

		WASHINGTON STATE DEPARTMENT OF E C O L O G Y		<h2 style="margin: 0;">Dangerous Waste Permit Application Part A Form</h2>																					
Date Received				Reviewed by:								Date:													
Month	Day	Year		Approved by:								Date:													
I. This form is submitted to: (place an "X" in the appropriate box)																									
<input checked="" type="checkbox"/>		Request modification to a final status permit (commonly called a "Part B" permit)																							
<input type="checkbox"/>		Request a change under interim status																							
<input type="checkbox"/>		Apply for a final status permit. This includes the application for the initial final status permit for a site or for a permit renewal (i.e., a new permit to replace an expiring permit).																							
<input type="checkbox"/>		Establish interim status because of the wastes newly regulated on:												(Date)											
List waste codes:																									
II. EPA/State ID Number																									
W	A	7	8	9	0	0	0	8	9	6	7														
III. Name of Facility																									
US Department of Energy – Hanford Facility																									
IV. Facility Location (Physical address not P.O. Box or Route Number)																									
A. Street																									
825 Jadwin																									
City or Town												State		ZIP Code											
Richland												WA		99352											
County Code (if known)			County Name																						
0	0	5	Benton																						
B. Land Type		C. Geographic Location								D. Facility Existence Date															
		Latitude (degrees, mins, secs)				Longitude (degrees, mins, secs)				Month		Day		Year											
F		Refer to TOPO Map (Section XV.)								0		3		0		2		1		9		4		3	
V. Facility Mailing Address																									
Street or P.O. Box																									
P.O. Box 550																									
City or Town												State		ZIP Code											
Richland												WA		99352											

VI. Facility contact (Person to be contacted regarding waste activities at facility)																
Name (last)						(first)										
McCormick						Matthew										
Job Title						Phone Number (area code and number)										
Manager						(509) 376-7395										
Contact Address																
Street or P.O. Box																
P.O. Box 550																
City or Town						State		ZIP Code								
Richland						WA		99352								
VII. Facility Operator Information																
A. Name										Phone Number						
Department of Energy Owner/Operator CH2M HILL Plateau Remediation Company Co-Operator for PUREX*										(509) 376-7395 (509) 376-0556*						
Street or P.O. Box																
P.O. Box 550 P.O. Box 1600 *																
City or Town						State		ZIP Code								
Richland						WA		99352								
B. Operator Type		F														
C. Does the name in VII.A reflect a proposed change in operator?								<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
If yes, provide the scheduled date for the change:								Month		Day			Year			
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.										<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
VIII. Facility Owner Information																
A. Name						Phone Number (area code and number)										
Matthew S. McCormick, Operator/Facility-Property Owner						(509) 376-7395										
Street or P.O. Box																
P.O. Box 550																
City or Town						State		ZIP Code								
Richland						WA		99352								
B. Owner Type		F														
C. Does the name in VIII.A reflect a proposed change in owner?								<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
If yes, provide the scheduled date for the change:								Month		Day			Year			
IX. NAICS Codes (5/6 digit codes)																
A. First						B. Second										
5	6	2	2	1		9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs				
C. Third						D. Fourth										
5	4	1	7	1								Research & Development in the Physical, Engineering, & Life Sciences				

X. Other Environmental Permits (see instructions)													
A. Permit Type			B. Permit Number										C. Description
	E		A	I	R	0	6	-	1	0	2	6	WAC-246-247, NOC
	E		F	F	-	0	1						WAC-246-247, NOC Radioactive Air

XI. Nature of Business (provide a brief description that includes both dangerous waste and non-dangerous waste areas and activities)

The Plutonium-Uranium Extraction (PUREX) Plant is located in the southeast portion of the 200 East Area, and includes the 202-A Building and various support structures. The PUREX Plant was used for the recovery of uranium and plutonium from irradiated reactor fuel. Liquid processes were used to separate the plutonium and uranium. The 202-A Building is a reinforced concrete structure approximately 306 meters long, 36 meters wide, and 30 meters high, with approximately 12 meters 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 mostly below grade); (2) pipe and operating sample and storage galleries; and (3) an annex that included offices, process control rooms, laboratories, and building services.

Process Code X99:

The PUREX Storage Tunnels are designated as a Miscellaneous Unit (WAC 173-303-680). Process code X99 is used for storage of mixed waste subject to the requirements of WAC 173-303-680. PUREX Storage Tunnels Number 1 & 2 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; however, not all the material stored in the tunnels contains mixed waste.

Construction of PUREX Storage Tunnel Number 1 was completed in 1956. Tunnel Number 1 is approximately 5.8 meters (19 feet) wide by 6.7 meters (22 feet) high by 109 meters (358 feet) long and provides storage space for eight railcars. Between June 1960 and January 1965, eight railcar positions were filled and Tunnel Number 1 was sealed. The combined volume of the equipment stored on the eight railcars in Tunnel Number 1 is approximately 596 cubic meters (780 cubic yards). The maximum process design capacity for storage in Tunnel Number 1 is approximately 4,129 cubic meters (5,400 cubic yards).

Construction of PUREX Storage Tunnel Number 2 was completed in 1964. Tunnel Number 2 is approximately 5.8 meters (19 feet) wide by 6.7 meters (22 feet) high by 514 meters (1,686 feet) long and provides storage space for 40 railcars. In December 1967, the first railcar was placed in Tunnel Number 2. As of August 2000, 28 railcars are in Tunnel Number 2. The volume of equipment stored on the 28 railcars in Tunnel Number 2 is approximately 2,204 cubic meters (2,883 cubic yards). The maximum process design capacity for storage in Tunnel Number 2 is approximately 19,878 cubic meters (26,000 cubic yards).

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

Process Code T01/S02:

T01 and S02 are used to indicate a historical use of the tanks for storage and treatment. The tanks once used in this process have been drained and flushed and are awaiting final disposition. S02 references vessels that are permitted to store mixed waste. The PUREX Vessel Table includes the tank identification numbers, tank locations, and tank capabilities for the permitted tanks. The total process design capacity for tank storage is 1,263,233 liters.

Process Code S06:

S06 is used to indicate a containment building subject to the requirements of 40 CFR 265, Subpart DD, as prescribed in WAC 173-400 interim status facility standards. A steel open top skid containing concrete chips from the floor of E-Cell is stored in F-Cell. The solid mixed waste in the canyon could consist of contaminated discarded canyon process equipment, jumpers (or isolated components thereof), or other material from the various onsite sources.

Treatment and storage capacities are provided to reflect past operations. PUREX activities do not propose utilization of treatment or storage capacity beyond what has been agreed to for the facility transition purposes under the Hanford Federal Facility Agreement and Consent Order, Section 8.

EXAMPLE FOR COMPLETING ITEMS XII and XIII (shown in lines numbered X-1, X-2, and X-3 below): A facility has two storage tanks that hold 1200 gallons and 400 gallons respectively. There is also treatment in tanks at 20 gallons/hr. Finally, a one-quarter acre area that is two meters deep will undergo *in situ* vitrification.

Section XII. Process Codes and Design Capacities							Section XIII. Other Process Codes									
Line Number	A. Process Codes (enter code)			B. Process Design Capacity		C. Process Total Number of Units	Line Number	A. Process Codes (enter code)			B. Process Design Capacity		C. Process Total Number of Units	D. Process Description		
	1.	2.	3.	1. Amount	2. Unit of Measure (enter code)			1.	2.	3.	1. Amount	2. Unit of Measure (enter code)				
X	1	S	0	2	1,600	G	002	X	1	T	0	4	700	C	001	In situ vitrification
X	2	T	0	3	20	E	001									
X	3	T	0	4	700	C	001									
	1	X	9	9	24,007	C	002		1							
	2	T	0	1	392,000	V	008		2							
	3	S	0	2	1,263,233	L	045		3							
	4	S	0	6	430	C	001		4							
	5								5							
	6								6							
	7								7							
	8								8							
	9								9							
1	0							1	0							
1	1							1	1							
1	2							1	2							
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1	9							1	9							
2	0							2	0							
2	1							2	1							
2	2							2	2							
2	3							2	3							
2	4							2	4							
2	5							2	5							

XIV. Description of Dangerous Wastes														
Example for completing this section: A facility will receive three non-listed wastes, then store and treat them on-site. Two wastes are corrosive only, with the facility receiving and storing the wastes in containers. There will be about 200 pounds per year of each of these two wastes, which will be neutralized in a tank. The other waste is corrosive and ignitable and will be neutralized then blended into hazardous waste fuel. There will be about 100 pounds per year of that waste, which will be received in bulk and put into tanks.														
Line Number	A. Dangerous Waste No.				B. Estimated Annual Quantity of Waste	C. Unit of Measure	D. Processes							
							(1) Process Codes				(2) Process Description [If a code is not entered in D (1)]			
X 1	D	0	0	2	400	P	S	0	1	T	0	1		
X 2	D	0	0	1	100	P	S	0	2	T	0	1		
X 3	D	0	0	2										Included with above
1	D	0	0	5	454	K	X	9	9					Includes Debris
2	D	0	0	6	454	K	X	9	9					Includes Debris
3	W	T	0	2		K	X	9	9					Includes Debris
4	D	0	0	7	454	K	X	9	9					Includes Debris
5	D	0	0	8	8,000	K	X	9	9					Includes Debris
6	D	0	0	9	45	K	X	9	9					Includes Debris
7	D	0	1	0	454	K	X	9	9					Includes Debris
8	D	0	1	1	680	K	X	9	9					Includes Debris
9	D	0	0	1		K	X	9	9					Includes Debris
10	W	T	0	2	454	K	X	9	9					Includes Debris
11	W	P	0	1	0	K	T	0	1	S	0	2		
12	W	P	0	2		K	T	0	1	S	0	2		
13	W	T	0	1		K	T	0	1	S	0	2		
14	W	T	0	2		K	T	0	1	S	0	2		
15	D	0	0	1		K	T	0	1	S	0	2		
16	D	0	0	2		K	T	0	1	S	0	2		
17	D	0	0	3		K	T	0	1	S	0	2		
18	D	0	0	4		K	T	0	1	S	0	2		
19	D	0	0	5		K	T	0	1	S	0	2		
20	D	0	0	6		K	T	0	1	S	0	2		
21	D	0	0	7		K	T	0	1	S	0	2		
22	D	0	0	8		K	T	0	1	S	0	2		
23	D	0	0	9		K	T	0	1	S	0	2		
24	D	0	1	0		K	T	0	1	S	0	2		
25	D	0	1	1		K	T	0	1	S	0	2		

XV. Map
 Attach to this application a topographic map of the area extending to at least one (1) mile beyond property boundaries. The map must show the outline of the facility; the location of each of its existing and proposed intake and discharge structures; each of its dangerous waste treatment, storage, recycling, or disposal units; and each well where fluids are injected underground. Include all springs, rivers, and other surface water bodies in this map area, plus drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary. The instructions provide additional information on meeting these requirements.

Topographic map is located in the Ecology Library

XVI. Facility Drawing
 All existing facilities must include a scale drawing of the facility (refer to Instructions for more detail).

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

XVIII. Certifications

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

<p>Operator Name and Official Title (type or print) Matthew S. McCormick, Manager U.S. Department of Energy Richland Operations Office</p>	<p>Signature</p>	<p>Date Signed</p>
<p>Co-Operator* Name and Official Title (type or print) John G. Lehew, III President and Chief Executive Officer CH2M HILL Plateau Remediation Company</p>	<p>Signature</p> 	<p>Date Signed</p> <p>11/19/10</p>
<p>Co-Operator – Address and Telephone Number* P.O. Box 1600 Richland, WA 99352 (509) 376-0556</p>		
<p>Facility-Property Owner Name and Official Title (type or print) Matthew S. McCormick, Manager U.S. Department of Energy Richland Operations Office</p>	<p>Signature</p>	<p>Date Signed</p>

Comments

PUREX Plant Vessels

Storage Vessels Inside Canyon

Vessel ID	Location	Capacity (Liters)
TK-D5	D Cell	19,851
TK-E6	E-Cell	19,813
TK-F3	F-Cell	19,964
TK-F4	F-Cell	19,593
T-F5	F-Cell	1,132
TK-G1	G Cell	18,662
TK-G2	G Cell	7,064
TK-G2	G Cell	8,248
TK-G5	G Cell	55,403
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

Cell locations noted on the building illustrations

Storage Vessels Outside Canyon

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-P4	203-A	402,930
TK-40	211-A	247,360
TK-156	AMU	1,533

Treatment and Storage Vessels Inside Canyon

TK-E5	E Cell	19,873
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-G7	G Cell	50,827

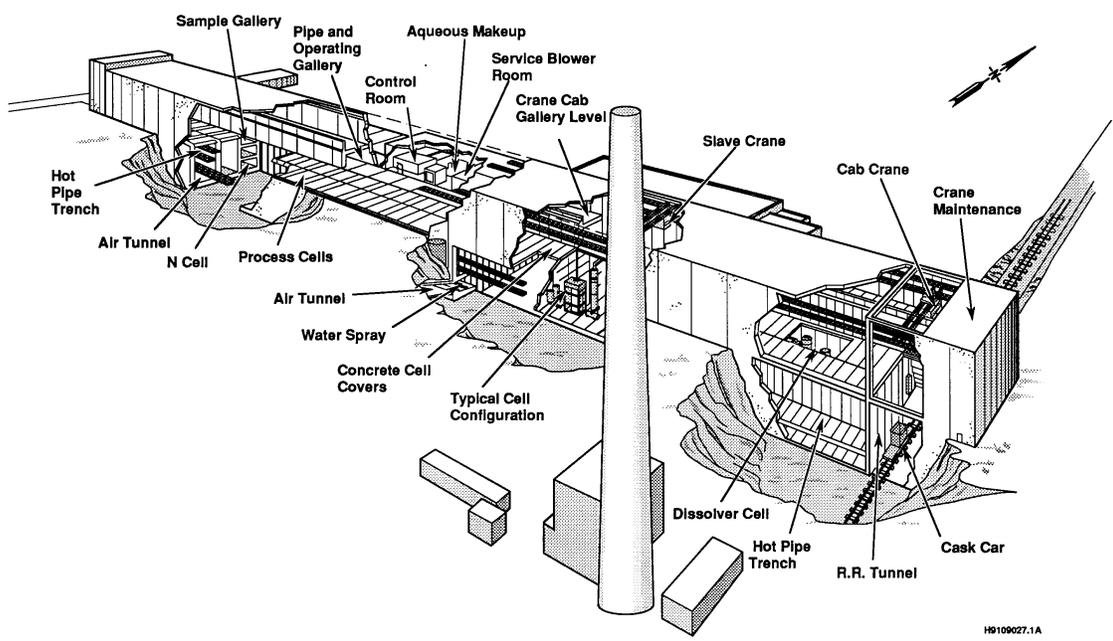
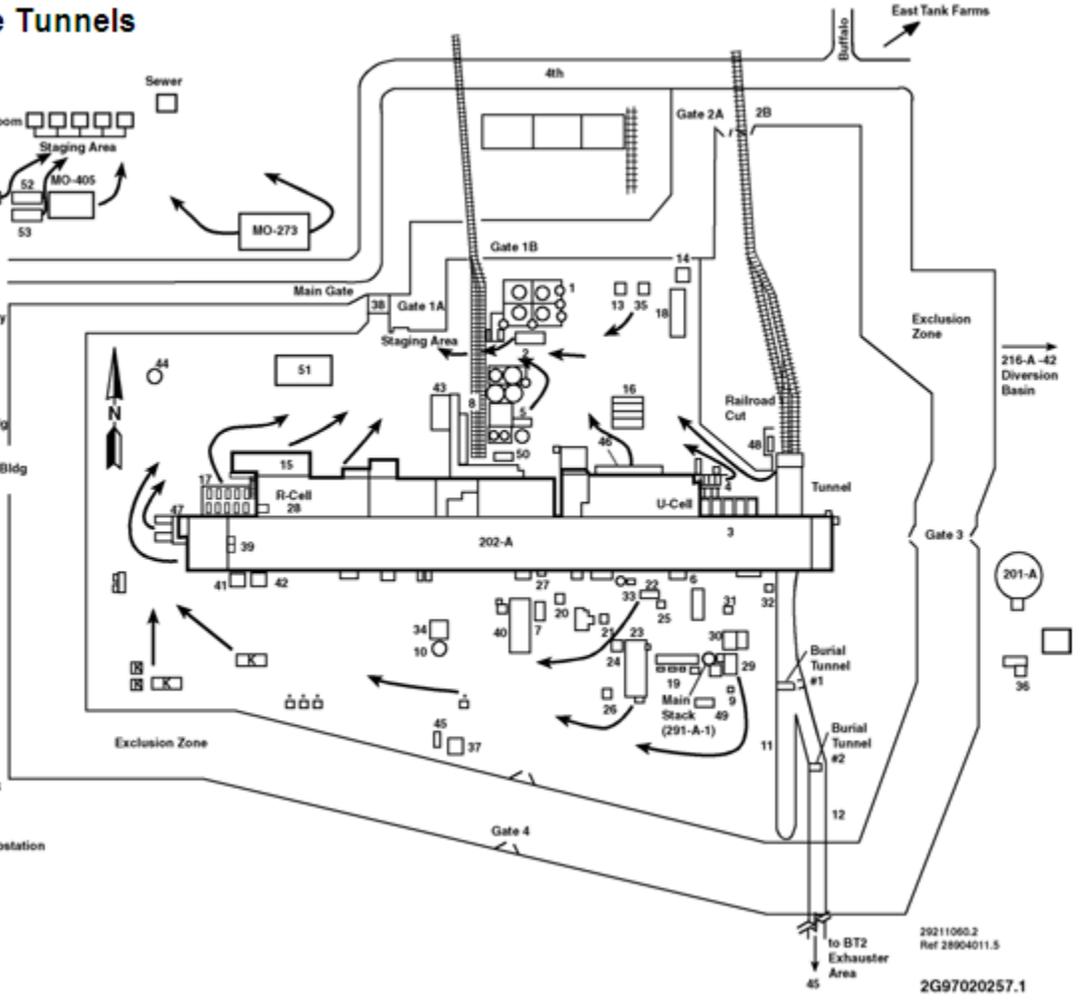
Treatment and Storage Vessels Outside Canyon

TK-U3	U Cell	31,124
TK-U4	U Cell	31,184

Total Capacity 1,263,233

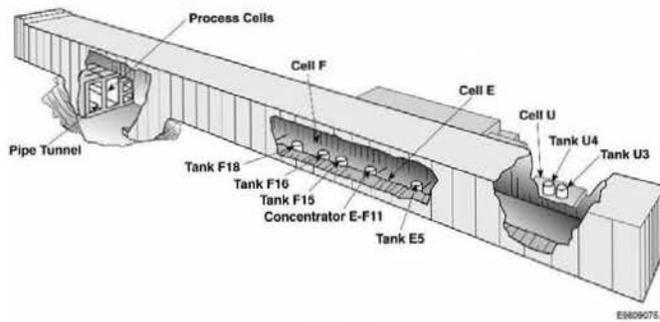
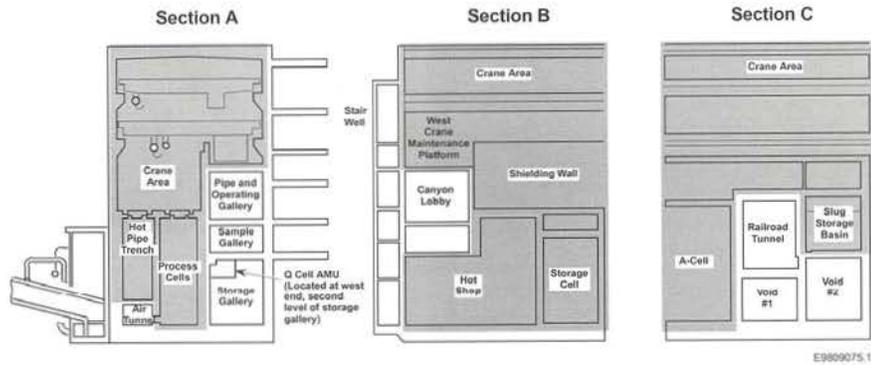
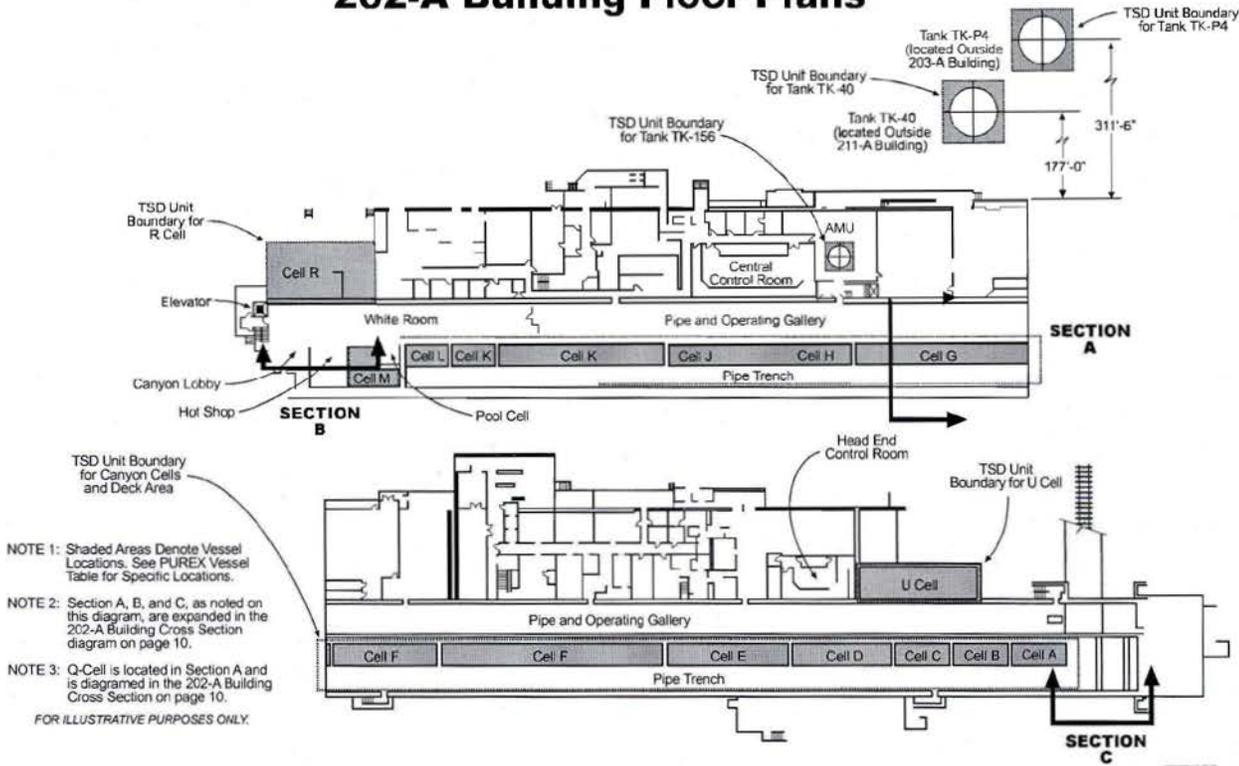
PUREX Storage Tunnels

1. 203-A Storage Area
 2. 203-A UNH Pump House/Control Room
 3. 204-A U-Cell
 4. 206-A Fractionator Bldg
 5. 211-A Demineralizer Bldg
 6. 212-A Load Out
 7. 213-A Reg. Maint. Workshop
 8. 214-A, B, C, D
 9. 216-A Spud Cellar Sample Pit
 10. 216-A-5 PDD Pit
 11. 218-E-14 Storage Tunnel
 12. 218-E-15 Storage Tunnel
 13. 225-EC TEDF Monitoring Bldg
 14. Electrical Switch Station
 15. 271-AB PUREX Maintenance Facility
 16. MO-409
 17. 276-A R Cell
 18. 281-A Emergency Generators
 19. 291-A Exhaust Fans
 20. 291-AB Sample Shack
 21. 291-AC Instr. Shack
 22. 291-AD Ammonia Off Gas Filter Bldg
 23. 291-AE #4 Filter Bldg
 24. 291-AG Instr. Shack
 25. 291-AH Ammonia Off Gas Sampler Bldg
 26. 291-AJ Instr. Shack
 27. 291-AK Air Tunnel Enclosure
 28. 292-AA PR Stack Sample
 29. 292-AB Main Stack Bldg
 30. 293-A Dissolver Off Gas Bldg
 31. 294-A Off Gas Instr. Shack
 32. 295-A ASD (Ammonia Scrubber)
 33. 295-AA SCD (Steam Condensate)
 34. 295-AB PDD (Process Distillate)
 35. 295-AC CSL Sample Bldg
 36. 295-AD CWL (Cooling Water)
 37. 295-AE New PDD Monitoring Bldg
 38. 2701-AB Badge House
 39. 2701-AC Patrol Guard Shack
 40. Electrical Substation
 41. 2711-A-1 Air Compressor Bldg
 42. 2712-A Pumphouse
 43. 2714-A Chemical Warehouse
 44. 2901-A Water Tank
 45. BT2 Exhauster Area
 46. Laboratory Sample Receiving Dock
 47. PR-Dock
 48. Railroad Storage Shed
 49. SAMCON Unit
 50. Surveillance Lighting Electrical Substation
 51. MO-405
 52. MO-388
 53. MO-347
 54. MO-946
- * - Storage Shacks
 K - Kaiser Trailers

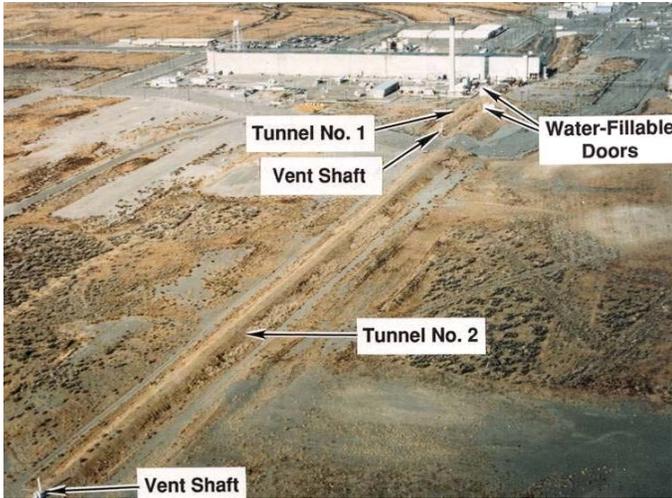


H9109027.1A

202-A Building Floor Plans



PUREX Plant Cutaway (202-A Building)



PUREX Storage Tunnels

89100252-3CN
Photo Taken 1989



PUREX Plant

97060044-12CN



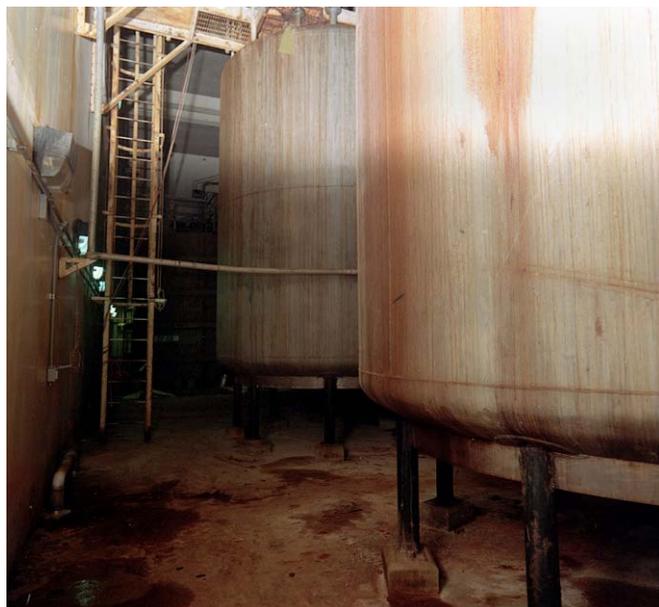
Interior Canyon
West-East View

60478-4CN
Photo Taken 1973



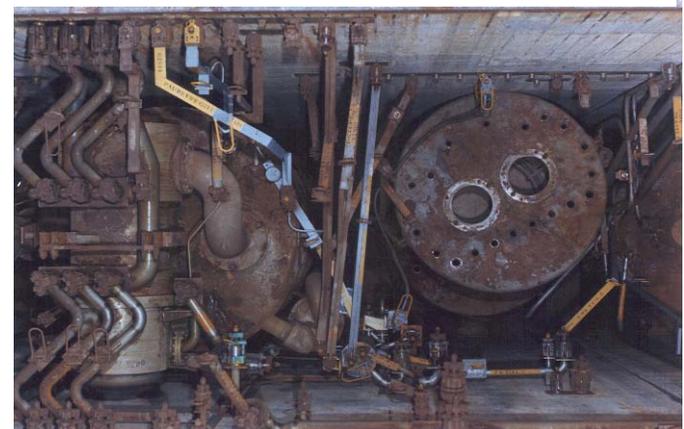
U Cell
Typical of Tank U4

92102839-10CN
Photo Taken 1992



U Cell
Tank U3 & Tank U4

92102839-7CN
Photo Taken 1992



F-Cell
Looking Down

99948-48CN
Photo Taken 1982



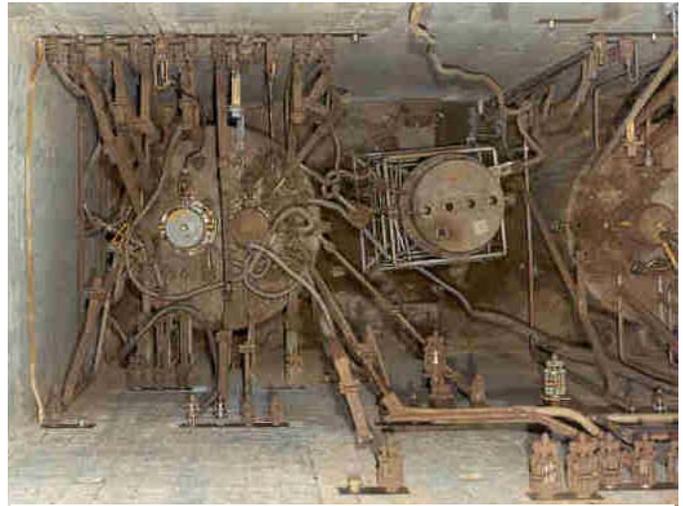
Standard 18,927-Liter Tank
(Typical of E5, F15, F16, & F18)

8706243-5CN
Photo Taken 1987



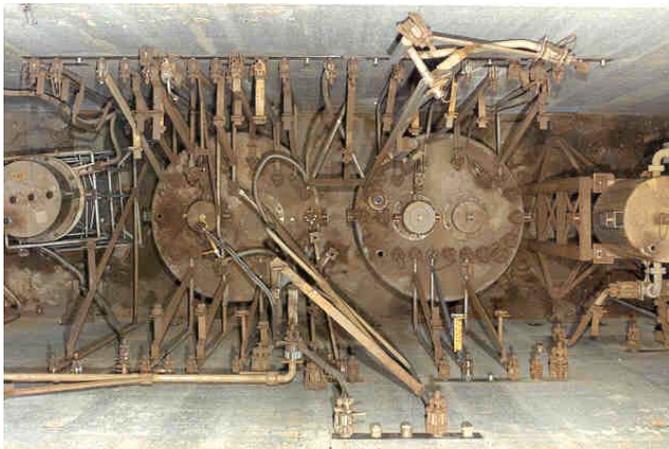
Tank E5
Top Pipe Trench Wall

09948-38CN
Photo Taken 1982



Tank F18
Top Pipe Trench Wall

099948-74CN
Photo Taken 1982



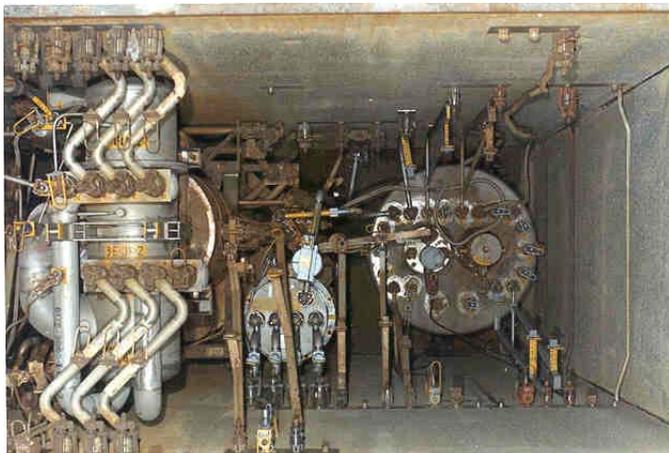
Tank F15 & Tank F16
Top Pipe Trench Wall

099948-71CN
Photo Taken 1982



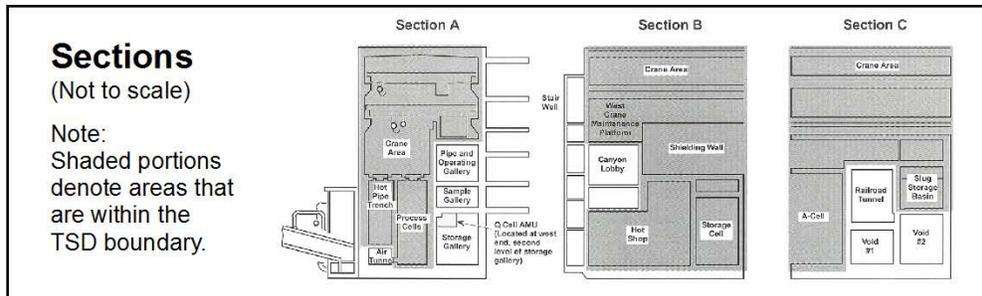
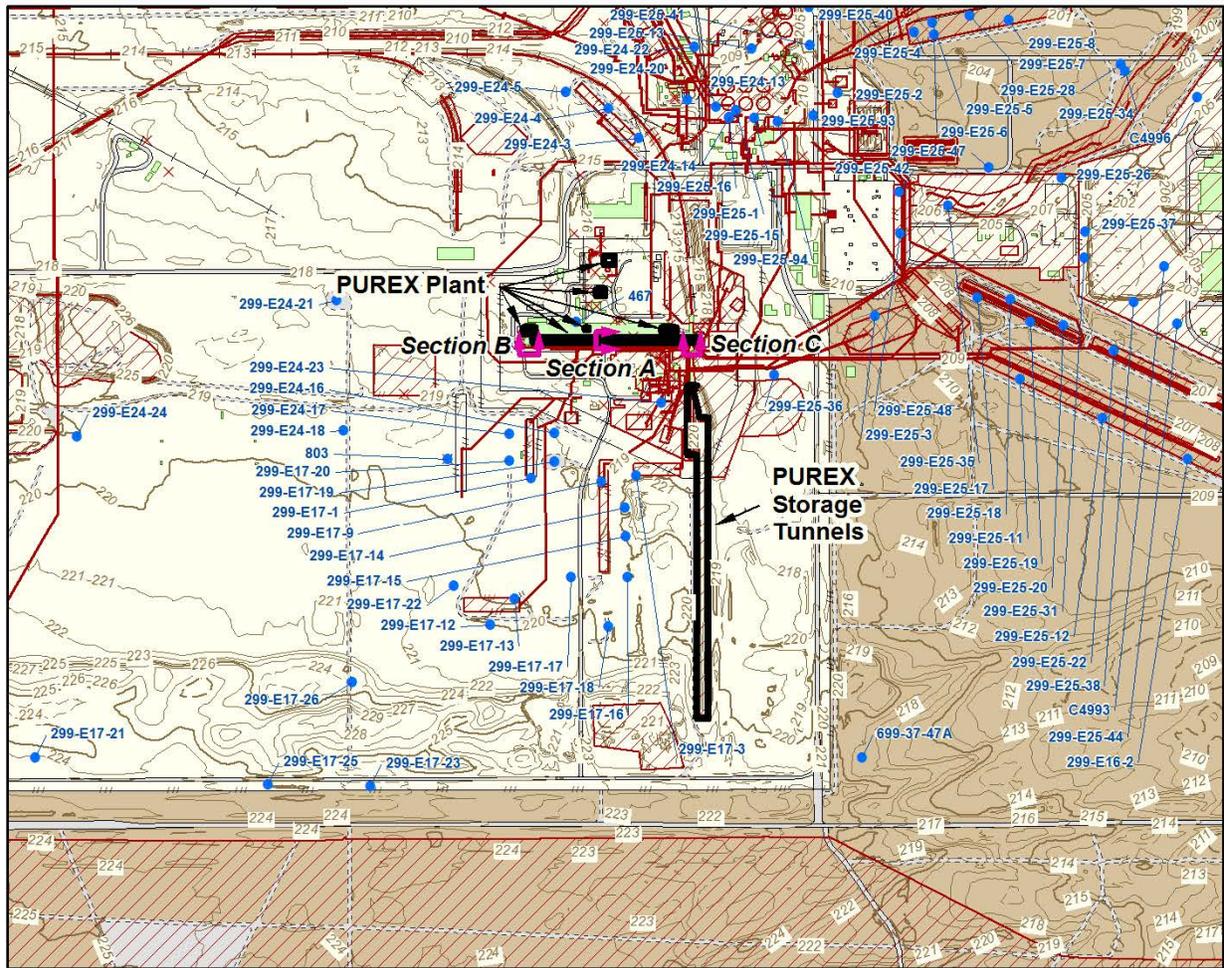
E-F11 Concentrator

8706243-8CN
Photo Taken 1987



E-F11 Concentrator
Top Pipe Trench Wall

099948-64CN
Photo Taken 1982



PUREX

Hanford Site



Unit Location

Prepared for:
 US DEPARTMENT OF ENERGY
 RICHLAND OPERATIONS OFFICE
 Created and Published by:
 Central Mapping Services
 Fluor Hanford, Richland, WA
 (509) 373-9076
 Intended Use: REFERENCE ONLY
 Topographic Data:
 1996, Bechtel Hanford, Inc.

- TSD Unit Boundary
- DOE Operating Areas
- Hanford Facility
- Injection and Withdrawal Wells
- Contours at 1 Meter Intervals
- Depression Contours
- SWMUs and Known Releases
- Linear SWMUs and Known Releases
- Spot SWMUs and Known Releases
- Buildings and Mobiles
- Structures
- Concrete
- Major Roads
- Service Roads
- Railroads
- Fences



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