

START



Department of Energy

Richland Field Office

P.O. Box 550

Richland, Washington 99352

9305730

94-RPS-005

OCT 25 1993

Ms. Dru Butler, Program Manager
Nuclear and Mixed Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Dear Ms. Butler:

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION FORM 3, REVISION 2,
FOR THE 241-CX TANK SYSTEM (WA7890008967)

Enclosed is the Hanford Facility Dangerous Waste Part A Permit Application (Part A) Form 3, Revision 2, for the 241-CX Tank System (241-CX). The 241-CX is located in the 200 East Area of the Hanford Facility. This Part A was revised to include Tank 241-CX-72 (CX-72) for greater-than-90-day storage. Tank CX-72 was used as an experimental tank to study the concentration of waste generated from pilot studies conducted at the Strontium Semiworks Complex. There is a possibility that Strontium Semiworks Complex decontamination flushes may have been sent to Tank CX-72 as well. An 11-foot (3.4-meter) deep heel of non-liquid mixed waste remains under a 24-foot (7.3-meter) layer of grout.

The Part A also has been revised to add 13 dangerous waste codes for Tank CX-72. The 13 waste codes do not include organic waste codes as Tank CX-72 heated waste materials to near dryness. These conservative dangerous waste codes were added using process knowledge of past operations until sampling/characterization is conducted as a part of the 200-SO-1 Operable Unit work. The 13 dangerous waste codes were added in compliance with Washington Administrative Code (WAC) 173-303. This regulation requires submittal of a revised Part A that includes any previously unidentified dangerous waste that might be treated, stored, or disposed of at a treatment, storage, and/or disposal unit with interim status.



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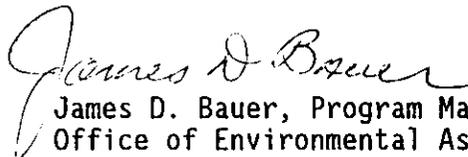
Ms. Butler
94-RPS-005

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Should you have any questions regarding the 241-CX Part A, Revision 2, please contact Mr. C. E. Clark, U.S. Department of Energy, Richland Operations Office at (509) 376-9333 or Mr. R. C. Bowman, Westinghouse Hanford Company at (509) 376-1653.

Sincerely,



James D. Bauer, Program Manager
Office of Environmental Assurance,
Permits, and Policy

EAP:CEC



R. E. Lerch, Deputy Manager
Restoration and Remediation
Westinghouse Hanford Company

Enclosure:
241-CX Dangerous
Waste Part A Permit Application
Form 3, Revision 2

cc w/encl:
D. L. Duncan, EPA
T. M. Michelena, Ecology
D. C. Nylander, Ecology
Administrative Records, H6-08

cc w/o encl:
R. C. Bowman, WHC
R. E. Lerch, WHC
S. M. Price, WHC

9305730

HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION, 241-CX TANK SYSTEM, REVISION 2, EXPLANATION

This portion of the Hanford Facility Dangerous Waste Part A Permit Application (Part A) consists of a Form 3, Revision 2, that describes the 241-CX Tank System in general terms.

The Part A, Form 3, has been revised to add Tank 241-CX-72 (CX-72), a 2,340-gallon (8,860-liter) tank, for greater-than-90-day storage. Tank CX-72 was an experimental tank used for 1 year in 1956 to study the concentration of waste generated from pilot studies conducted at the Strontium Semiworks Complex. There is a possibility that Strontium Semiworks Complex decontamination flushes may have been sent to Tank CX-72 as well. An 11-foot (3.4-meter) deep heel of non-liquid dangerous waste remains under a 24-foot (7.3-meter) layer of grout. Thirteen dangerous waste codes also were added for Tank CX-72. The 13 waste codes do not include organic waste codes as CX-72 was a tank that heated waste materials to near dryness. These conservative dangerous waste codes were added using process knowledge of past operations until sampling/characterization is conducted as a part of the 200-S0-1 Operable Unit work. The 13 dangerous waste codes were also added in compliance with Washington Administrative Code (WAC) 173-303. This regulation requires submittal of a revised Part A that includes any previously unidentified dangerous waste that might be treated, stored, or disposed of at a treatment, storage, and/or disposal unit with interim status.

Section I U.S. Environmental Protection Agency/State Identification Number - No change.

Section II First or Revised Application - No change.

Section III Processes - Codes and Design Capacities - This section gives the process codes and process design capacities for the 241-CX Tank System. Block A., has not been changed. Block B.1., has been revised to increase the process design capacity for tank storage (S02) from "31,000" gallons to "33,340" gallons. Block B.2., has not been changed. Section III.C., "Processes," has been revised to more accurately describe the storage activities at the 241-CX Tank System.

Section IV Description of Dangerous Waste - This section describes the waste that is stored at the 241-CX Tank System. In Block A., Dangerous Waste Codes D002, D004 through D011, and state-only waste codes WC01, WC02, WT01, and WT02 were added for Tank CX-72. Table 1 of this explanation provides the dangerous waste code numbers and descriptions of chemical constituents. Block B., "Estimated Annual Quantity of Waste," for S02 has been increased to "19,530" pounds. Block C., "Unit of Measure," has

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been identified as the letter "P" for pounds for Tank CX-72. Blocks D.1. and D.2., identify the process code and process description as "SO2 Storage-Tank" for Tank CX-72. Section IV.E., "Description of Dangerous Waste," has been revised to identify the dangerous waste that could be stored in Tank CX-72.

- Section V Facility Drawings - The 241-CX Tank System drawings have been updated.
- Section VI Photographs - The 241-CX Tank System photographs have been updated.
- Section VII Facility Geographic Location - No change.
- Section VIII Facility Owner - No change.
- Section IX Owner Certification - The certification is signed by the Manager, U.S. Department of Energy, Richland Operations Office (RL).
- Section X Operator Certification - An attachment is provided to the Form 3 to be signed by the Manager, RL, as Owner/Operator and the President, Westinghouse Hanford Company, as Co-operator. These signatures certify management's belief that the submitted information is true, accurate, and complete.

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TABLE 1
DANGEROUS WASTE IDENTIFICATION NUMBERS
ADDED PER WAC 173-303
PART A, SECTION IV

<u>Dangerous Waste Number</u>	<u>Description of Chemical Constituent</u>
D002	Characteristic of Corrosivity (e.g., sodium hydroxide)
D004	Arsenic
D005	Barium
D006	Cadmium
D007	Chromium
D008	Lead
D009	Mercury
D010	Selenium
D011	Silver
WC01	Carcinogenic - Extremely hazardous waste, state-only designation (e.g., mercury)
WC02	Carcinogenic - Dangerous waste, state-only designation, (e.g., mercury)
WT01	Toxic - Extremely hazardous waste, state-only designation, (e.g., arsenic)
WT02	Toxic - Dangerous waste, state-only designation, (e.g., arsenic)

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ENCLOSURE

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Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 character/inch).

FORM 3	DANGEROUS WASTE PERMIT APPLICATION	1. EPA/STATE I.D. NUMBER												
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20px; text-align: center;">W</td> <td style="width:20px; text-align: center;">A</td> <td style="width:20px; text-align: center;">7</td> <td style="width:20px; text-align: center;">8</td> <td style="width:20px; text-align: center;">9</td> <td style="width:20px; text-align: center;">0</td> <td style="width:20px; text-align: center;">0</td> <td style="width:20px; text-align: center;">0</td> <td style="width:20px; text-align: center;">8</td> <td style="width:20px; text-align: center;">9</td> <td style="width:20px; text-align: center;">6</td> <td style="width:20px; text-align: center;">7</td> </tr> </table>	W	A	7	8	9	0	0	0	8	9	6	7
W	A	7	8	9	0	0	0	8	9	6	7			

FOR OFFICIAL USE ONLY		COMMENTS
APPLICATION APPROVED	DATE RECEIVED (mo., day, & yr.)	

II. 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 in Section I above, 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 data)

<input type="checkbox"/> 1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.) <table style="width:100%;"> <tr> <td style="width:15%; text-align: center;">MO.</td> <td style="width:15%; text-align: center;">DAY</td> <td style="width:15%; text-align: center;">YR.</td> <td style="width:55%;">FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;">5 2</td> <td></td> </tr> </table>	MO.	DAY	YR.	FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)			5 2		<input type="checkbox"/> 2. NEW FACILITY (Complete item below) <table style="width:100%;"> <tr> <td style="width:15%; text-align: center;">MO.</td> <td style="width:15%; text-align: center;">DAY</td> <td style="width:15%; text-align: center;">YR.</td> <td style="width:55%;">FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td style="text-align: center;"> </td> <td></td> </tr> </table>	MO.	DAY	YR.	FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN				
MO.	DAY	YR.	FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)														
		5 2															
MO.	DAY	YR.	FOR NEW FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR IS EXPECTED TO BEGIN														

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

<input checked="" type="checkbox"/> 1. FACILITY HAS AN INTERIM STATUS PERMIT	<input type="checkbox"/> 2. FACILITY HAS A FINAL PERMIT
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III. PROCESSES - CODES AND CAPACITIES

A. 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).

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 code from the list of unit 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	PROCESS	PRO-CESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc)	S01	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	S02	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS	INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS			
Disposal:			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
INJECTION WELL	D80	GALLONS OR LITERS			
LANDFILL	D81	ACRE-FEET (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D82	ACRES OR HECTARES			
OCEAN DISPOSAL	D83	GALLONS PER DAY OR LITERS PER DAY			
SURFACE 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
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	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.

LINE NUMBER	A. PROCESS CODE (from list above)		B. PROCESS DESIGN CAPACITY				FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)		B. PROCESS DESIGN CAPACITY				FOR OFFICIAL USE ONLY
	1	2	1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)											
X-1	S	0 2	600	G				5							
X-2	T	0 3	20	E				6							
1	S	0 2	33,340	G				7							
2								8							
3								9							
4								10							

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

I.D. NUMBER (entered from page 1)

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

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE NO.	A. DANGEROUS WASTE NO. (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))
1	D 0 0 2	19,000	P	S02			Storage - Tank (241-CX-70)
2	D 0 0 7						↓
3	W T 0 2						Included With Above
4	W T 0 2	33,400	P	S02			Storage - Tank (241-CX-71)
5	D 0 0 2	19,530	P	S02			Storage - Tank (241-CX-72)
6	D 0 0 4						
7	D 0 0 5						
8	D 0 0 6						
9	D 0 0 7						
10	D 0 0 8						
11	D 0 0 9						
12	D 0 1 0						
13	D 0 1 1						
14	W C 0 1						
15	W C 0 2						
16	W T 0 1						↓
17	W T 0 2						Included With Above
18							
19							
20							
21							
22							
23							
24							
25							
26							

241-099-07-0

(enter "A", "B", "C", etc. behind the "3" to identify photo copied pages)

Continued from the front.

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

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

Tank CX-70 was used to store high-level process mixed waste from the REDOX pilot studies. The mixed waste was considered corrosive (D002) due to the presence of sodium hydroxide. The mixed waste contained the toxicity characteristic waste chromium (D007) and was considered a toxic state-only (WT02) dangerous waste. The estimated annual quantity of waste that was treated and stored in Tank CX-70 is approximately 19,000 pounds (8,630 kilograms).

Tank CX-71 was used to store a mixture of materials that remained after large volumes of liquid process effluents were passed through the tank for the purpose of neutralization by contact with a bed of limestone aggregate placed in the tank for this purpose. The waste was considered toxic state-only (WT02) dangerous waste due to the presence of cyanides and nitrates. The estimated annual quantity of waste that was treated and stored in Tank CX-71 is approximately 33,400 pounds (15,171 kilograms).

Tank CX-72 was used as an experimental tank to study the concentration of waste through the application of heat. This waste was generated from the pilot studies conducted at the Strontium Semiworks Complex. Decontamination flushes from the Strontium Semiworks Complex also might have been sent to Tank CX-72. Based on a conservative designation, the mixed waste could consist of toxic constituents (D002, and D004 through D011), and state-only (WC01, WC02, WT01, and WT02) dangerous waste. The estimated annual quantity of waste that was treated and stored in Tank CX-72 is approximately 19,530 pounds (8,870 kilograms).

V. FACILITY DRAWING

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

VI. PHOTOGRAPHS

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

VII. FACILITY GEOGRAPHIC LOCATION

This information is provided on the attached drawings and photos.

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

VIII. FACILITY OWNER

A. 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 below.

B. 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.

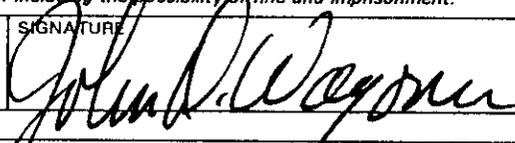
6. ZIP CODE

IX. OWNER 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.

NAME (print or type)
 John D. Wagoner, Manager
 U.S. Department of Energy
 Richland Operations Office

SIGNATURE



DATE SIGNED

10/25/93

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.

NAME (print or type)

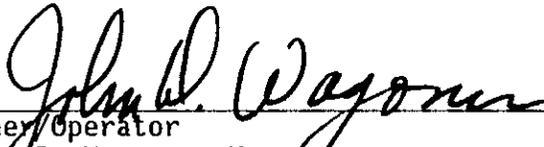
SIGNATURE

DATE SIGNED

SEE ATTACHMENT

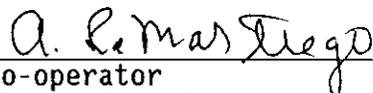
X. OPERATOR CERTIFICATION

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

10/25/93
Date

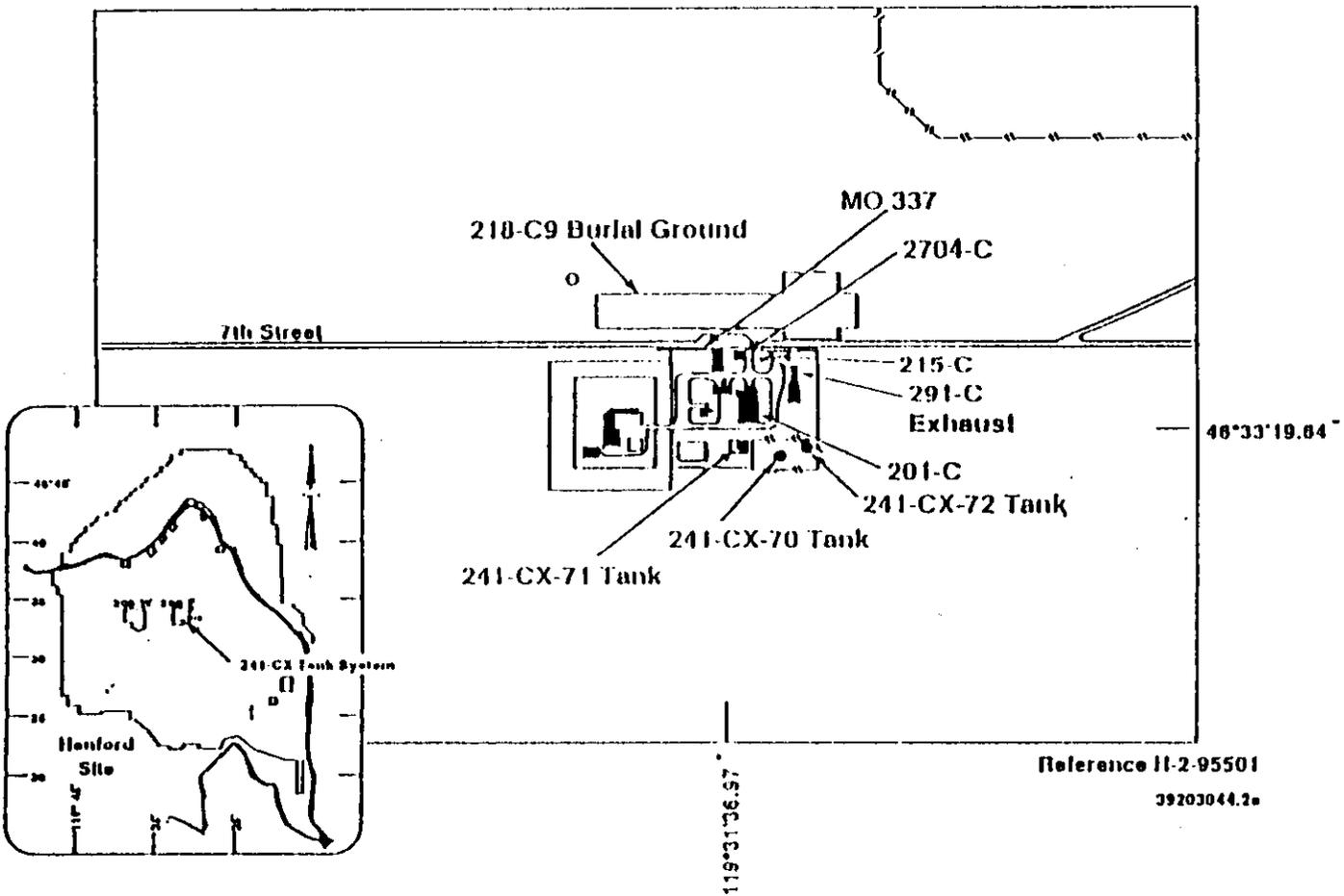


Co-operator
Thomas M. Anderson, President
Westinghouse Hanford Company

9/29/93
Date

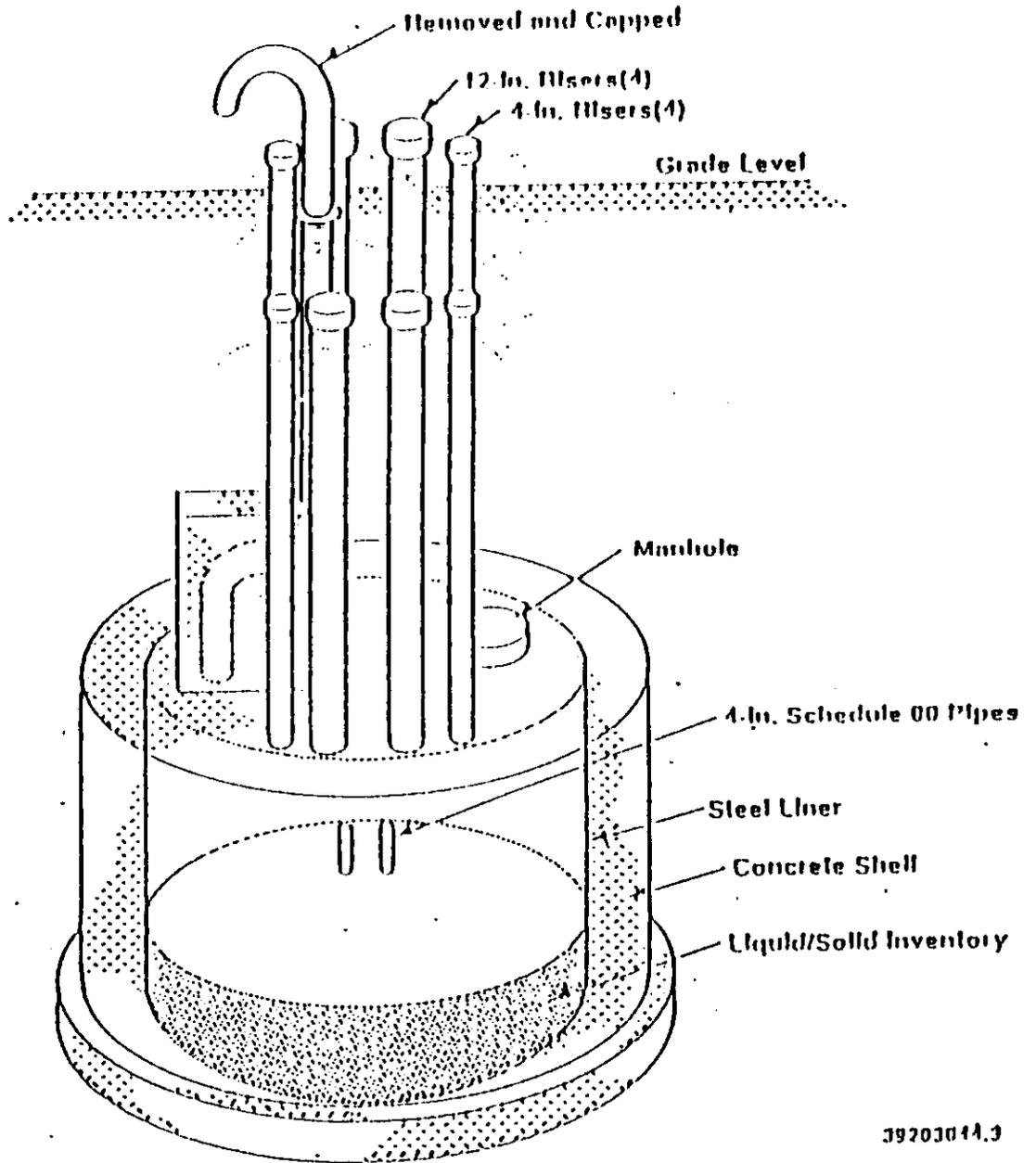
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241-CX Tank System Site Plan



931089.0713

Tank 241-CX-70

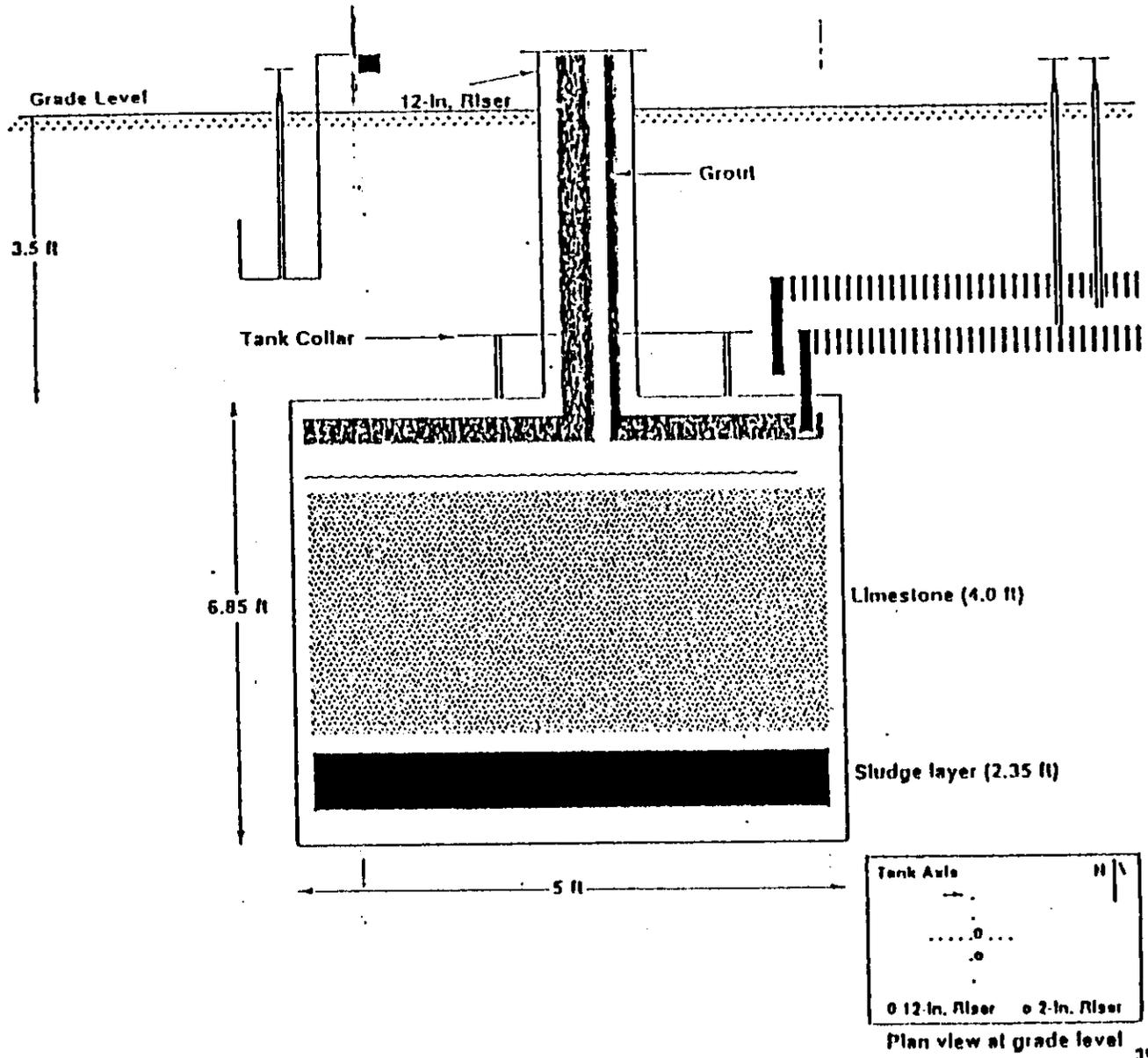


39203044.3

For conversions, apply the following:

Liters to gallons - divide liters by 3.785.
Meters to feet - divide meters by 0.3048.
Centimeters to inches - divide centimeters by 2.54.

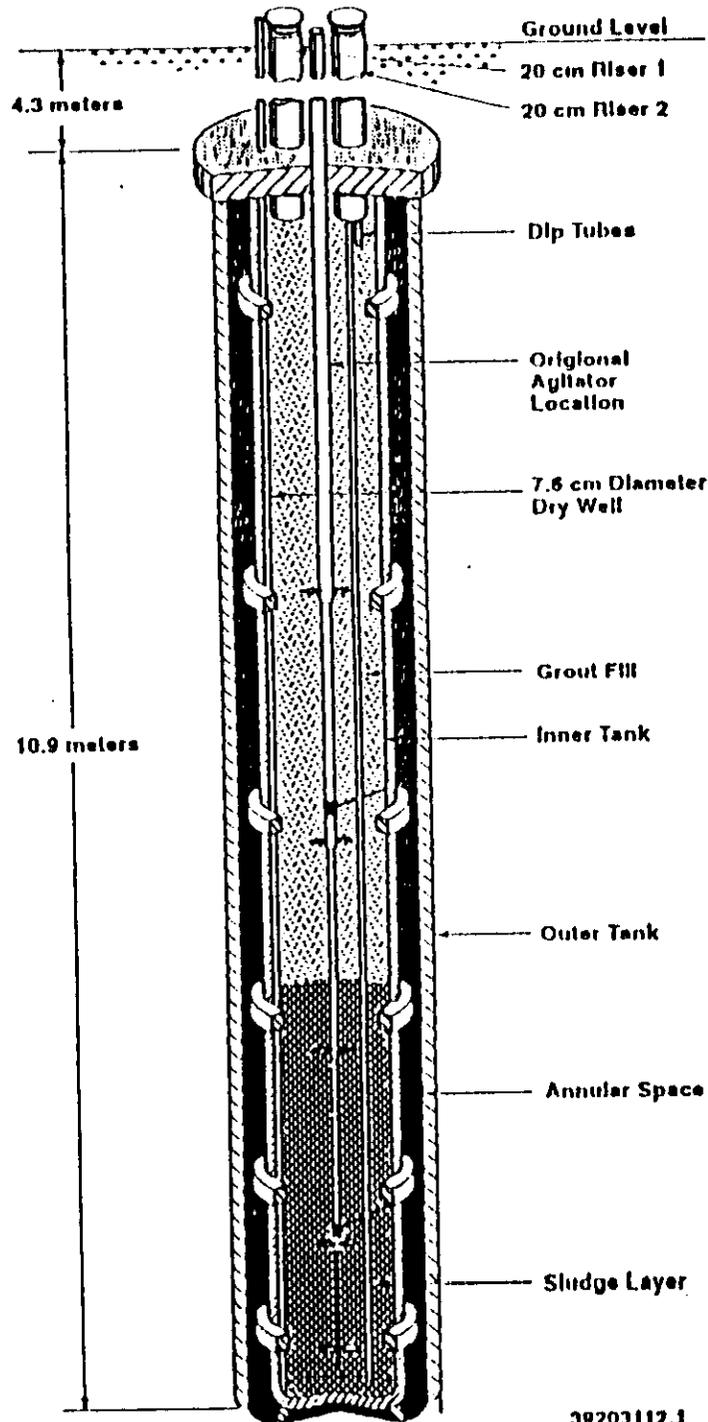
Tank 241-CX-71 Cross-Sectional View



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5170-6607196

For conversions, apply the following:
 Liters to gallons - divide liters by 3.785.
 Meters to feet - divide meters by 0.3048.
 Centimeters to inches - divide centimeters by 2.54.

Tank 241-CX-72 Cutaway Drawing



For conversions, apply the following:

- Liters to gallons - divide liters by 3.785.
- Meters to feet - divide meters by 0.3048.
- Centimeters to inches - divide centimeters by 2.54.

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 PSAD

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241-CX TANK SYSTEM



TANK 241-CX-70

46°33'20"
119°31'37"

93060151-3CN
(PHOTO TAKEN 1993)

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241-CX TANK SYSTEM



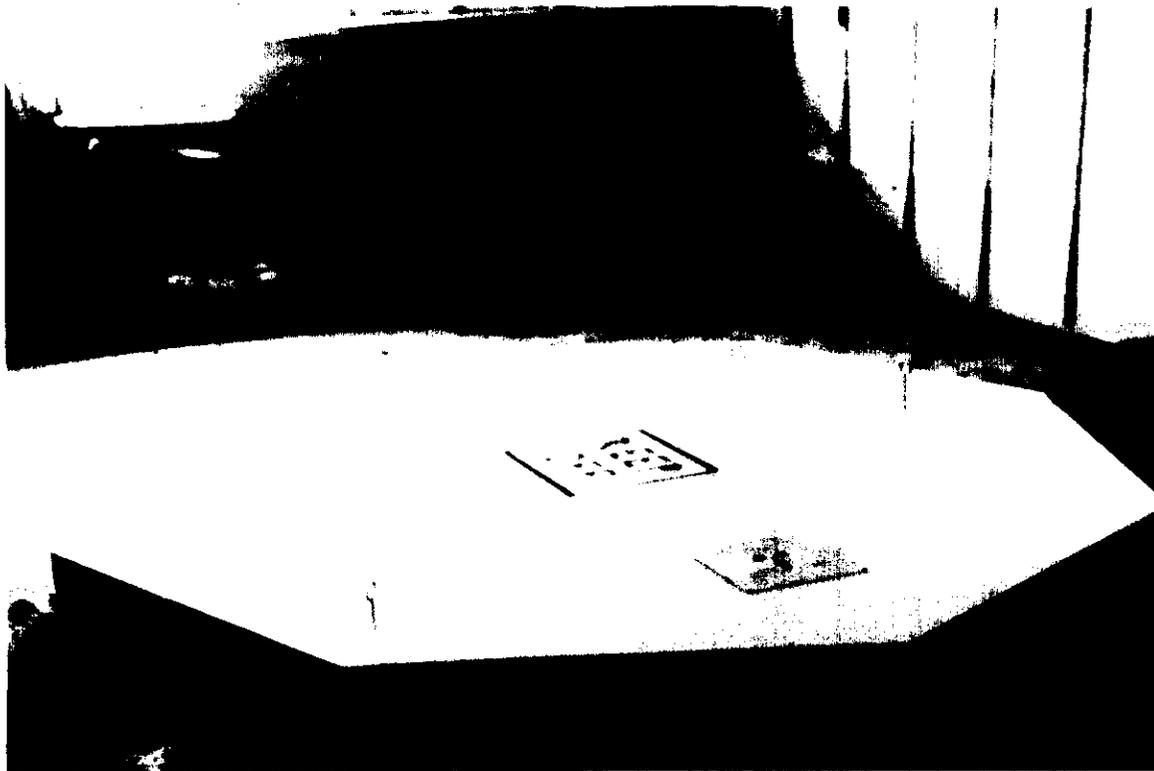
TANK 241-CX-71

46°33'20"
119°31'37"

93060151-5CN
(PHOTO TAKEN 1993)

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241-CX TANK SYSTEM



TANK 241-CX-72

46°33'20"
119°31'37"

93060151-1CN
(PHOTO TAKEN 1993)

9313089.0719

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
R. G. Holt, RL R. E. Lerch, WHC (D. G. Saueressig, WHC)	D. Butler, Ecology	Incoming 9305730 Xref 9358234D

Subject: HANFORD FACILITY DANGEROUS WASTE PART A PERMIT APPLICATION FORM 3,
REVISION 2, FOR THE 241-CX TANK SYSTEM (WA7890008967)

INTERNAL DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		B. A. Austin	B2-35	
		R. C. Bowman	H6-24	X
		G. D. Carpenter	H6-30	
		J. D. Carrell	H6-22	X
		M. W. Cline	H6-24	X
		B. G. Erlandson	H6-20	X
		M. C. Hughes	R2-81	X
		G. W. Jackson, Assignee	H6-21	
		R. E. Lerch	B3-63	
		P. J. Mackey	B3-15	X
		S. G. Marske	R2-77	X
		H. E. McGuire, Level 1	B3-63	
		M. A. Mihalic	R2-77	X
		A. G. Miskho	H6-30	X
		P. D. Mix	H6-29	X
		S. M. Price	H6-23	X
		D. G. Saueressig	H6-24	X
		R. G. Shuck	S4-67	X
		J. F. Williams Jr.	H6-24	X
		EPIC	H6-08	X
		DGS File/LB	H6-24	X
		RCRA File/GHL	H6-23	X

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