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	I. EPA/STATE I.D. NUMBER WA789000896 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED *(mo., day, & yr.)*	COMMENTS
		Approved 01/12/00

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	YEAR
03	22	1943

**FOR EXISTING FACILITIES, PROVIDE THE DATE (mo., day, & yr.) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)*
**The date construction of the Hanford Facility commenced.*

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

MO.	DAY	YEAR

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. PROCESS - 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	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	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.

	A. PROCESS	B. PROCESS DESIGN CAPACITY	

LINE NUMBER	CODE *(from list above)*	1. AMOUNT *(specify)*	2. UNIT OF MEASURE *(enter code)*	FOR OFFICIAL USE ONLY			
X-1	*S02*	*600*	*G*				
X-2	*T03*	*20*	*E*				
1	S02	124,654,500	L				
2	T01	124,654,500	V				
3							
4							
5							
6							
7							
8							
9							
10							

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

The Double-Shell Tank (DST) System began operations between November 1955 and October 1986 (refer to the Tank Table on pages 3 and 4). The DST System is used for the interim storage (S02) of liquid mixed waste generated on the Hanford Facility. Several operating units in the 200 East and 200 West Areas transfer liquid mixed waste through buried double-encased transfer lines to designated underground DSTs. Other types of liquid mixed waste in the DST System are received from railroad tank car transfers, tank truck transfers, the Single-Shell Tank (SST) System, and smaller temporary storage tanks.

Pretreatment will be performed as necessary at a future unit and/or at the 242-A Evaporator. The low-level liquid mixed waste is accumulated in the DST System until the waste is transferred for treatment to a proposed low-level vitrification plant in preparation for final disposal. The high-level liquid mixed waste from the DST System could be treated at the proposed Hanford Waste Vitrification Plant (HWVP) and shipped to a national repository for disposal. The HWVP could be superseded by another high-level waste immobilization facility.

The tanks in the DST System are considered treatment units (T01) because chemicals can be added for corrosion control, the waste can be mixed using equipment such as airlift circulators or pumps, and water can be evaporated from the aging waste tanks by adding heat.

The tanks in the DST System are shown on the Tank Table (pages 3 and 4), which includes tank numbers, locations, design capacities, and operational dates. The specific TSD unit boundaries will be defined in the DST System Dangerous Waste Part B permit application documentation.

The maximum process design capacity for tank storage at the DST System is approximately 124,654,500 liters (32,930,230 gallons). The maximum process design capacity for tank treatment at the DST System is approximately 124,654,500 liters (32,930,230 gallons).

Tank Table

1. There are twenty-four nonaging* DSTs.

Tank Number	Location	Design Capacity (liters)	Operation Date
241-AN-101	200 East Area	4,542,480	9/81
241-AN-102	200 East Area	4,542,480	9/81
241-AN-103	200 East Area	4,542,480	9/81
241-AN-104	200 East Area	4,542,480	9/81
241-AN-105	200 East Area	4,542,480	9/81
241-AN-106	200 East Area	4,542,480	9/81
241-AN-107	200 East Area	4,542,480	9/81
241-AP-101	200 East Area	4,542,480	10/86
241-AP-102	200 East Area	4,542,480	10/86
241-AP-103	200 East Area	4,542,480	10/86
241-AP-104	200 East Area	4,542,480	10/86
241-AP-105	200 East Area	4,542,480	10/86
241-AP-106	200 East Area	4,542,480	10/86
241-AP-107	200 East Area	4,542,480	10/86
241-AP-108	200 East Area	4,542,480	10/86
241-AW-101	200 East Area	4,542,480	8/80
241-AW-102	200 East Area	4,542,480	8/80
241-AW-103	200 East Area	4,542,480	8/80
241-AW-104	200 East Area	4,542,480	8/80
241-AW-105	200 East Area	4,542,480	8/80
241-AW-106	200 East Area	4,542,480	8/80
241-SY-101	200 West Area	4,542,480	4/77
241-SY-102	200 West Area	4,542,480	4/77
241-SY-103	200 West Area	4,542,480	4/77

* Nonaging is a waste that is not neutralized current acid waste.

2. There are four aging* waste DSTs.

Tank Numbers	Location	Design Capacity (liters)	Operation Date
241-AY-101	200 East Area	3,785,400	4/71
241-AY-102	200 East Area	3,785,400	4/76**
241-AZ-101	200 East Area	3,735,400	11/76
241-AZ-102	200 East Area	3,735,400	11/76

* Aging waste is neutralized current acid waste generated from the PUREX Plant.

** Estimated operational date

3. There is one tank in a transfer building.

Tank Number	Location	Design Capacity (liters)	Operation Date
241-EW-151	200 East Area Vent Station	3,028	11/55*

* Estimated operational date.

4. There are five double-contained receiver tanks.

Tank Number	Location	Design Capacity (liters)	Operation Date
244-BX	200 East Area	117,347	1983
244-TX	200 West Area	117,347	12/81
244-U	200 West Area	117,347	N/A
244-A	200 East Area	61,626	1975

244-S	200 West Area	76,768	1987

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 describe 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 measuer 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*
1	D001	426,850,108*	K	S02	T01			Storage-Tank/Treatment-Tank
* All dangerous waste numbers listed are included in this quantity.								
2	D002		↓	↓	↓			↓
3	D003		↓	↓	↓			↓
4	D004		↓	↓	↓			↓
5	D005		↓	↓	↓			↓
6	D006		↓	↓	↓			↓
7	D007		↓	↓	↓			↓
8	D008		↓	↓	↓			↓
9	D009		↓	↓	↓			↓
10	D010		↓	↓	↓			↓
11	D011		↓	↓	↓			↓

12	D018		↓	↓	↓			↓
13	D019		↓	↓	↓			↓
14	D022		↓	↓	↓			↓
15	D028		↓	↓	↓			↓
16	D029		↓	↓	↓			↓
17	D030		↓	↓	↓			↓
18	D033		↓	↓	↓			↓
19	D034		↓	↓	↓			↓
20	D035		↓	↓	↓			↓
21	D036		↓	↓	↓			↓
22	D038		↓	↓	↓			↓
23	D039		↓	↓	↓			↓
24	D040		↓	↓	↓			↓
25	D041		↓	↓	↓			↓
26	D043		↓	↓	↓			↓
27	WT01		↓	↓	↓			↓
28	WT02		↓	↓	↓			↓
29	WP01		↓	↓	↓			↓
30	WP02		↓	↓	↓			↓
31	F001		↓	↓	↓			↓
32	F002		↓	↓	↓			↓
33	F003		↓	↓	↓			↓
34	F004		↓	↓	↓			↓
35	F005		↓	↓	↓			↓
36	F039		↓	↓	↓			Included With above
37								
38								
39								
40								

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

The types of liquid mixed waste that could be stored, chemically treated, and evaporated in the DST System are as follows:

- Dilute miscellaneous waste generated on the Hanford Facility (100, 200, 300, 400 Areas, and the 340 Complex)
- Supernate and transuranic sludges that consist of neutralized cladding removal waste generated during Plutonium-Uranium Extraction (PUREX) Plant headend operations, and waste generated during the Plutonium Finishing Plant processing
- Concentrated DST waste (slurry) from the 242-A Evaporator
- Concentrated complexed waste and complexed waste generated from B Plant processing
- Neutralized current acid waste from the first extraction column at the PUREX Plant
- Liquid waste from the SST System
- Waste from the Grout Treatment Facility
- T Plant Complex decontamination activities
- Waste from the 204-AR Waste Unloading Station
- Leachate resulting from Hanford Facility land disposal and surface impoundment operations.

It is possible that any of these waste types could be stored and/or treated in any of the nonaging or aging DSTs.

The list of dangerous waste under Section IV.A includes constituents that have not been detected in the waste; however, knowledge of processes providing the waste to the DST System indicates the strong possibility that these constituents will be in the waste. Other constituents listed under Section IV.A have not been detected in the waste; however, the DST System has the potential to store these constituents. Multi-source Leachate (F039) is included as a waste derived from nonspecific source wastes F001 through F005.

V. FACILITY DRAWING **Refer to attached drawing(s).**

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 **Refer to attached photograph(s).**

All existing facilities must include photographs *(arial 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 drawing(s) and photograph(s).**

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)*	SIGNATURE	DATE SIGNED
Keith A. Klein, Manager U. S. Department of Energy	L. L. Piper for	12/21/1999

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

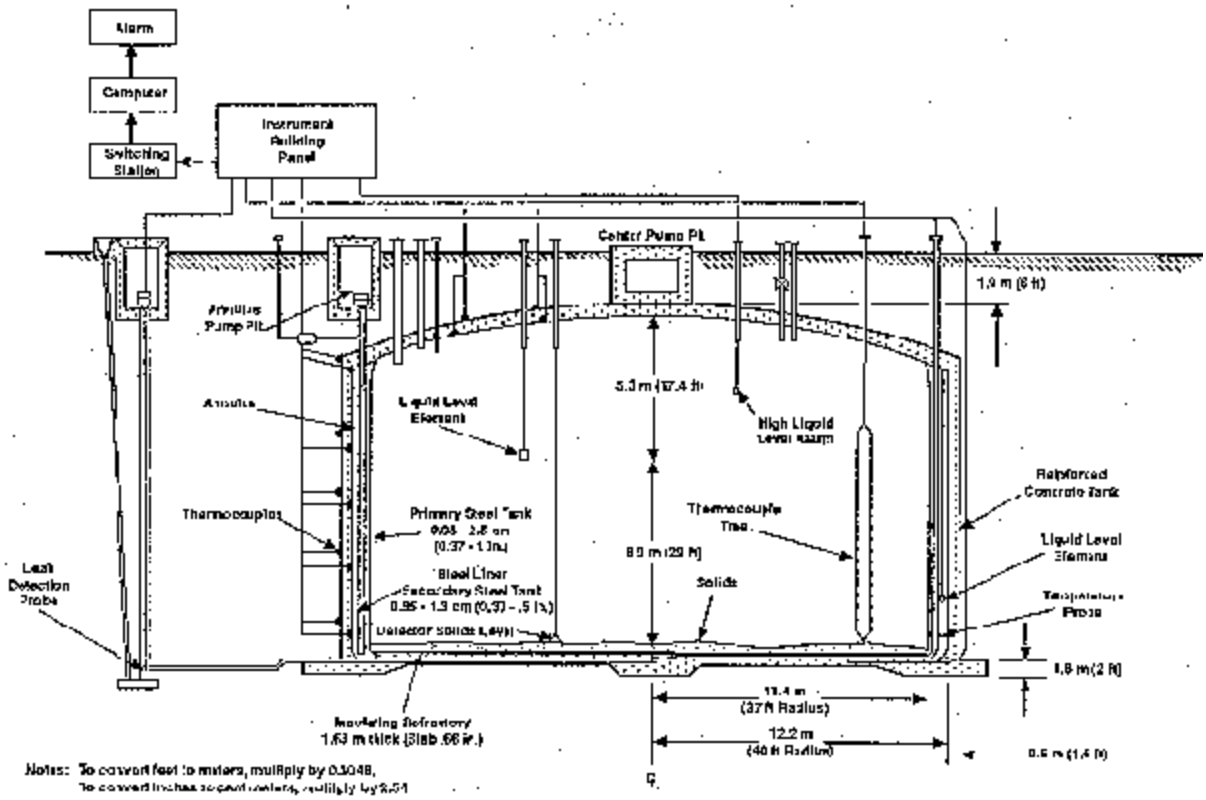
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true,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

L. L. Piper for _____ 12/21/99
Owner/Operator
Keith A. Klein, Manager Date
U.S. Department of Energy

M. P. DeLozier _____ 12/22/99
Co-Operator
M. P. DeLozier Date
President and RPP General Manager
CH2M HILL Hanford Group, Inc.*

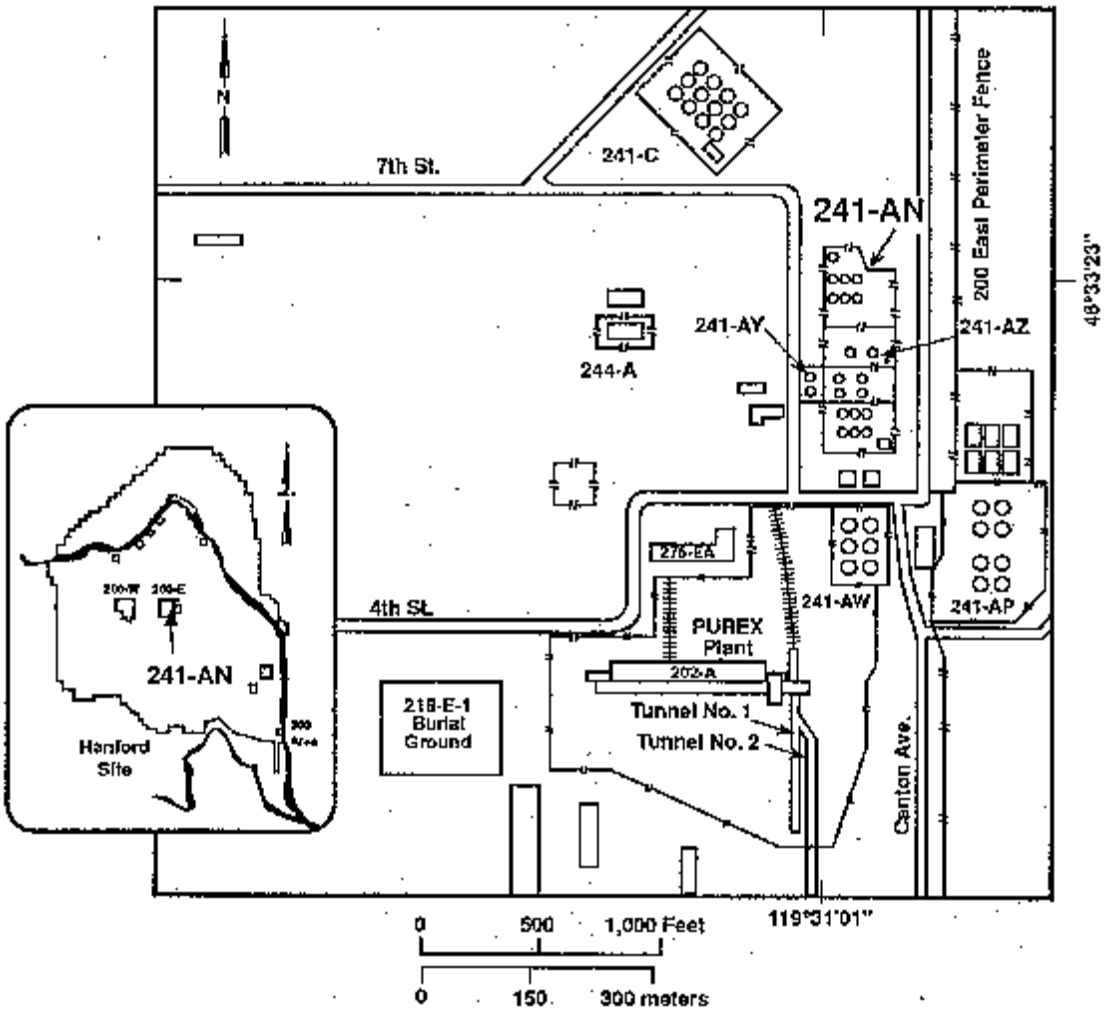
*Co-operator under Department of Energy Office of River Protection Contract #DE-AC06-99L14047.

Typical Nonaging Waste Double-Shell Tank



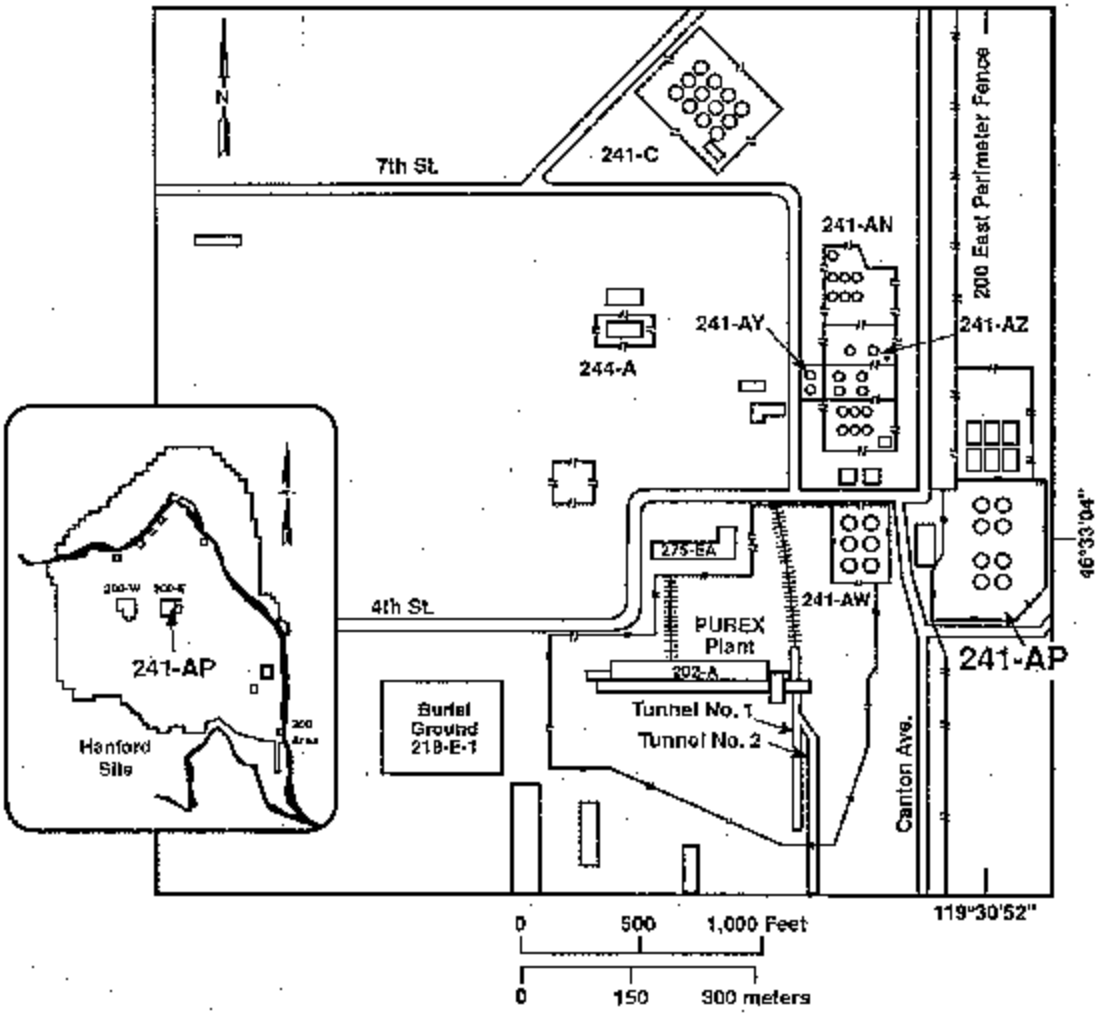
39211048.3a

241-AN Double-Shell Tank Site Plan



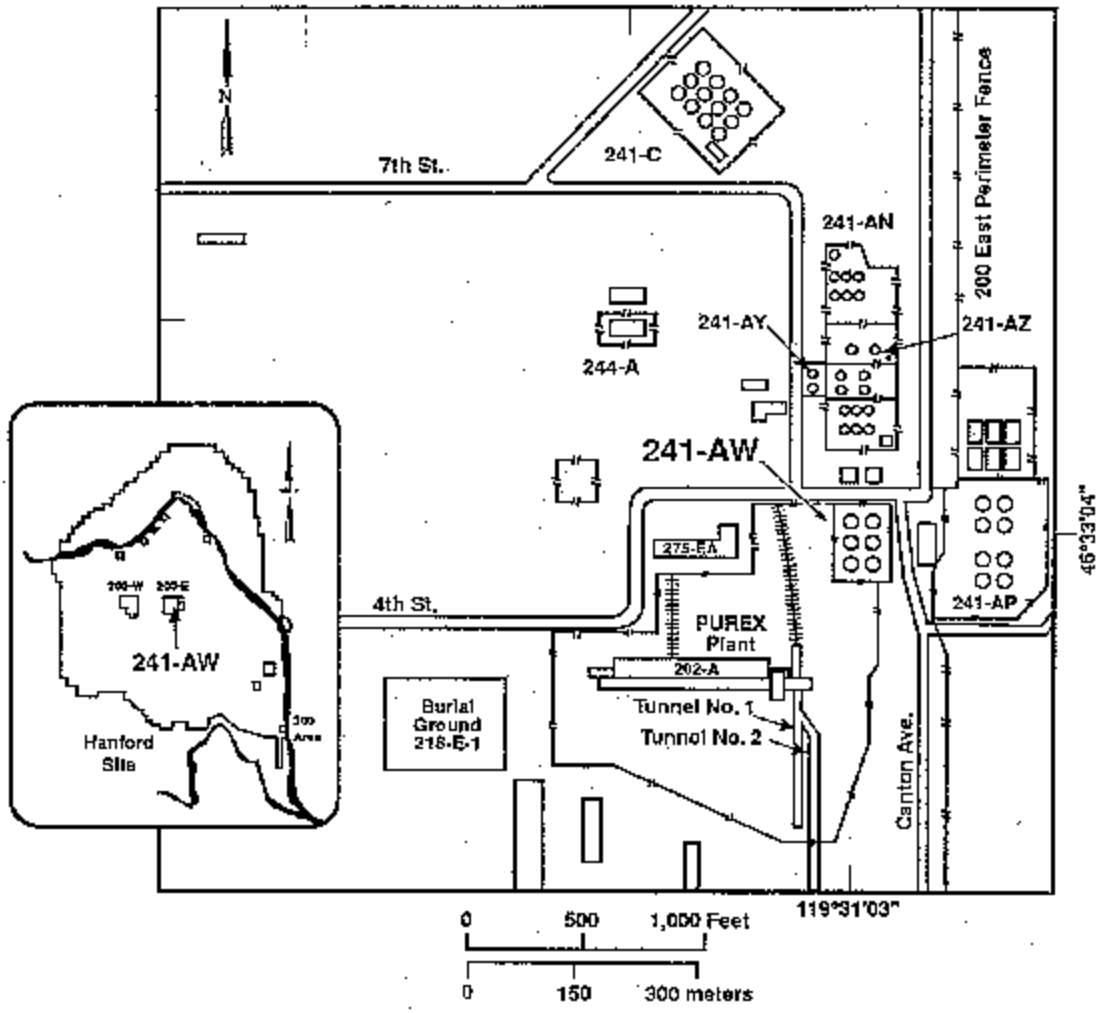
H96070161.27b

241-AP Double-Shell Tank Site Plan



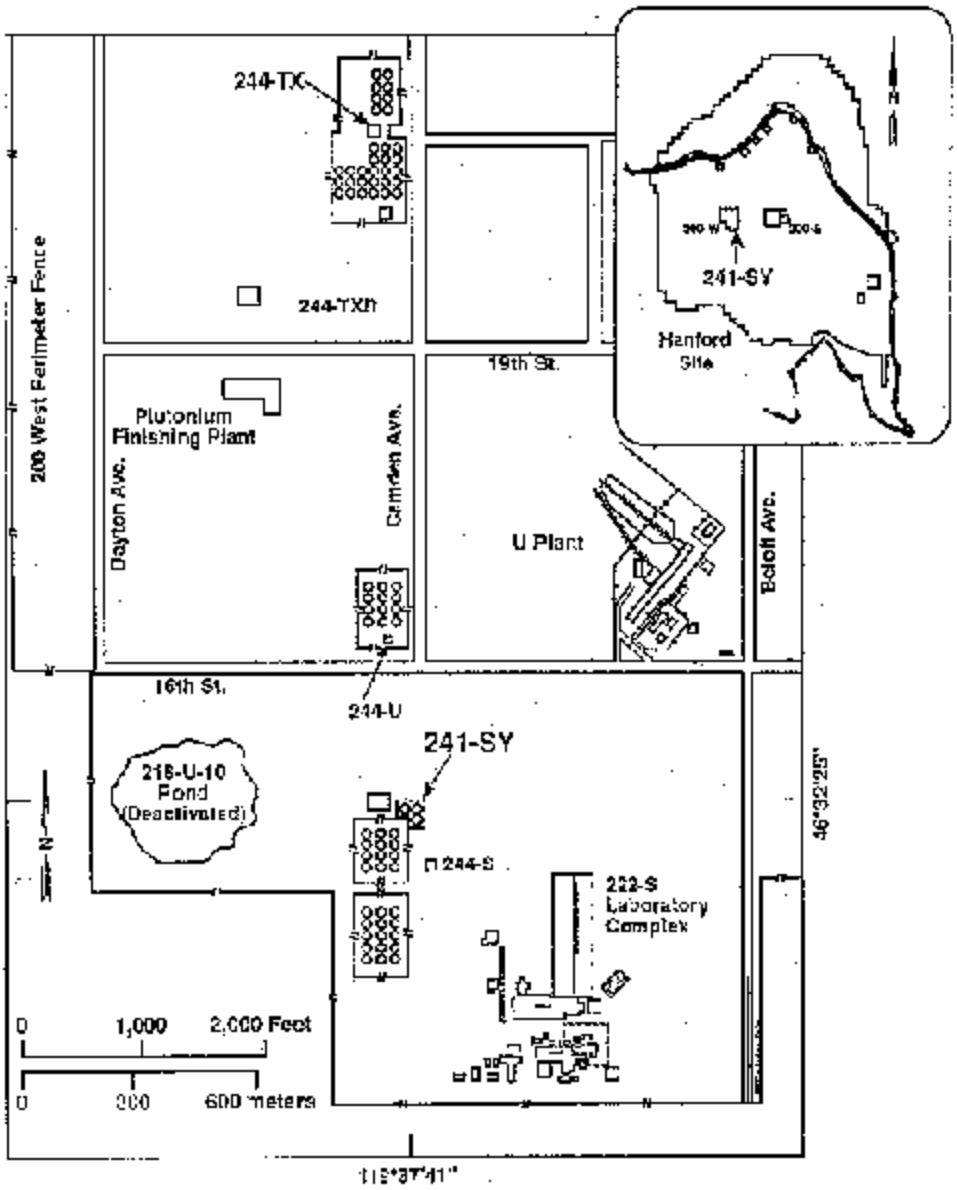
H96070161.27c

241-AW Double-Shell Tank Site Plan



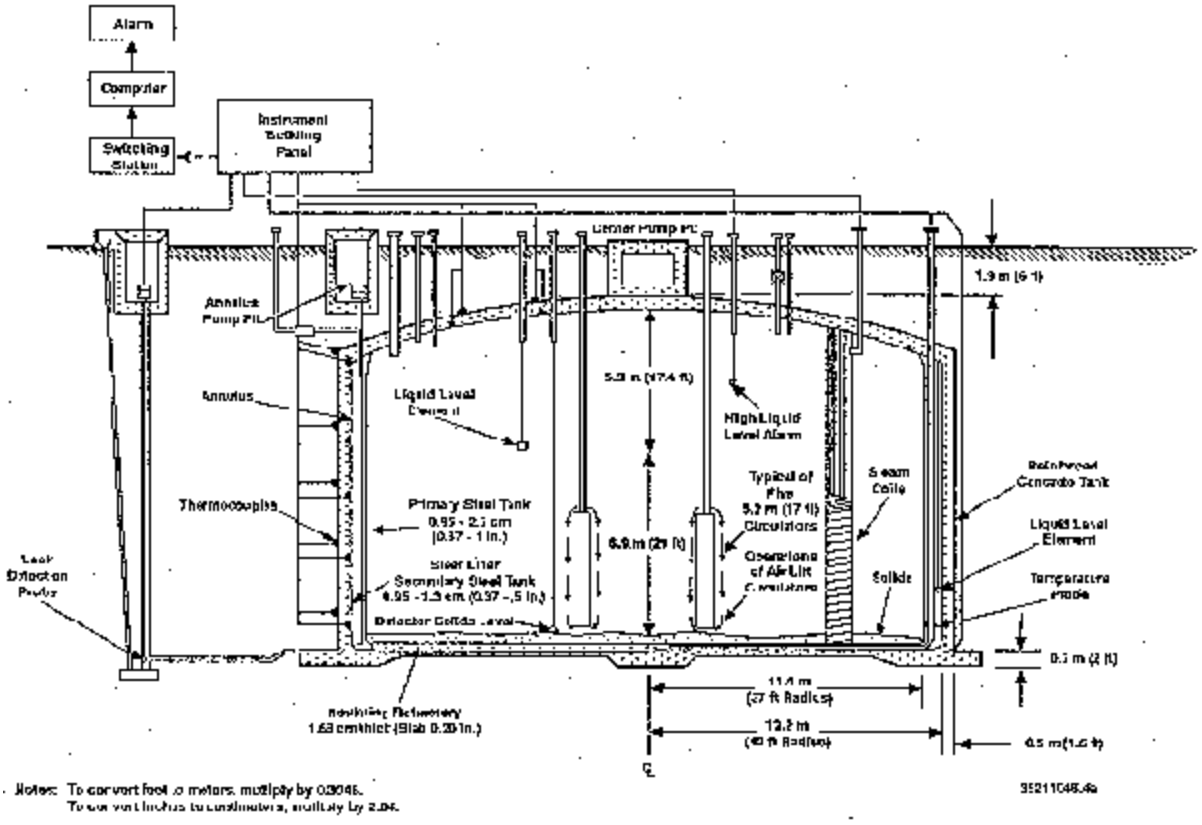
H96070161.27d

241-SY Double-Shell Tank Site Plan



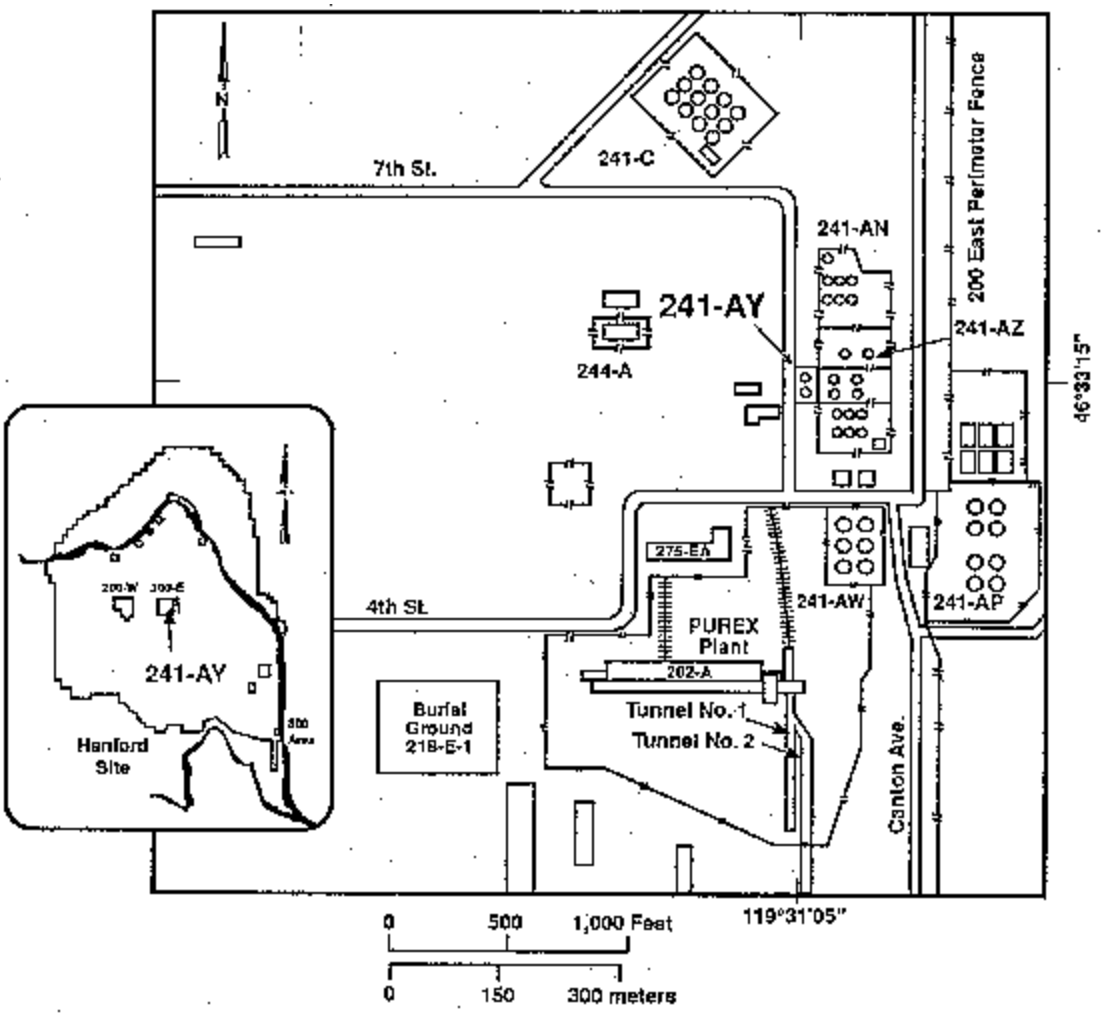
H96070161.34a

Typical Aging Waste Double-Shell Tank



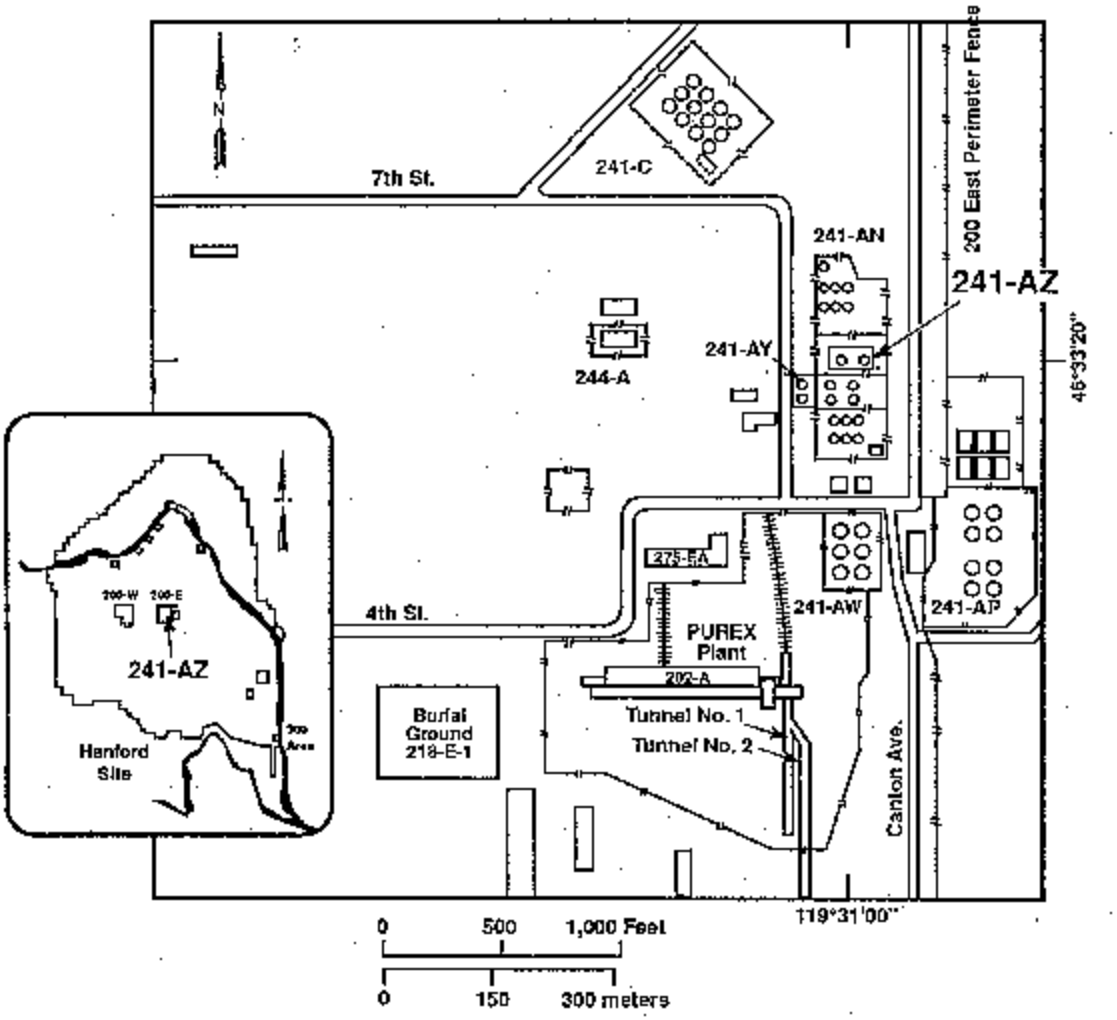
39211048.4a

241-AY Aging Waste Double-Shell Tank Site Plan



H96070161.27e

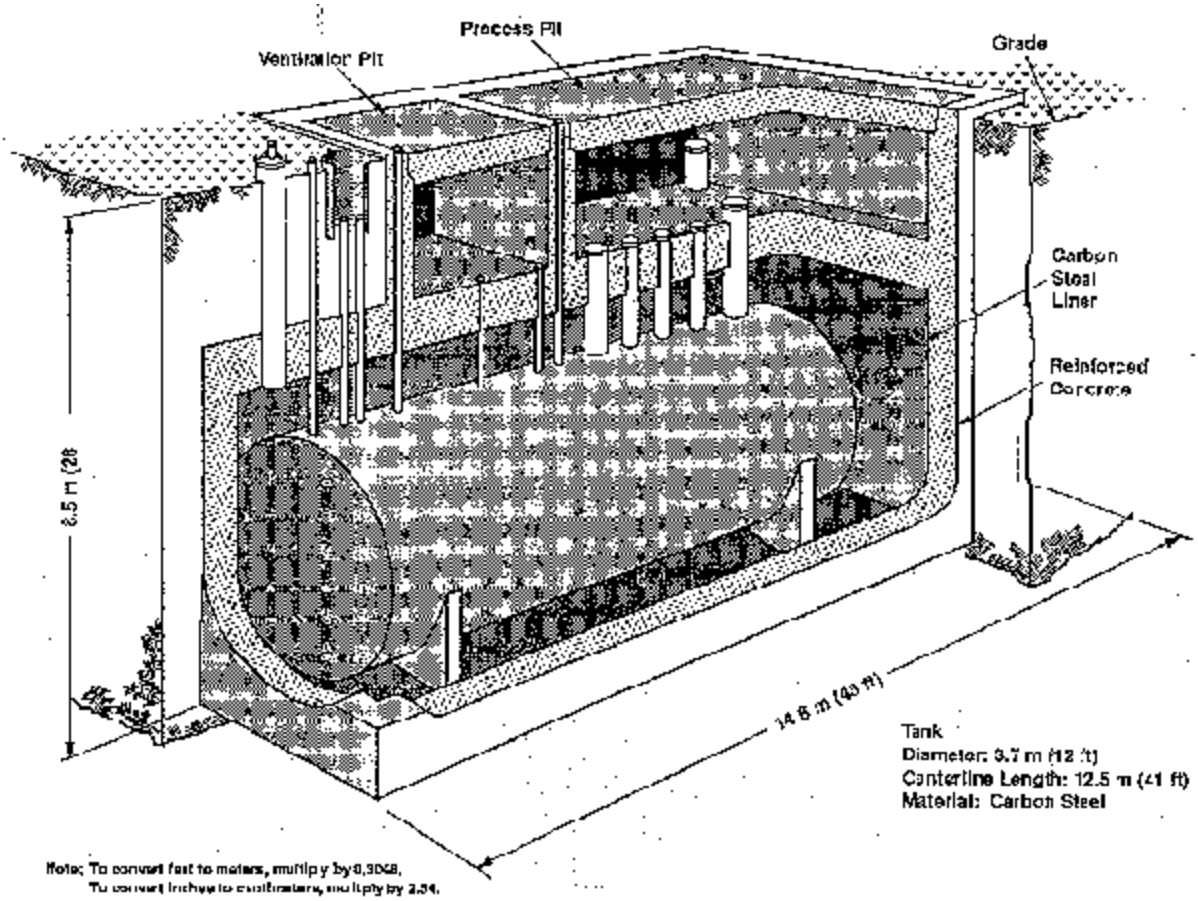
241-AZ Aging Waste Double-Shell Tank Site Plan



H96070161.27

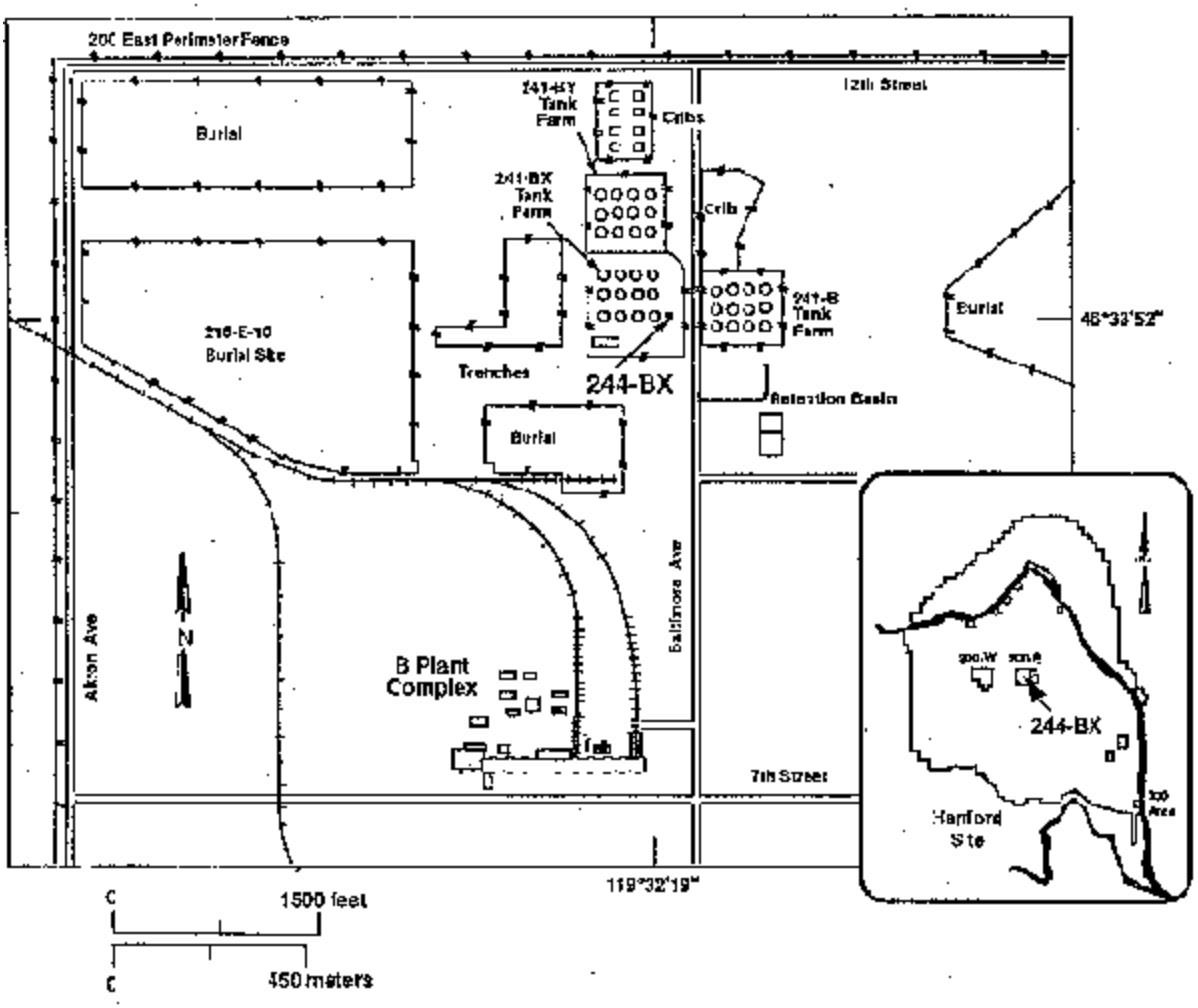
TYPICAL DOUBLE-CONTAINED RECEIVER TANK

(244-BX, 244-TX, and 244-U)



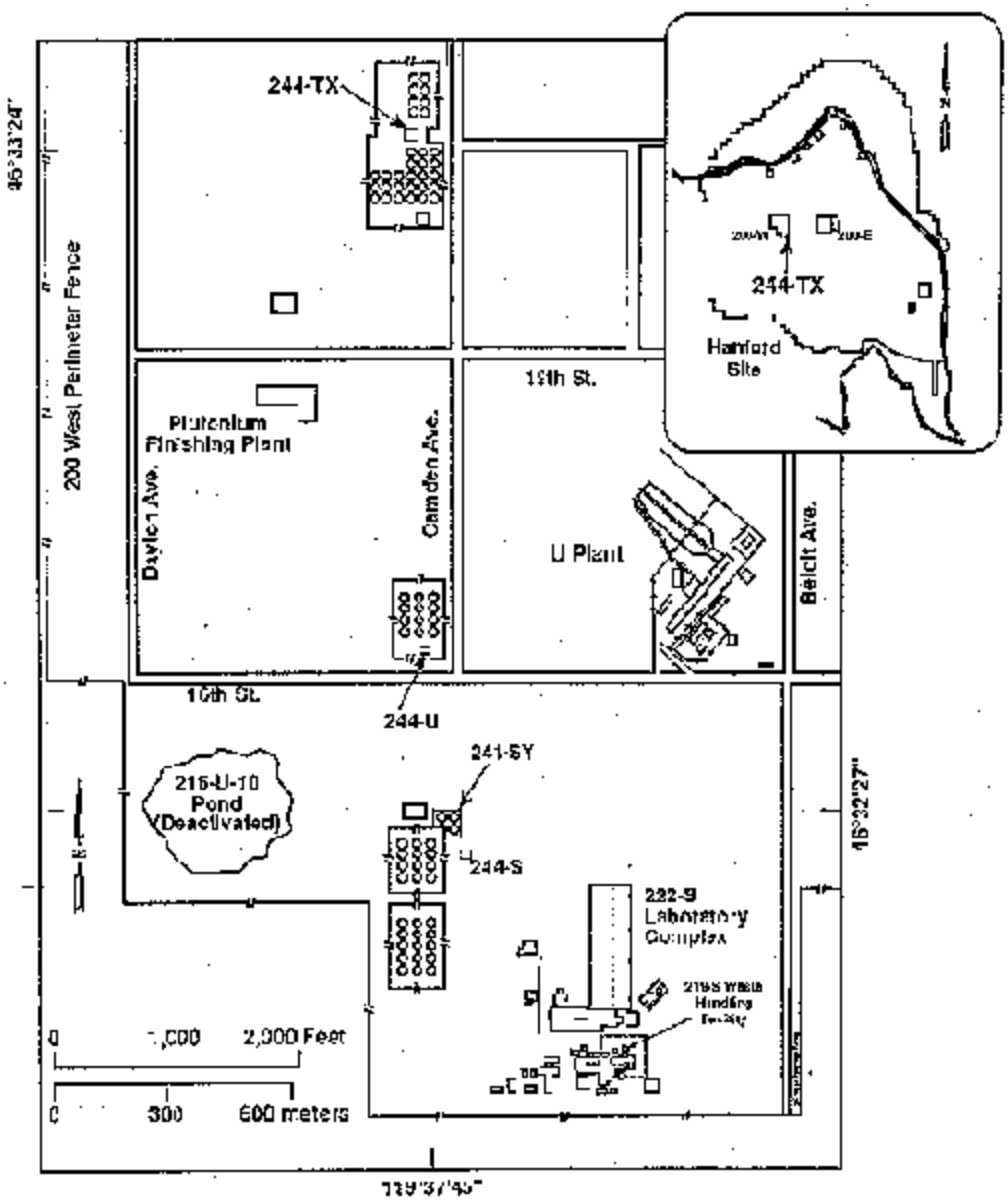
39208044.1

244-BX Double-Contained Receiver Tank Site Plan



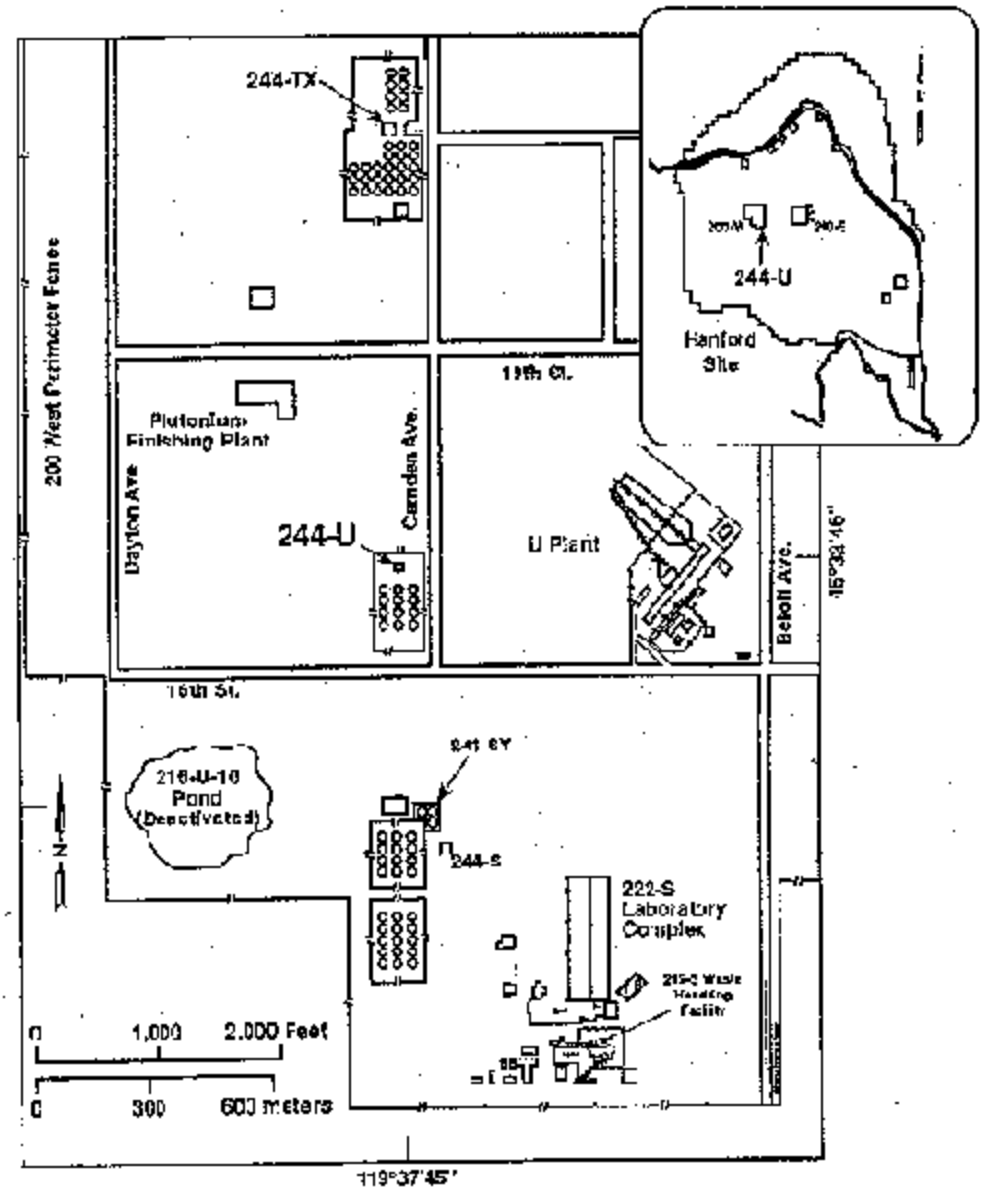
H96070161.41d

244-TX Double-Contained Receiver Tank Site Plan



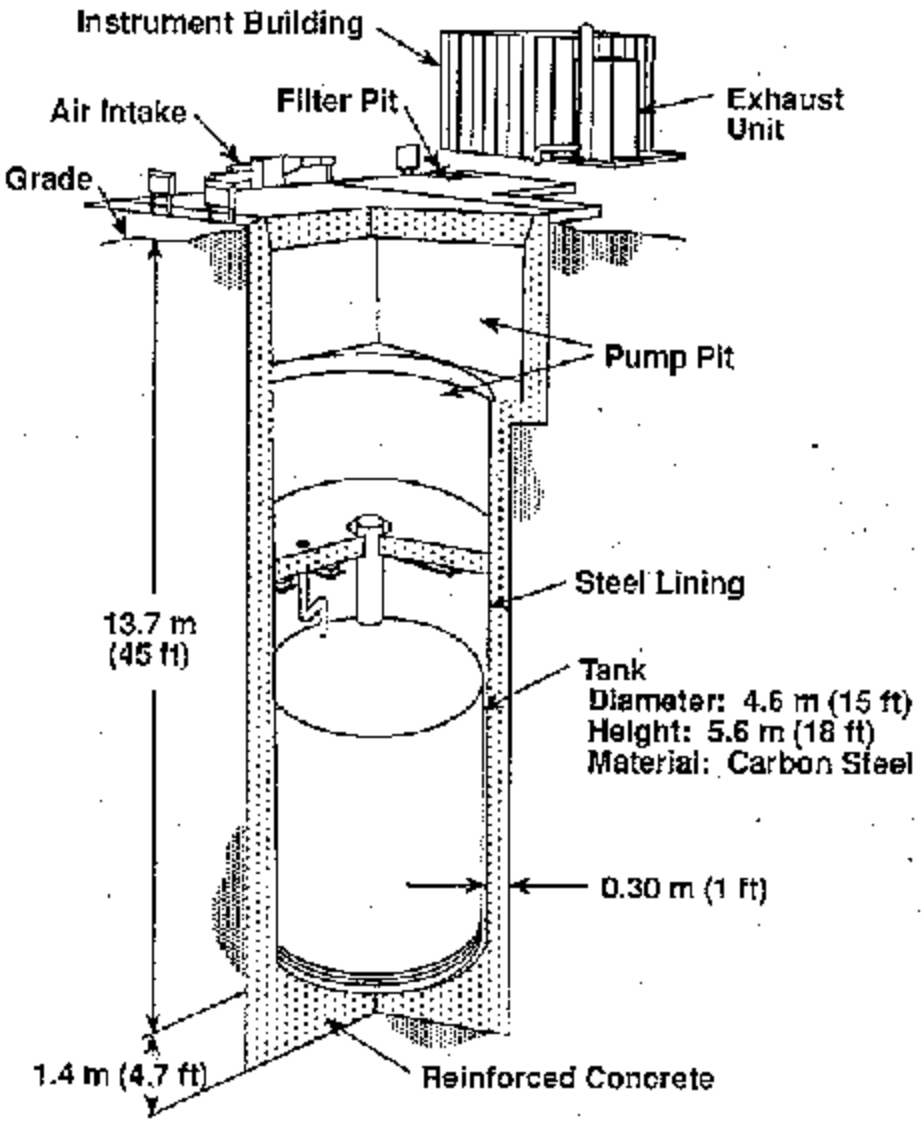
H96070161.34b R1

244-U Double-Contained Receiver Tank Site Plan



H96070161.34c

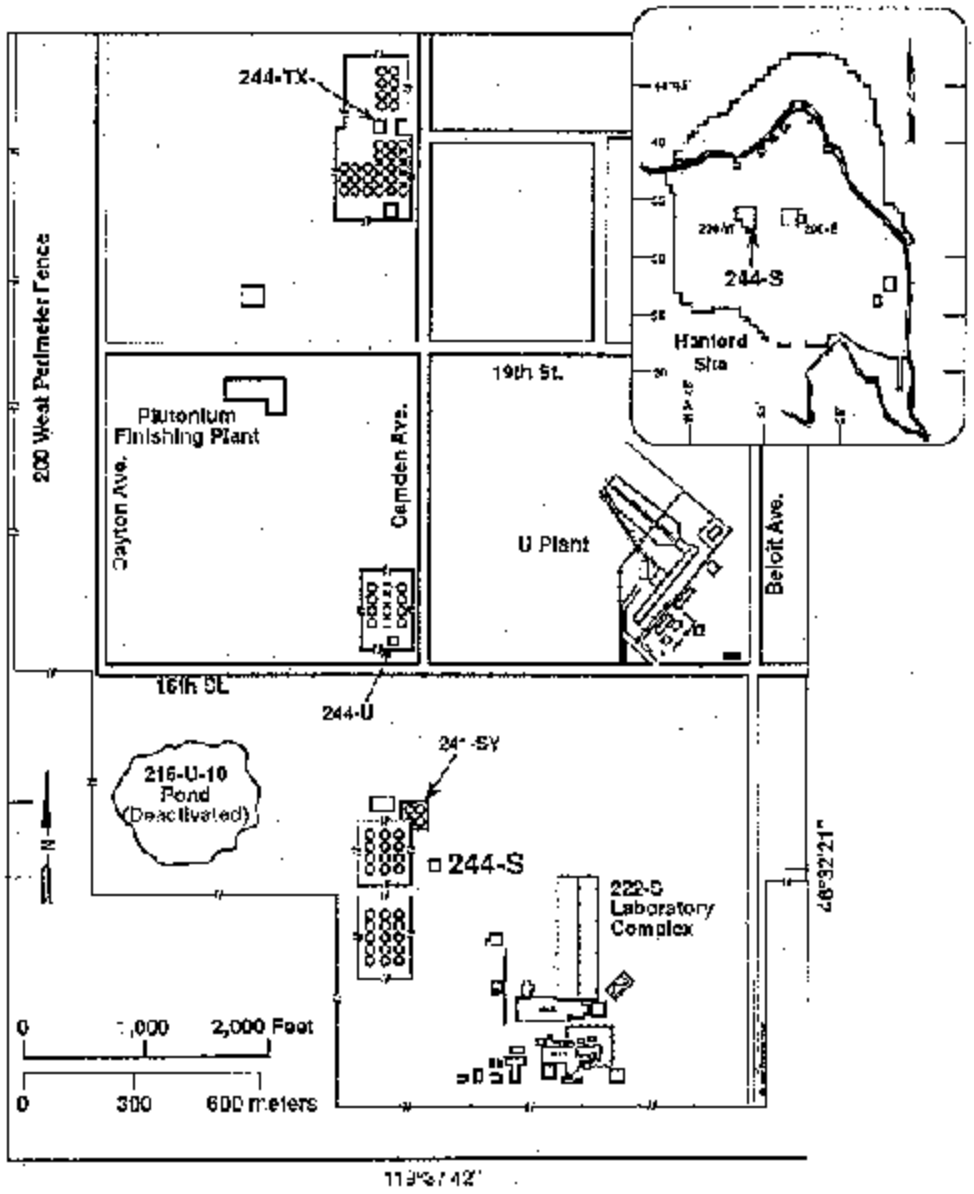
Typical Double-Contained Receiver Tank (244-A and 244-S)



Notes: To convert feet to meters, multiply by 0.3048.

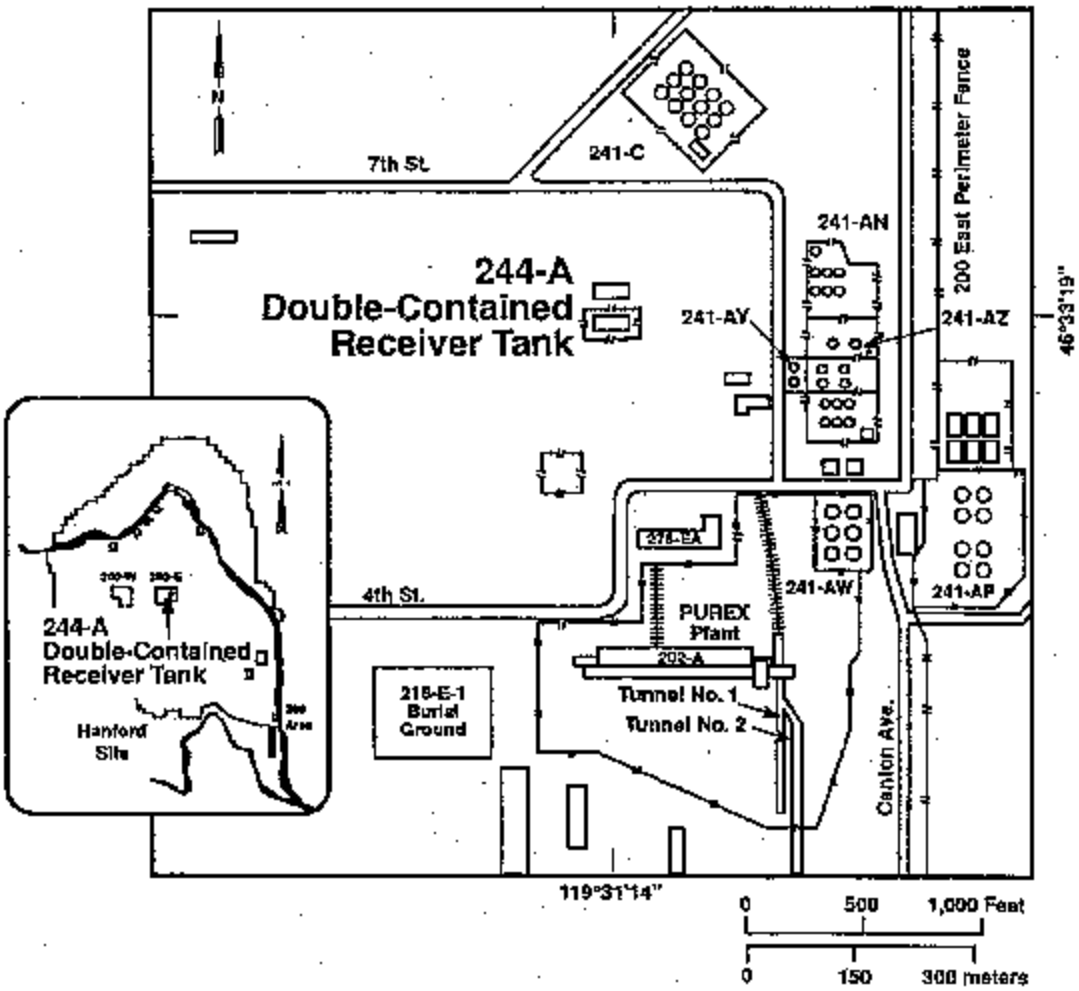
39208044.21

244-S Double-Contained Receiver Tank Site Plan



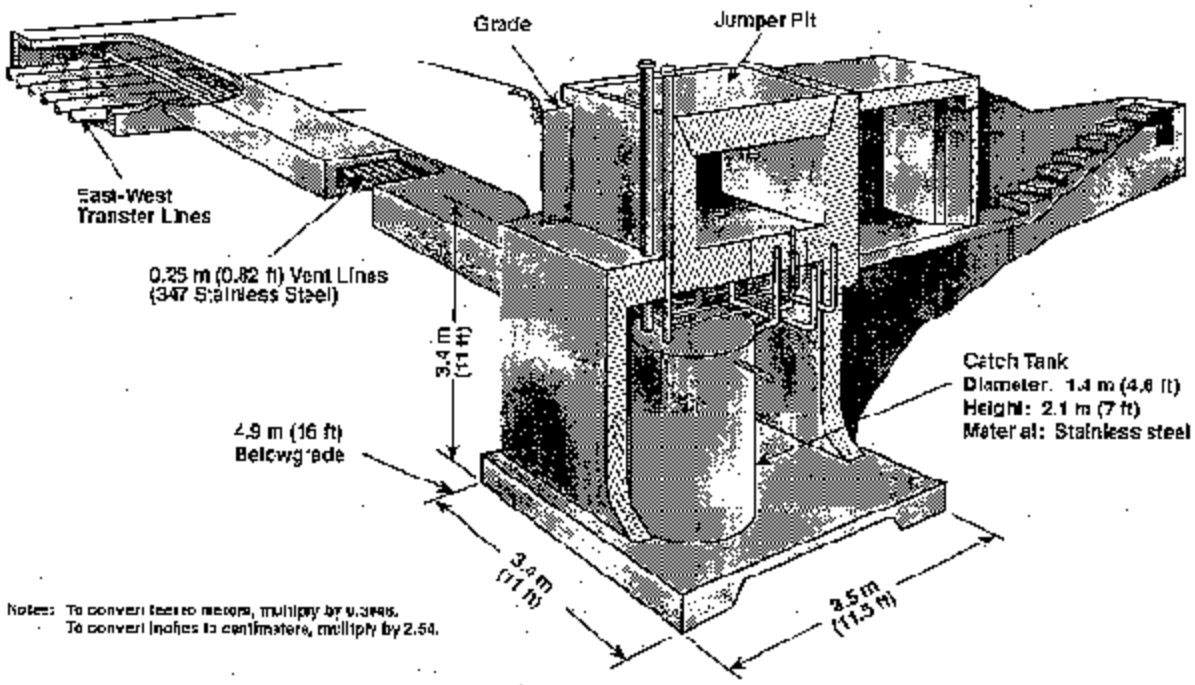
H96070161.34d

244-A Double-Contained Receiver Tank Site Plan



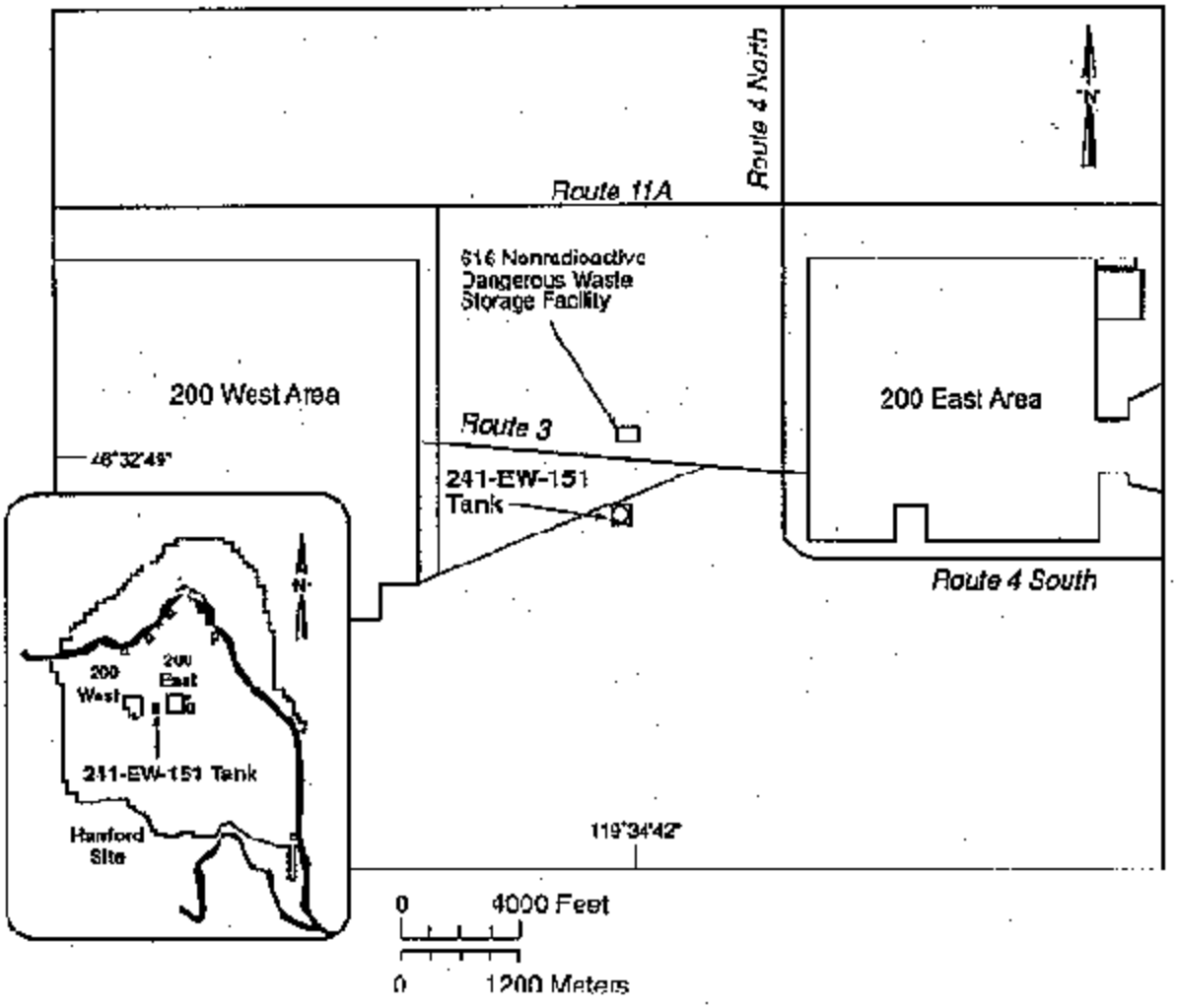
H96070161.27a

241-EW-151 TANK
(200 AREA EAST-WEST VENT STATION)



39208044.2

241-EW-151 Tank
(200 Area East-West Vent Station)
Site Plan



H96070161.33

241-AN DOUBLE-SHELL TANKS

46°33'23"
119°31'01"

96080579-24CN
(PHOTO TAKEN 1996)

241-AP DOUBLE-SHELL TANKS

46°33'04"
119°30'52"

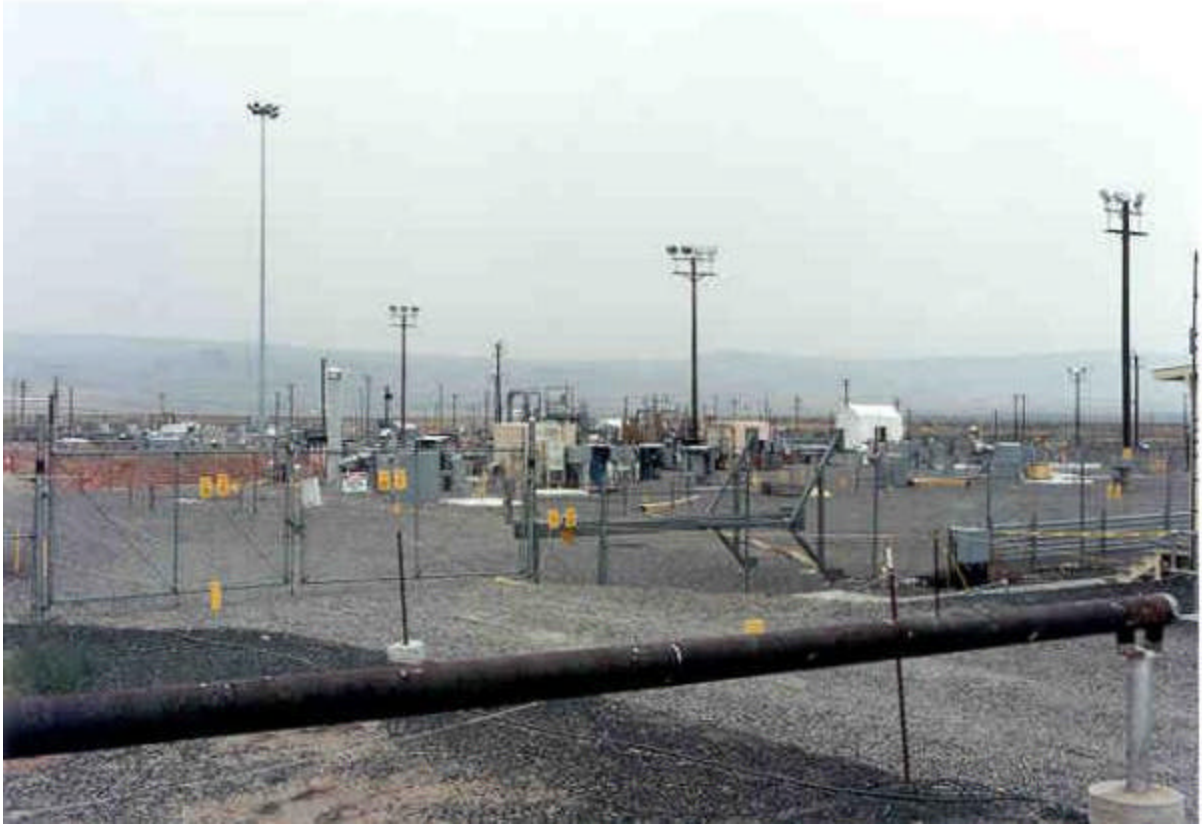
8704135-12CN
(PHOTO TAKEN 1987)

241-AW DOUBLE-SHELL TANKS

46°33'04"
119°31'03"

8704135-11CN
(PHOTO TAKEN 1987)

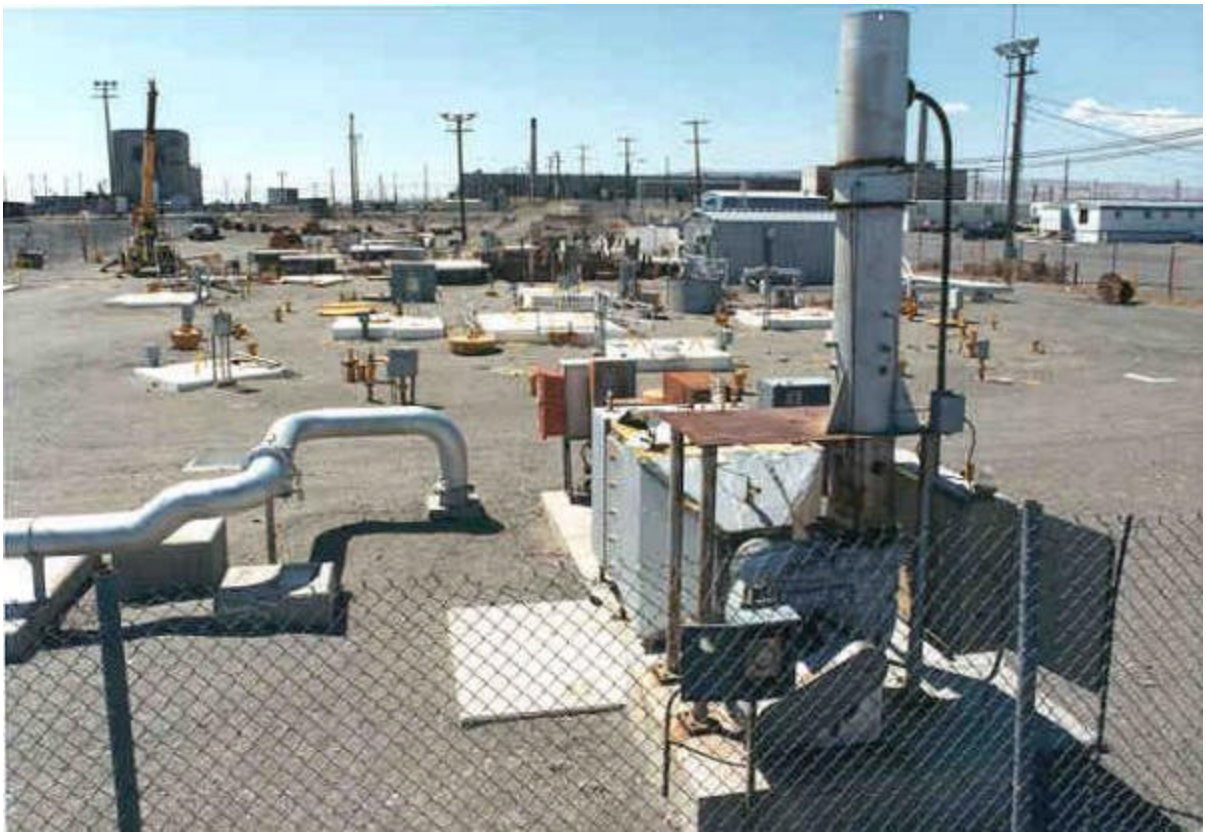
241-SY DOUBLE-SHELL TANKS



46°32'25"
119°37'41"

96080579-1CN
(PHOTO TAKEN 1996)

241-AY AGING WASTE DOUBLE-SHELL TANKS



46°33'15"
119°31'05"

8704135-10CN
(PHOTO TAKEN 1987)

241-AZ AGING WASTE DOUBLE-SHELL TANKS

46°33'20"
119°31'00"

96020361-17CN
(PHOTO TAKEN 1996)

241-EW-151 TANK

46°32'49"
119°34'52"

8704433-17CN
(PHOTO TAKEN 1987)

244-BX DOUBLE-CONTAINED RECEIVER TANK

46°33'52"
119°32'19"

8704135-18CN
(PHOTO TAKEN 1987)

244-TX DOUBLE-CONTAINED RECEIVER TANK

46°33'24"
119°37'45"

8704433-7CN
(PHOTO TAKEN 1987)

244-U DOUBLE-CONTAINED RECEIVER TANK

46°32'46"
119°37'45"

8704433-4CN
(PHOTO TAKEN 1987)

244-A DOUBLE-CONTAINED RECEIVER TANK

46°33'19"
119°31'14"

8704433-15
(PHOTO TAKEN 1987)

244-S DOUBLE-CONTAINED RECEIVER TANK

46°32'21"
119°37'42"

8704433-2CN
(PHOTO TAKEN 1987)