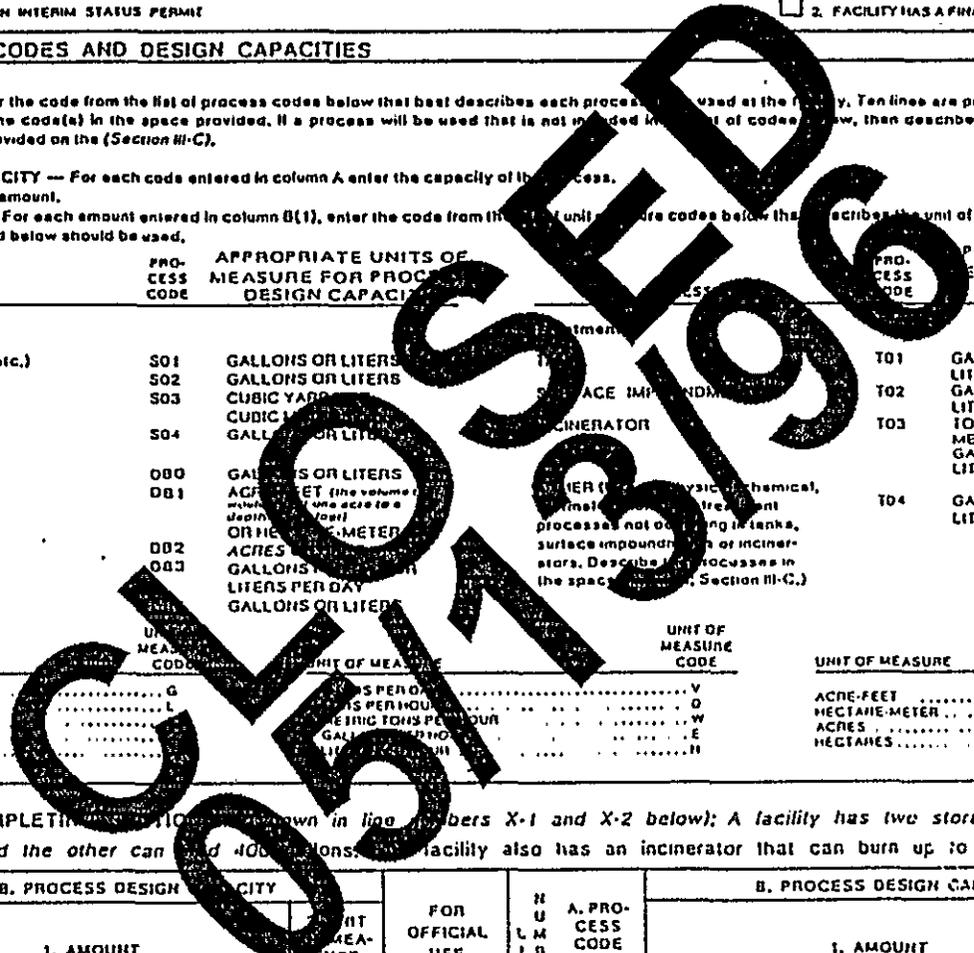
PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process. MOUNT — Enter the amount.

UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit of measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
DRUM	501	GALLONS OR LITERS	T01	GALLONS PER DAY OR LITERS PER DAY
DRUM	502	GALLONS OR LITERS	T02	GALLONS PER DAY OR LITERS PER DAY
PILE	503	CUBIC YARDS	T03	TONS PER HOUR OR METRIC TONS PER HOUR
IMPONMENT	504	GALLONS OR LITERS	T04	GALLONS PER DAY OR LITERS PER DAY
WELL	000	GALLONS OR LITERS		
WELL	001	ACRE-FEET (the volume of water above a certain depth)		
APPLICATION	002	ACRES		
DISPOSAL	003	GALLONS OR LITERS PER DAY		
IMPONMENT		GALLONS OR LITERS		

EXAMPLE FOR COMPLETING SECTION II (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

PRO-CESS CODE	B. PROCESS DESIGN CAPACITY			FOR OFFICIAL USE ONLY	A. PRO-CESS CODE	B. PROCESS DESIGN CAPACITY			FOR OFFICIAL USE ONLY
	1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	3. UNIT OF MEASURE CODE			1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	3. UNIT OF MEASURE CODE	
02	600	G			5				
03	20	E			6				
01	110	G			7				
04	500 (max), (30 U avg)	U			8				
					9				
					10				



Printed name of type of the institution on this form
 (Use in areas reserved for other type, i.e., 12 characters/line)

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	I. EPA/STATE I.D. NUMBER
		WA 7890008967

II. FIRST OR REVISED APPLICATION	
APPLICATION APPROVED	DATE RECEIVED (mo., day, yr.)
COMMENTS	

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA/STATE I.D. Number, or if this is a revised application, enter your facility's EPA/STATE I.D. Number in Section I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

2. NEW FACILITY (Complete item below.)

<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">MO.</td> <td style="text-align: center;">DAY</td> <td style="text-align: center;">YR.</td> </tr> <tr> <td style="text-align: center;">01</td> <td style="text-align: center;"> </td> <td style="text-align: center;">78</td> </tr> </table>	MO.	DAY	YR.	01		78	FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMPLETED (use the boxes in the last)	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">MO.</td> <td style="text-align: center;">DAY</td> <td style="text-align: center;">YR.</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> </tr> </table>	MO.	DAY	YR.			
MO.	DAY	YR.												
01		78												
MO.	DAY	YR.												

FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, yr.) OPERATION BEGAN OR IS EXPECTED TO BEGAIN

B. REVISED APPLICATION (place an "X" below and complete Section I above)

1. FACILITY HAS AN INTERIM STATUS PERMIT

2. FACILITY HAS A FINAL PERMIT

III. PROCESSES -- CODES AND DESIGN CAPACITIES

A. PROCESS CODE -- Enter the code from the list of process codes below that best describes each process to be used. Lines are provided for entering codes. If more than one code is needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided on the (Section III-C).

B. PROCESS DESIGN CAPACITY -- For each code entered in column A enter the capacity of the process.

1. AMOUNT -- Enter the amount.

2. UNIT OF MEASURE -- For each amount entered in column B(1), enter the unit of measure from the list of units of measure below. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:				
CONTAINER (barrel, drum, etc.)	301	GALLONS OR LITERS	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	302	CUBIC YARDS OR CUBIC METERS	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	303	CUBIC YARDS OR CUBIC METERS	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	304	ACRES OR HECTARES	T04	GALLONS PER DAY OR LITERS PER DAY
Disposal:				
INJECTION WELL	040	GALLONS OR LITERS		
LANDFILL	081	ACRES OR HECTARES		
LAND APPLICATION	082	ACRES OR HECTARES		
OCEAN DISPOSAL	083	GALLONS PER DAY OR LITERS PER DAY		
SURFACE IMPOUNDMENT				
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	L	
LITERS	L	ACRE-FOOT	A	
CUBIC YARDS	C	HECTARE-METER	H	
CUBIC METERS	M	ACRES	9	
GALLONS PER DAY	G	HECTARES	0	

EXAMPLE FOR COMPLETING SECTION III: Enter in the numbers X-1 and X-2 below: A facility has two storage tanks. one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY	NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY		FOR OFFICIAL USE ONLY
		1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	T04	17,000 (max), 400(annual avg)	U		7				
2					8				
3	* this permit covers several treatment technologies/test facilities based upon guidance received from EPA and WDOE in February, 1988.								
4									