Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

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JUL 10 1990

90-PPB-037

Mr. Timothy L. Nord
Hanford Project Manager
State of Washington
Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504-8711

Dear Mr. Nord:

HANFORD DANGEROUS WASTE PART A PERMIT APPLICATION (WA7890008967)

Enclosed is the Dangerous Waste Part A Permit Application Form 3, Revision 0, for Tank 241-CX-70. Tank 241-CX-70 was used in the early 1950's to store high-level process waste from the REDOX pilot plant studies. REDOX is the acronym used for the reduction/oxidation chemical process separating plutonium and uranium from irradiated reactor fuels. The initial tank waste volume of 10,300 gallons was reduced to 750 gallons through tank waste removal activities. The tank waste removal activities involved a sluicing/pumping system which used large volumes of water to sluice/pump the solid waste from Tank 241-CX-70 to a double-shell tank in the 200 East Area Tank Farms.

The Form 3, Revision 0, has been written to permit the remaining 750 gallons (two-thirds liquid and one-third solid). The remaining 750 gallons have been sampled and analyzed and the results have shown the waste in the tank to be corrosive. In accordance with Washington State Dangerous Waste Regulation 173-303-090, the contents of Tank 241-CX-70 have been designated dangerous waste code D002, for a corrosive waste. The Part A permit application is being submitted to allow continued storage of the dangerous waste contained in Tank 241-CX-70 until the waste is removed and the tank closed. The need for this Part A permit application has been discussed with Mr. T. M. Michelena of your staff.

If you have any question regarding the enclosed permit application revision, please contact Mr. C. E. Clark of the U.S. Department of Energy, Richland Operations Office on (509) 376-9333 or Ms. C. J. Geier of the Westinghouse Hanford Company on (509) 376-2237.

Sincerely,

R. D. Izatt, Director
Environmental Restoration Division
Richland Operations Office

R. E. Lerch, Manager
Environmental Division
Westinghouse Hanford Company

Enclosure:
Dangerous Waste Part A Permit
Application For Tank 241-CX-70

cc w/encl.:
P. T. Day, EPA
D. L. Duncan, EPA
R. E. Lerch, WHC

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

FORM 3

DANGEROUS WASTE PERMIT APPLICATION

I. EPA/STATE I.D. NUMBER: W A 7 8 9 0 1 0 0 8 9 6 7

FOR OFFICIAL USE ONLY

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

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, 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.*)

* MO: | DAY: | YR: 5 2 — FOR EXISTING FACILITIES, PROVIDE THE DATE (*mo., day, & yr.*) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (*use the boxes to the left*)

☐ 2. NEW FACILITY (*Complete item below.*)

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*)

☐ 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 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	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER (barrel, drum, etc.)	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
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

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
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

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

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 1. AMOUNT (*specify*)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (*enter code*)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (*from list above*)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (*specify*)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (*enter code*)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S02	30,000	G		7				
2		* The day and month of facility operation is unknown.			8				
3					9				
4					10				

III. PROCESSES (continued)

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

S02

Tank 241-CX-70 (CX-70) was used for approximately one year in the early 1950's to store high-level process waste from the REDOX pilot plant studies. REDOX was the acronym used for the reduction/oxidation chemical process separating plutonium and uranium from irradiated reactor fuels. Tank waste removal activities for CX-70 were initiated in the summer of 1987 with the construction of a sluicing/pumping system. The sluicing/pumping system involved using large volumes of water to sluice/pump the solid waste from the CX-70 tank to a double-shell tank in the 200 East Area Tank Farms. Approximately 140,000 gallons of water were used to sluice the original waste volume of 10,300 gallons down to the present 750 gallons contained in the tank. The design capacity of the CX-70 tank is 30,000 gallons.

IV. DESCRIPTION OF DANGEROUS WASTES

A. **DANGEROUS WASTE NUMBER** — Enter the four digit number from Chapter 173-303 WAC for each listed dangerous waste you will handle. If you handle 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 contaminants of those dangerous wastes.

B. **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.

C. **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 are:

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

If facility 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 appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

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 indicate 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 toxic contaminant.

Note: 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 box of item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. 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.

NOTE: **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:

1. Select 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 the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. 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.
3. Repeat step 2 for each other Dangerous Waste Number that can be used to describe the dangerous waste.

EXAMPLE 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 chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes are corrosive only 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 that waste. Treatment will be in an incinerator and disposal will be in a landfill.

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)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K054	900	P	T03 D80	
X-2	D002	400	P	T03 D80	
X-3	D001	100	P	T03 D80	
X-4	D002			T03 D80	included with above

Continued from page 2.

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

I.D. NUMBER (enter from page 1)

WA7890008967

IV. DESCRIPTION OF DANGEROUS WASTES (continued)

LINE	A. DANGEROUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D002	19,000	P	S02	Storage
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

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 241-CX-70 (CX-70) contains 750 gallons of waste with a pH of 13.1. Approximately two-thirds of the tank's content is liquid and one-third is solid. The remaining 750 gallons have been sampled and analyzed with results showing the only regulated waste to be corrosive. Based on WAC 173-303-090 (6)(a)(i), given an aqueous sample with a pH greater than or equal to 12.5, due to the sodium hydroxide content, the CX-70 tank has been assigned the dangerous waste number D002 for corrosive waste.

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 attached drawings and photos

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

VIII. FACILITY OWNER

[X] 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)*	SIGNATURE	DATE SIGNED
Michael J. Lawrence Manager, Richland Operations United States Department of Energy	Michael J. Lawrence	7-10-90

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.

John E. Nolan 3/12/90

Co-operator
John E. Nolan, President
Westinghouse Hanford Company

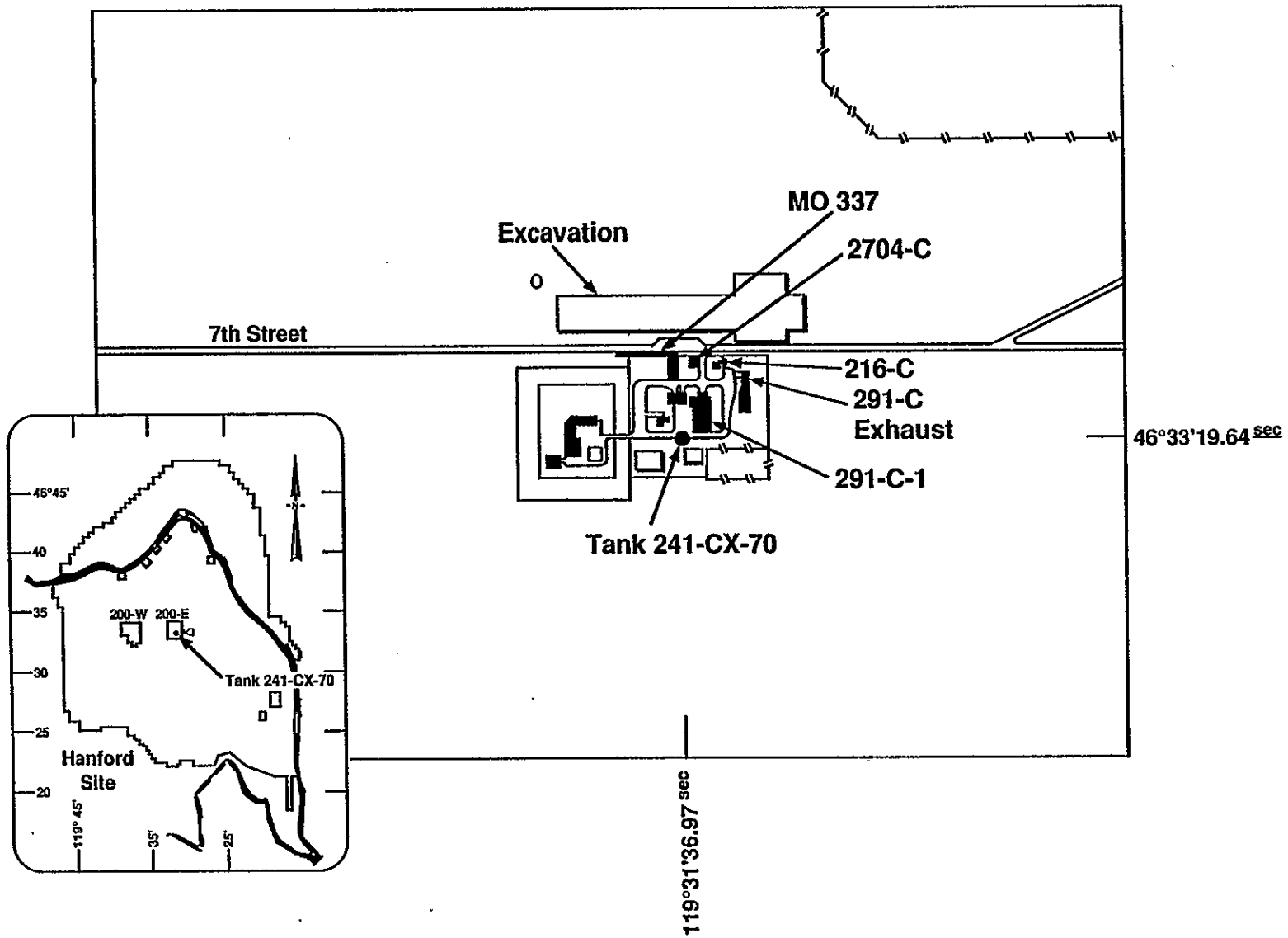
Date

Michael J. Lawrence 7/10/90

Owner/Operator
Michael J. Lawrence, Manager
U.S. Department of Energy
Richland Operations Office

Date

Tank 241-CX-70



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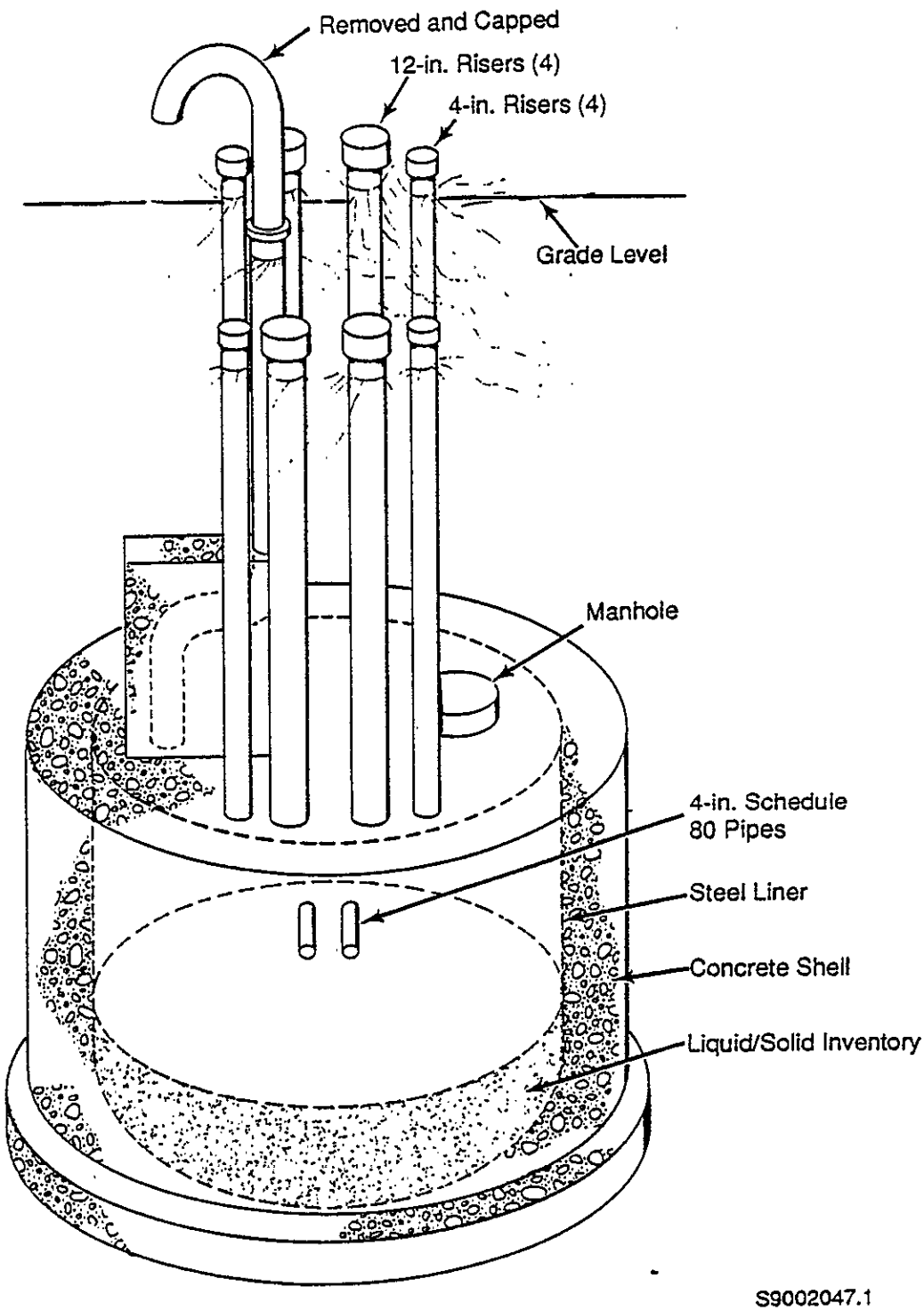
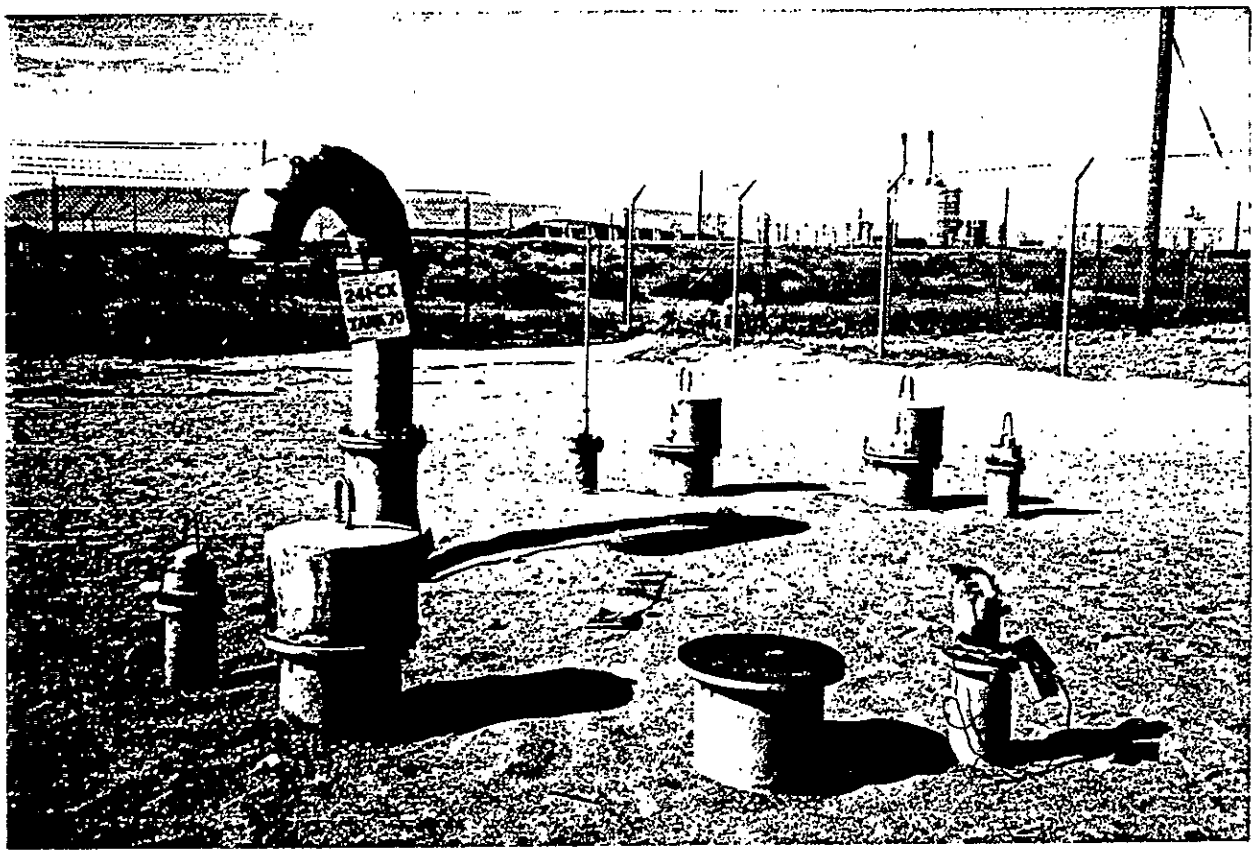


Tank 241-CX-70

WA7890008967

TANK 241-CX-70



46°33'20"
119°31'37"

127164-27CN
(PHOTO TAKEN 1986)

DISTRIBUTION COVERSHEET

Author	Addressee	Correspondence No.
R. D. Izatt/R. E. Lerch	T. L. Nord, Ecology	Incoming: 9003128

Subject

DANGEROUS WASTE PART A PERMIT APPLICATION FOR TANK 241-CX-70 (WA7890008967)

Internal Distribution

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		J. D. Bauer	B3-15	X
		R. J. Bliss	B3-04	
		R. C. Bowman	H4-57	X
		L. C. Brown	H4-51	X
		L. P. Diediker	T1-30	X
		W. T. Dixon	B2-35	X
		M. J. Galgoul	R2-77	X
		L. A. Garner	B2-19	X
		C. J. Geier	H4-57	X
		M. A. Haltom	H4-57	X
		R. J. Landon	B2-19	X
		R. E. Lerch (Assignee)	B2-35	X
		D. L. Lund	B2-19	X
		S. M. Price	H4-57	X
		D. E. Simpson	B3-51	X
		D. E. Smoot	X5-07	X
		D. R. Speer	R2-77	X
		S. A. Wiegman	B2-19	X
		EDMC/AR	H4-22	X
		MAH: LB	H4-57	X