

		WASHINGTON STATE DEPARTMENT OF <b>E C O L O G Y</b>		<b>Dangerous Waste Permit Application Part A Form</b>										
Date Received				Reviewed by: <i>[Signature]</i>				Date: 0 9 2 2 2 0 0 8						
Month		Day		Year		Approved by: <i>[Signature]</i>				Date: 0 9 2 2 2 0 0 8				
0	9	1	9	2	0	0	8							
<b>I. This form is submitted to: (place an "X" in the appropriate box)</b>														
<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:														
<b>II. EPA/State ID Number</b>														
W	A	7	8	9	0	0	0	8	9	6	7			
<b>III. Name of Facility</b>														
US Department of Energy - Hanford Facility														
<b>IV. Facility Location (Physical address not P.O. Box or Route Number)</b>														
<b>A. Street</b>														
825 Jadwin														
City or Town								State		ZIP Code				
Richland								WA		99352				
County Code (if known)			County Name											
0	0	5	Benton											
<b>B. Land Type</b>	<b>C. Geographic Location</b>				<b>D. Facility Existence Date</b>									
	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					
<b>V. Facility Mailing Address</b>														
<b>Street or P.O. Box</b>														
P.O. Box 550														
City or Town								State		ZIP Code				
Richland								WA		99352				

<b>VI. Facility contact (Person to be contacted regarding waste activities at facility)</b>												
<b>Name (last)</b>						<b>(first)</b>						
Brockman						David						
<b>Job Title</b>						<b>Phone Number (area code and number)</b>						
Manager						(509) 376-7395						
<b>Contact Address</b>												
<b>Street or P.O. Box</b>												
P.O. Box 550												
<b>City or Town</b>						<b>State</b>		<b>ZIP Code</b>				
Richland						WA		99352				
<b>VII. Facility Operator Information</b>												
<b>A. Name</b>									<b>Phone Number</b>			
Department of Energy * Owner/Operator CH2M HILL Plateau Remediation Company Co-Operator for PUREX Storage Tunnels*									(509) 376-7395 (509) 376-0556*			
<b>Street or P.O. Box</b>												
P.O. Box 550 P.O. Box 1600 *												
<b>City or Town</b>						<b>State</b>		<b>ZIP Code</b>				
Richland						WA		99352				
<b>B. Operator Type</b>			F									
<b>C. Does the name in VII.A reflect a proposed change in operator?</b>						<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No				
If yes, provide the scheduled date for the change:						<b>Month</b>		<b>Day</b>		<b>Year</b>		
						1 0		0 1		2 0 0 8		
<b>D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.</b>									<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
<b>VIII. Facility Owner Information</b>												
<b>A. Name</b>						<b>Phone Number (area code and number)</b>						
David A. Brockman, Operator/Facility-Property Owner						(509) 376-7395						
<b>Street or P.O. Box</b>												
P.O. Box 550												
<b>City or Town</b>						<b>State</b>		<b>ZIP Code</b>				
Richland						WA		99352				
<b>B. Owner Type</b>			F									
<b>C. Does the name in VIII.A reflect a proposed change in owner?</b>						<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No				
If yes, provide the scheduled date for the change:						<b>Month</b>		<b>Day</b>		<b>Year</b>		
<b>IX. NAICS Codes (5/6 digit codes)</b>												
<b>A. First</b>						<b>B. Second</b>						
5 6 2 2 1						Waste Treatment & Disposal						
9 2 4 1 1 0						Administration of Air & Water Resource & Solid Waste Management Programs						
<b>C. Third</b>						<b>D. Fourth</b>						
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	2	-	1	2	2	1		WAC-246-247, NOC

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

Section XIV

\*The estimated annual quantity of waste listed represents the maximum quantity of waste placed in either tunnel in a given year.

Process Code X99 is being used to designate the PUREX Storage Tunnels as a *Miscellaneous Unit* per WAC 173-303-680. The PUREX Storage Tunnels, a miscellaneous unit (X99), are 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 Number 1 was completed in 1956. The tunnel 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, all eight railcar positions were filled and the tunnel subsequently was sealed. The combined volume of the equipment stored on the eight railcars presently 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).

The construction of 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. The first railcar was placed in Tunnel Number 2 in December 1967 and as of August 2000, 28 railcars have been placed in the tunnel. The combined volume of equipment stored on the 28 railcars presently 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 (AgNO<sub>3</sub>). Cadmium also could be considered state-only, toxic, dangerous waste (WT02).

**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 1	X	9	9	24,007	C	002	1							
1 2							2							
1 3							3							
1 4							4							
1 5							5							
1 6							6							
1 7							7							
1 8							8							
1 9							9							
2 0							1 0							
2 1							1 1							
2 2							1 2							
2 3							1 3							
2 4							1 4							
2 5							1 5							
							1 6							
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							1 8							
							1 9							
							2 0							
							2 1							
							2 2							
							2 3							
							2 4							
							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. (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)]									
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																<b>Included with above</b>
	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
1 0	W	T	0	2	454		K	X	9	9										Includes Debris
1 1																				
1 2																				
1 3																				
1 4																				
1 5																				
1 6																				
1 7																				
1 8																				
1 9																				
2 0																				
2 1																				
2 2																				
2 3																				
2 4																				
2 5																				

**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.

<b>Operator</b> Name and Official Title (type or print) David A. Brockman, Manager U.S. Department of Energy Richland Operations Office	<b>Signature</b> 	<b>Date Signed</b> 9/19/08
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<b>Co-Operator*</b> Name and Official Title (type or print) John G. Lehew, III President and Chief Executive Officer CH2M HILL Plateau Remediation Company	<b>Signature</b> 	<b>Date Signed</b> 9/2/08
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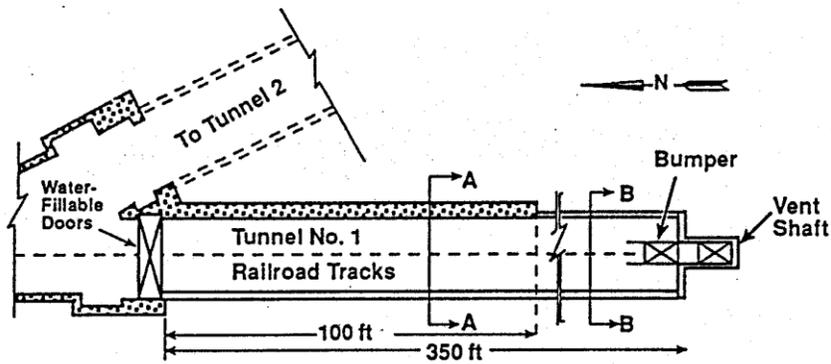
**Co-Operator – Address and Telephone Number\***  
P.O. Box 1600  
Richland, WA 99352  
(509) 376-0556

<b>Facility-Property Owner</b> Name and Official Title (type or print) David A. Brockman, Manager U.S. Department of Energy Richland Operations Office	<b>Signature</b> 	<b>Date Signed</b> 9/19/08
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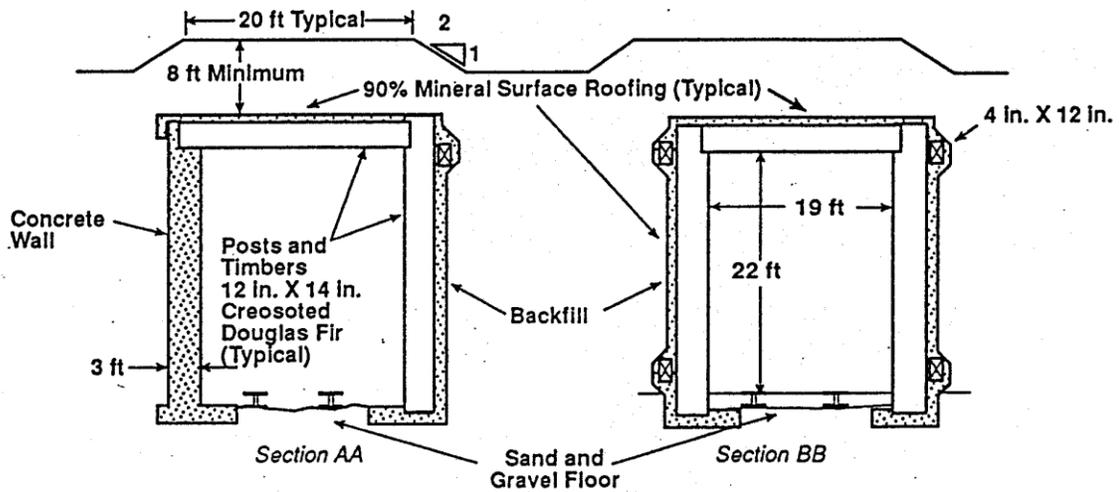
**Comments**

In Section VII. Facility Operator Information, there is no change to DOE as the Facility Owner/Operator; only a change in Co-Operator\*. The change in Co-Operator\* will be effective October 1, 2008.

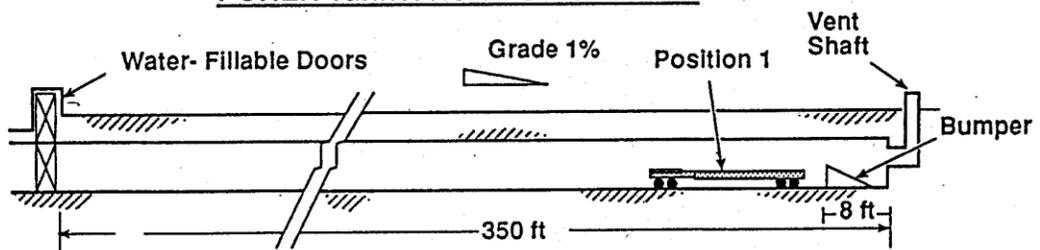
PUREX Tunnel No. 1 - Details



PUREX Tunnel No.1 - Plan View



PUREX Tunnel No.1 - Section View

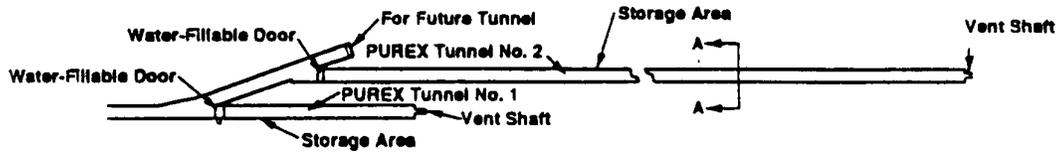


PUREX Tunnel No.1 - Elevation View

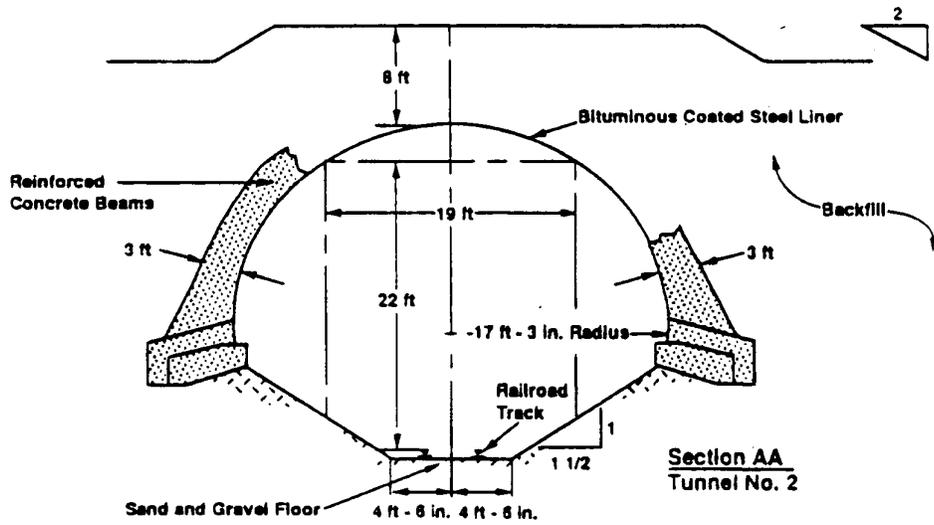
For conversion to meters, multiply feet by 0.3048.  
 For conversion to centimeters, multiply inches by 2.54.

H96030106.2

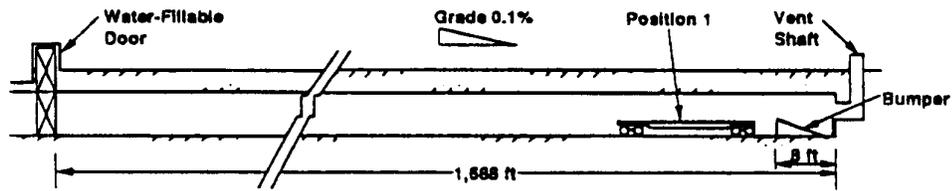
PUREX Tunnel No. 2 - Details



**PUREX Tunnels - Plan View**



**Section AA  
Tunnel No. 2**



**PUREX Tunnel No. 2 - Elevation View**

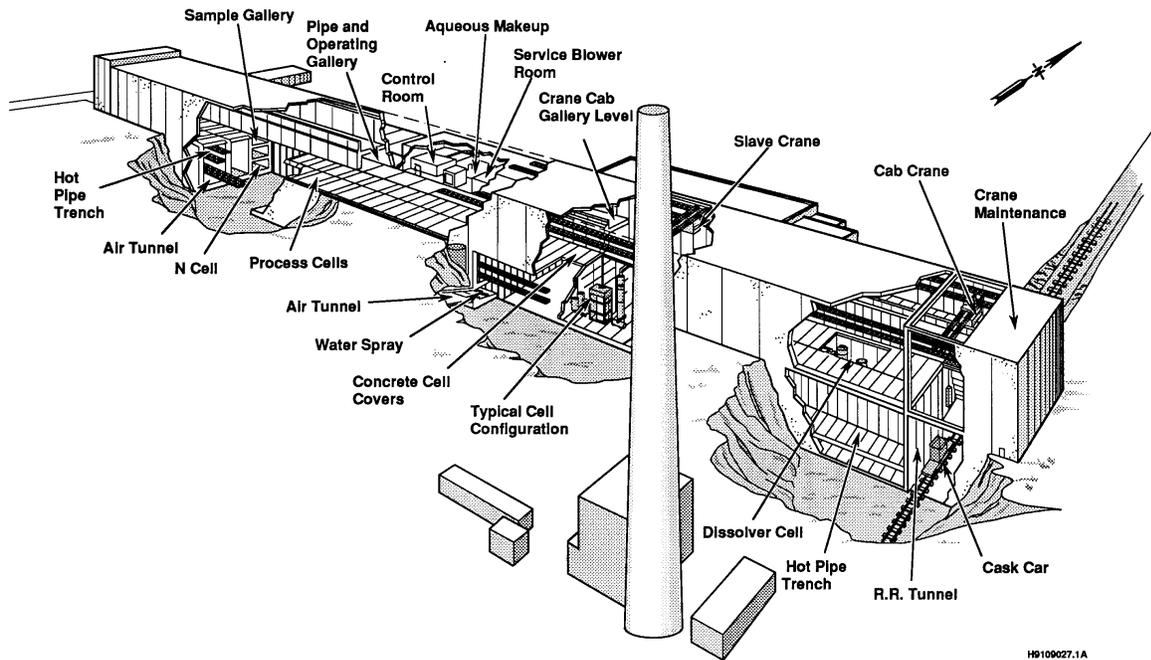
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PUREX Storage Tunnels



89100252-3CN

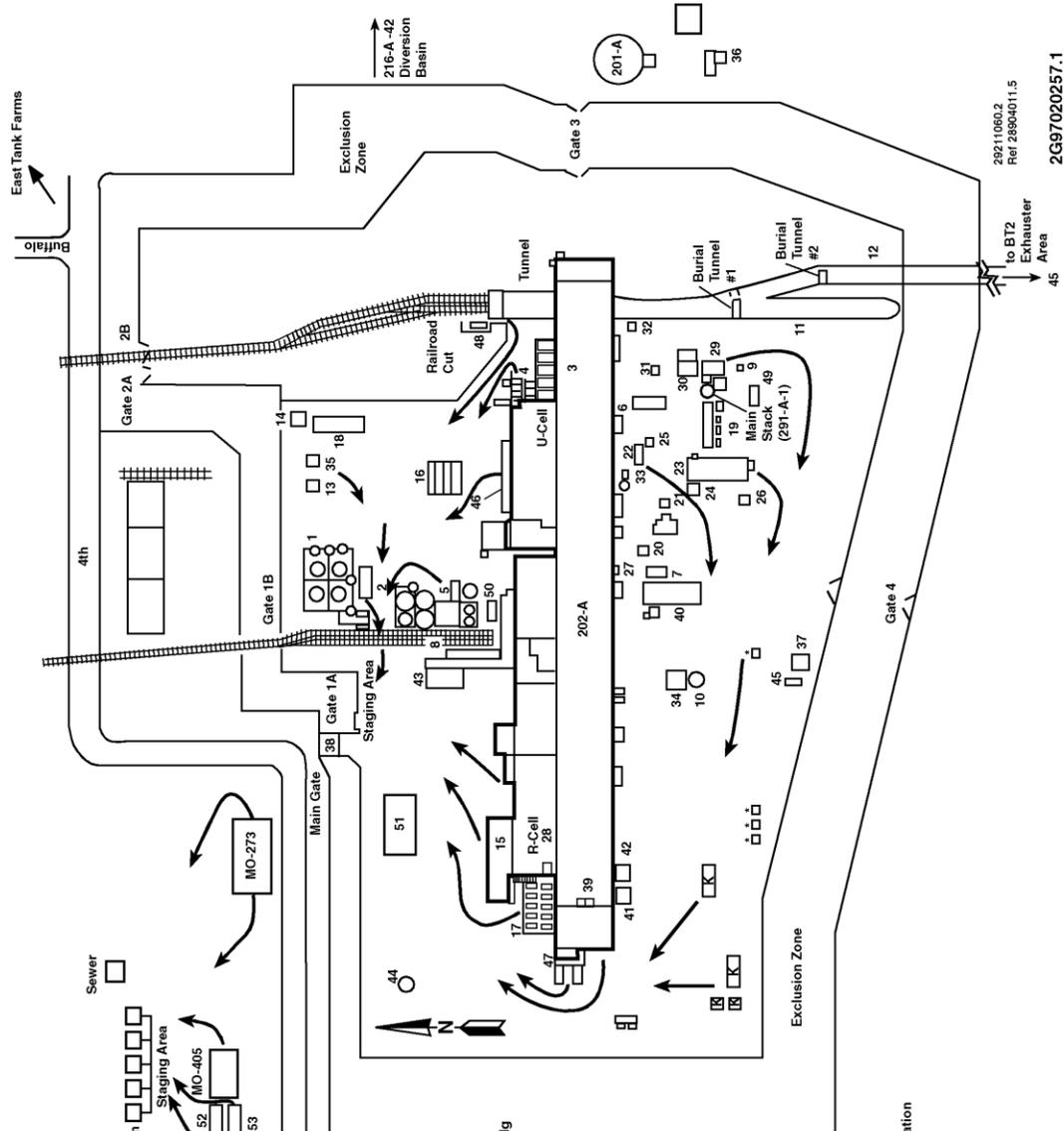
Photo Taken 1989



H0109027.1A

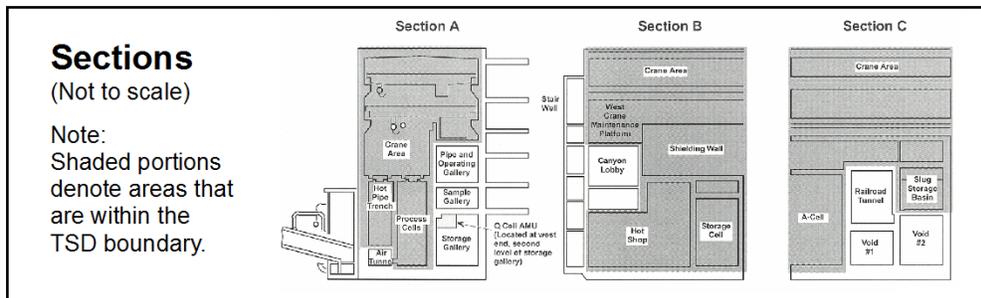
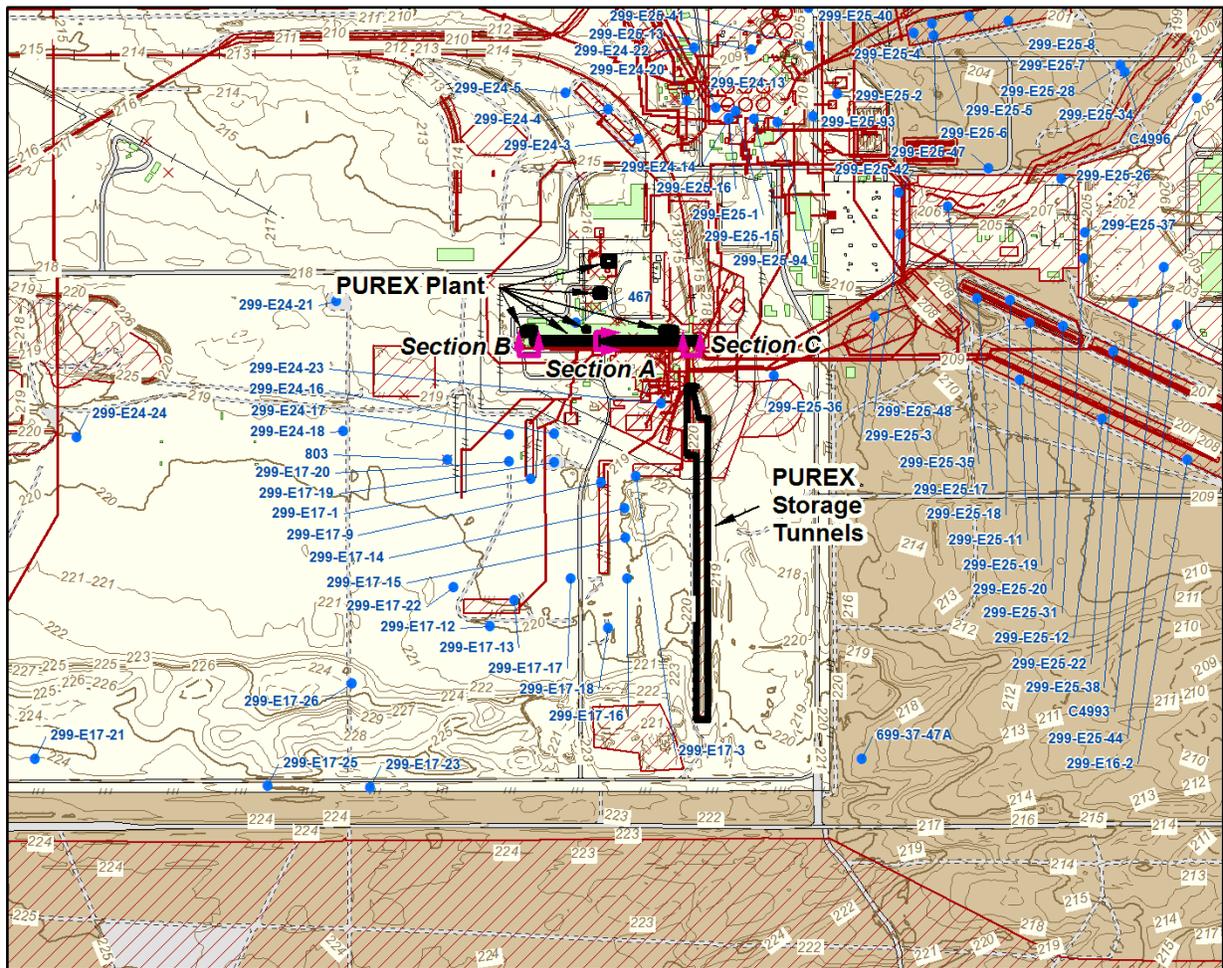
PUREX Storage Tunnels

5



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 PP Stack Sample
29. 292-AB Main Stack Bldg
30. 295-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-AC Badge House Shack
39. 2711-A-1 Air Compressor Bldg
40. Electrical Substation
41. 2711-A-1 Air Compressor Bldg
42. 2712-A Pump House
43. 2714-A Chemical Warehouse
44. 2901-A Water Tank
45. B12 Exhauster Area
46. Laboratory Sample Receiving Dock
47. PP-Dock
48. Railroad Storage Shed
49. SAMICON Unit
50. Surveillance Lighting Electrical Substation
51. MO-405
52. MO-388
53. MO-347
54. MO-946
- \* - Storage Shacks
- K - Kaiser Trailers

201-A  
36  
2021060.2  
Ref 28904011.5  
2G97020257.1



## PUREX

### Hanford Site



### Unit Location

- 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

Prepared for:  
US DEPARTMENT OF ENERGY  
RICHLAND OPERATIONS OFFICE  
Created and Published by:  
Central Mapping Services  
Fluor Hanford, Richland, WA  
(509) 373-9076  
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