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WASHINGTON STATE DEPARTMENT OF ECOLOGY

Dangerous Waste Permit Application Part A Form

Date Received	Reviewed by:	Date:
Month Day Year		
0 1 2 5 2 0 2 1	Approved by:	

Schleif, Stephanie (ECY) Digitally signed by Schleif, Stephanie (ECY) Date: 2021.02.08 16:55:53 -08'00'

Schleif, Stephanie (ECY) Digitally signed by Schleif, Stephanie (ECY) Date: 2021.02.08 16:56:17 -08'00'

I. This form is submitted to: (place an "X" in the appropriate box)

☒	Request modification to a final status permit (commonly called a "Part B" permit)
☐	Request a change under interim status
☐	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).
☐	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

U.S. Department of Energy – Hanford Facility

IV. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

Refer to Permit Attachment 2 – Hanford Facility Permit Legal Description

City or Town	State	ZIP Code
Near Richland	WA	

County Code (if			County Name
0	0	5	Benton

B. Land Type	C. Geographic Location Latitude (degrees, mins, secs)	Longitude (degrees, mins, secs)	D. Facility Existence Date Month Day Year
F	Refer to TOPO Map (Section XV).		1 1 1 9 1 9 8 0

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)**	
Vance	Brian	
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**
U.S. Department of Energy Owner/Operator Central Plateau Cleanup Company LLC, Co-Operator for PUREX Storage Tunnels	(509) 376-7395 (509) 372-3845
Street or P.O. Box	
P.O. Box 550 P.O. Box 1464	

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?	☒ Yes ☐ No
If yes, provide the scheduled date for the change:	Month: 01 Day: 25 Year: 2021
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.	☒ Yes ☐ No

VIII. Facility Owner Information	
A. Name	**Phone Number (area code and number)**
U.S. Department of Energy, Owner/Operator	(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?	☐ Yes ☒ 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	1	Waste Treatment & Disposal	9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs
C. Third							**D. Fourth**						
5	4	1	7	1	5	Research & Development in the Physical, Engineering, & Life Sciences	5	6	2	9	1	0	Remediation Services

X. Other Environmental Permits (see instructions)

A. Permit Type	B. Permit Number	C. Description
E	AOP00-05-006	Title V Air Operation Permit (AOP) Incorporation of current non-radiological Notice of Construction permits and FF-01 radiological licenses into the AOP may be delayed up to 2 years.

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. The PUREX Plant was used for the recovery of uranium and plutonium from irradiated reactor fuel. The PUREX Plant was built in 1956 and operated until 1972. It was restarted in 1983 and operated until 1989. The U.S. Department of Energy issued a final shutdown order in December 1992.

Associated with the PUREX Plant is the PUREX Storage Tunnels, Closing Unit Group (CUG) 19. This CUG includes PUREX Tunnels 1 and 2 that are classified as Miscellaneous Units (X99). Each of the tunnels are defined as an individual dangerous waste management unit (DWMU).

PUREX Tunnels 1 and 2 are planned for closure and no new waste will be accepted for placement into the tunnels.

PUREX Tunnel Number 1. 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. The maximum process design capacity for storage in Tunnel Number 1 is approximately 4,129 cubic meters (5,400 cubic yards). The tunnel experienced a partial roof collapse in May 2017. The tunnel was stabilized with grout in October and November 2017.

PUREX Tunnel Number 2. The construction of Tunnel Number 2 was completed in 1964. The usable area in Tunnel Number 2 is approximately 5.8 meters (19 feet) wide by 6.7 meters (22 feet) high by 514.5 meters (1,688 feet) long and provides storage space for 40 railcars. The maximum process design capacity for storage in Tunnel Number 2 is approximately 19,878 cubic meters (26,000 cubic yards). Tunnel Number 2 will be stabilized with grout as an interim closure action.

Process Code X99. The PUREX Storage Tunnels are designated as Miscellaneous Units. Process code X99 is used for storage of mixed waste subject to the requirements of WAC 173-303-680. PUREX

Storage Tunnel Numbers 1 and 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 material stored in the tunnels contains mixed waste.

The waste stored in the tunnels could include barium(D005), cadmium (D006), chromium (D007), lead (D008), mercury (D009), 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 ($AgNO_3$), an oxidizer.

PUREX Tunnel Number 1. Between June 1960 and January 1965, all 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).

PUREX Tunnel Number 2. In December 1967, the first railcar was placed in Tunnel Number 2. The last railcar was placed in 1996, for a total of 28 railcars 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).

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. Amount	2. Unit of Measure (enter code)							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	X	9	9	24,007	C	002	Tunnel storage
	2								2							
	3								3							
	4								4							
	5								5							
	6								6							
	7								7							
	8								8							
	9								9							
1	0							1	0							
1	1							1	1							

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				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	Included with above
3					
4	D 0 0 7	454*	K	X 9 9	Included with above
5	D 0 0 8	8,000*	K	X 9 9	Included with above
6					
7					
8	D 0 1 1	680*	K	X 9 9	
9	D 0 0 1		K	X 9 9	
10	W T 0 2		K	X 9 9	
11					
12	D 0 0 9	130*	K	X 9 9	
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

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.

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.

Operator Name and Official Title (type or print) Brian T. Vance, Manager U.S. Department of Energy Richland Operations Office	**Signature** /B. T. V—	**Date Signed** 1/22/2021
Co-Operator Name and Official Title (type or print) Scott Sax, President and Project Manager Central Plateau Cleanup Company LLC	**Signature** SCOTT SAX (Affiliate) Digitally signed by SCOTT SAX (Affiliate) Date: 2021.01.19 17:23:44 -08'00'	**Date Signed**
Co-Operator – Address and Telephone Number* P.O. Box 1464 Richland, WA 99352 (509) 372-3845		
Facility-Property Owner Name and Official Title (type or print) Brian T. Vance, Manager U.S. Department of Energy Richland Operations Office	**Signature** /B. T. V—	**Date Signed** 1/22/2021

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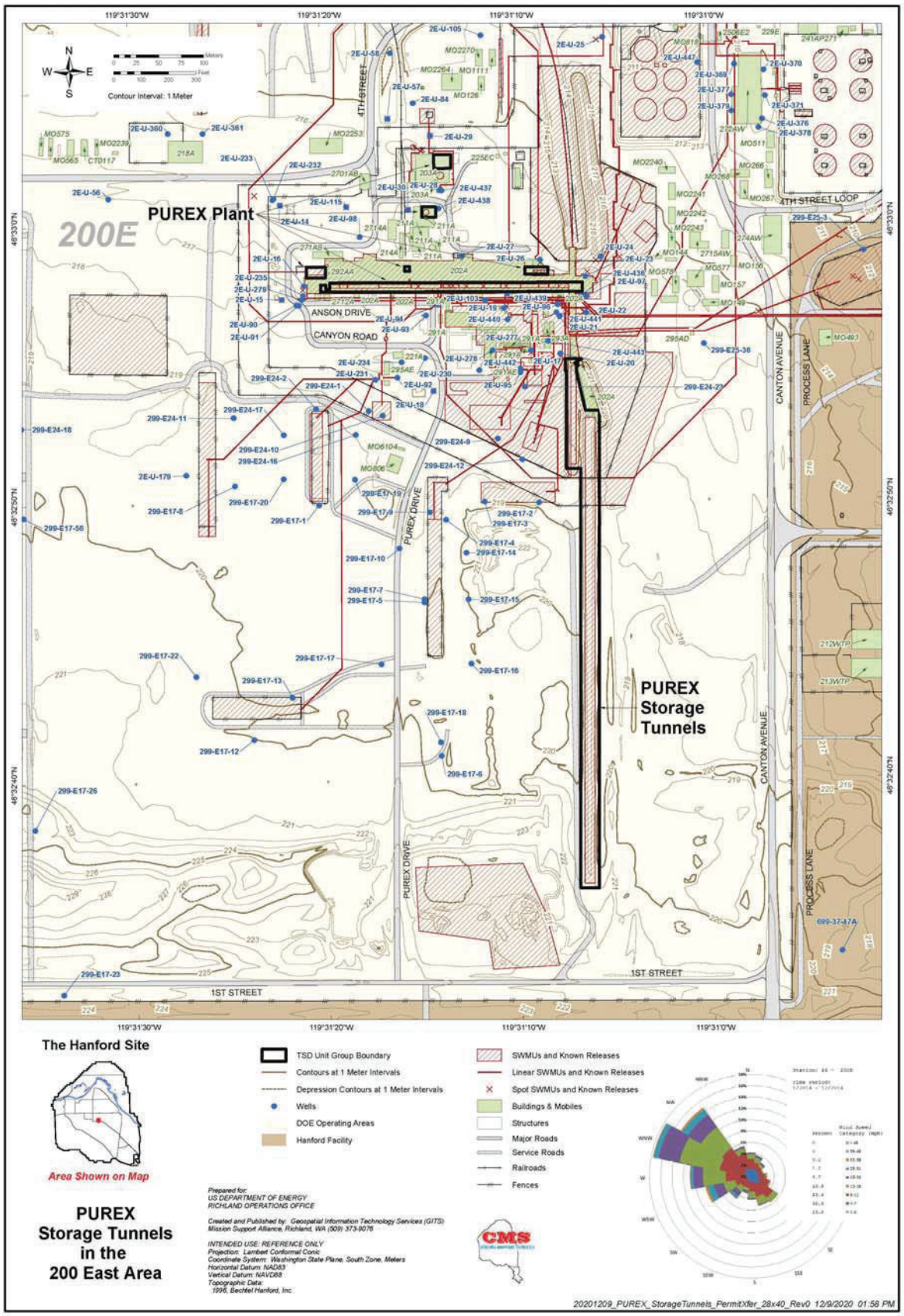
Comments

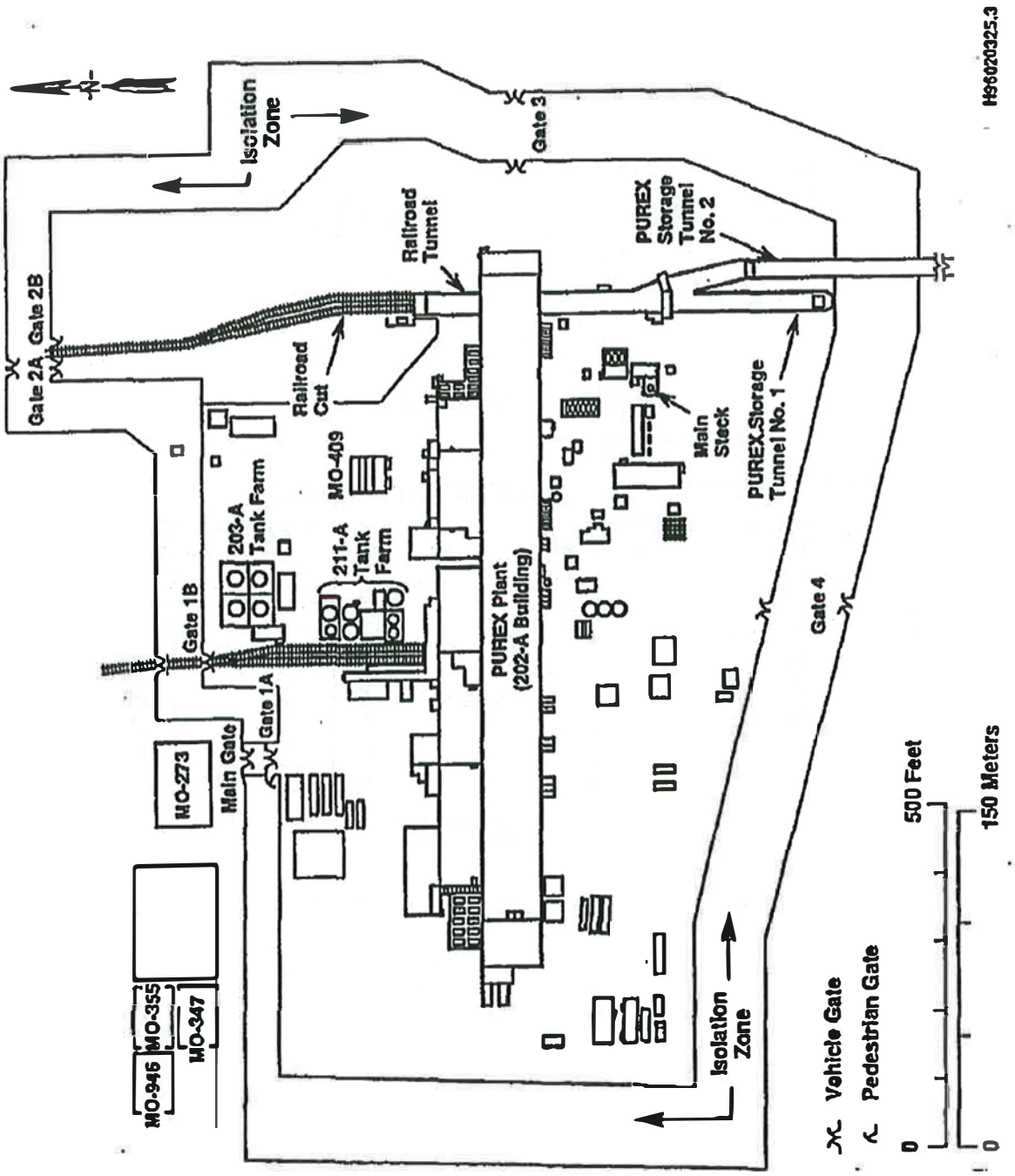
Section XIV:

*The values for estimated annual quantity represent the maximum quantity of waste placed in the tunnels in a year. The tunnels no longer receive waste.

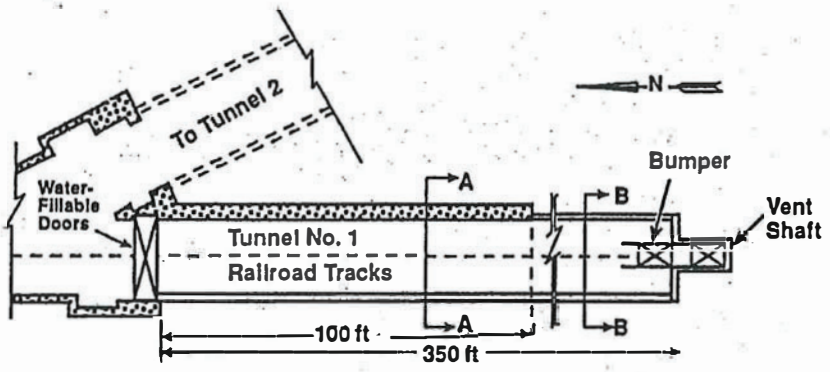
In Section VI, Facility contact is revised to update the DOE-RL contact. In Section VII, Facility Operator Information is revised to update change in Co-Operator. In Section XVIII, "Certifications" is revised to update Operator Name, Co-Operator name, and Facility-Property Owner name. The topographic map for the unit is updated to reflect the current mapping conventions. The changes in these sections and the topographic map will be effective January 25, 2021. No other changes have been made to the Part A form sections. The certification is limited to the changes effective January 25, 2021.


PUREX Plant
200E
PUREX Storage Tunnels
ANSON DRIVE
CANYON ROAD
PUREX DRIVE
4TH STREET
4TH STREET LOOP
CANTON AVENUE
PROCESS LANE
1ST STREET
Contour Interval: 1 Meter
The Hanford Site
Area Shown on Map
PUREX Storage Tunnels in the 200 East Area
TSD Unit Group Boundary
Contours at 1 Meter Intervals
Depression Contours at 1 Meter Intervals
Wells
DOE Operating Areas
Hanford Facility
SWMUs and Known Releases
Linear SWMUs and Known Releases
Spot SWMUs and Known Releases
Buildings & Mobiles
Structures
Major Roads
Service Roads
Railroads
Fences
Prepared for:
US DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
Created and Published by: Geospatial Information Technology Services (GITS)
Mission Support Alliance, Richland, WA (509) 373-9076
INTENDED USE: REFERENCE ONLY
Projection: Lambert Conformal Conic
Coordinate System: Washington State Plane, South Zone, Meters
Horizontal Datum: NAD83
Vertical Datum: NAVD88
Topographic Data:
1996, Bechtel Hanford, Inc.
20201209_PUREX_StorageTunnels_PermitXfer_28x40_Rev0 12/9/2020 01:58 PM

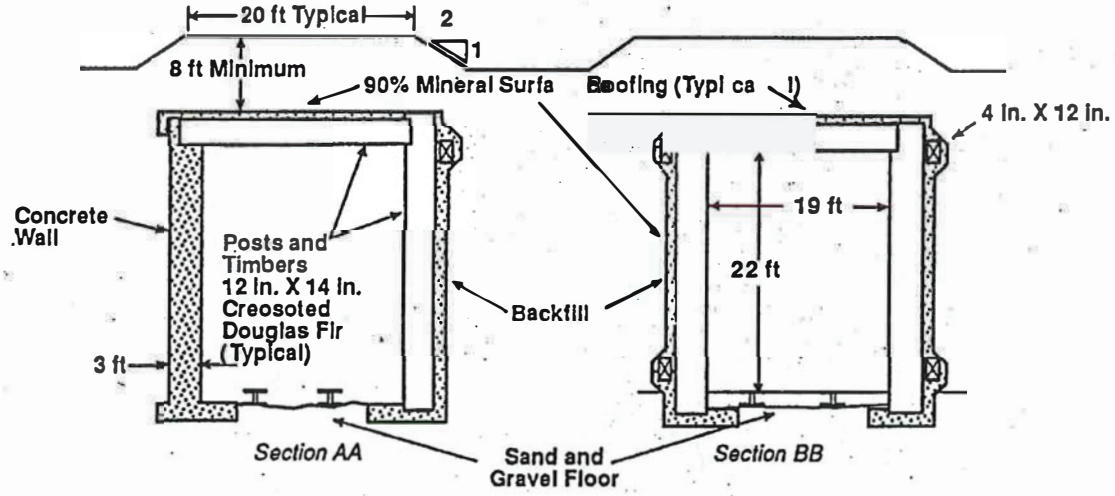
PUREX Tunnel Drawings



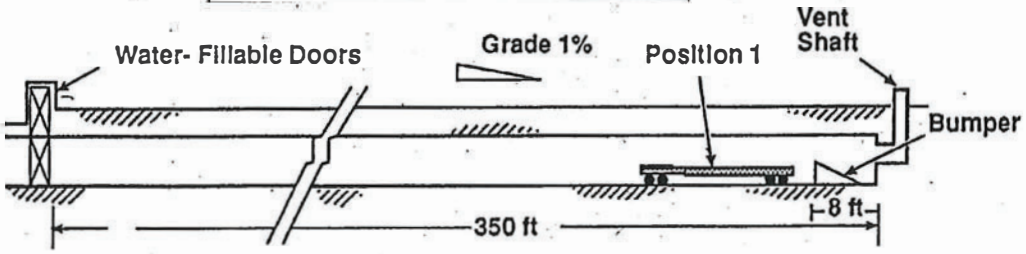
PUREX Tunnel No. 1 – Details



PUREX Tunnel No.1 - Plan View



PUREX Tunnel No.1 - Section View

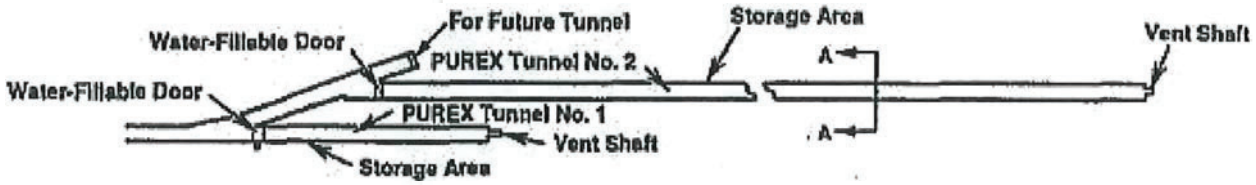


PUREX Tunnel No.1 - Elevation View

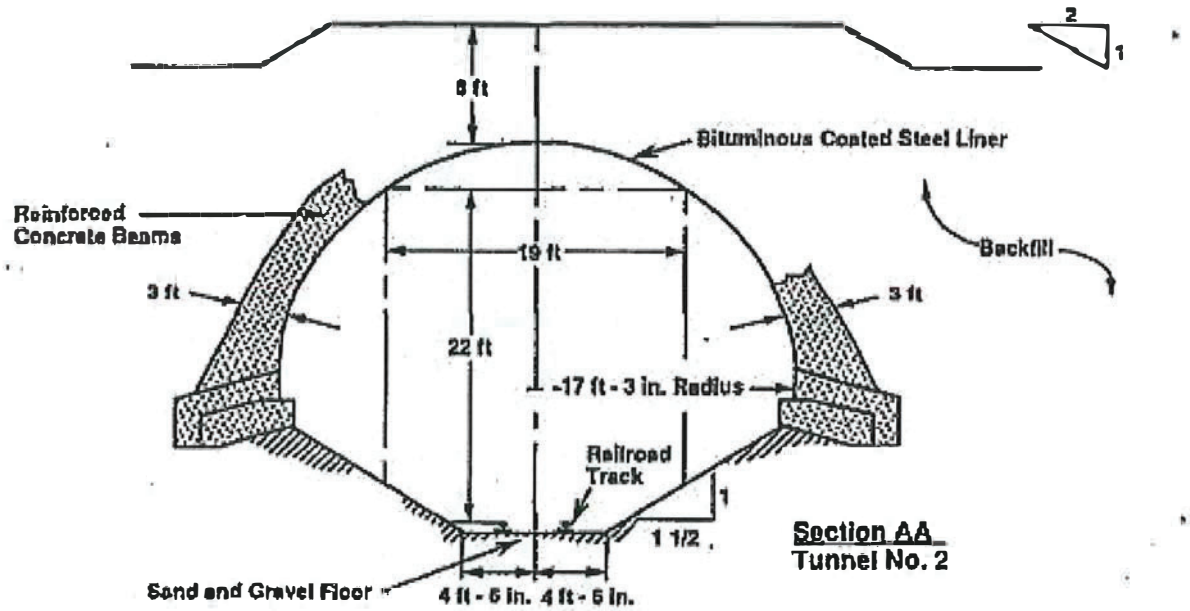
For conversion to meters, multiply feet by 0.3048.
For conversion to centimeters, multiply inches by 2.54.

H96030106.2

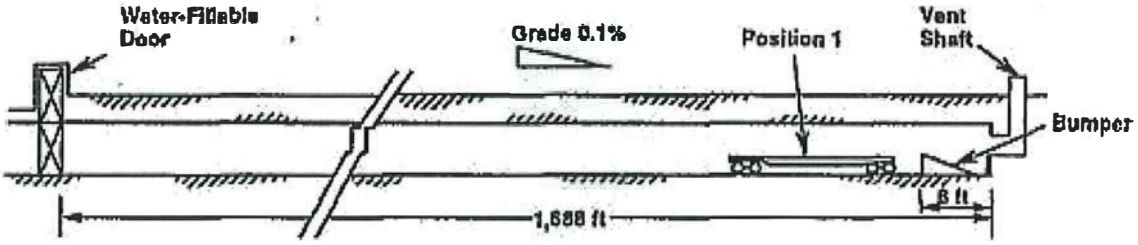
PUREX Tunnel No. 2 – Details



PUREX Tunnels - Plan View



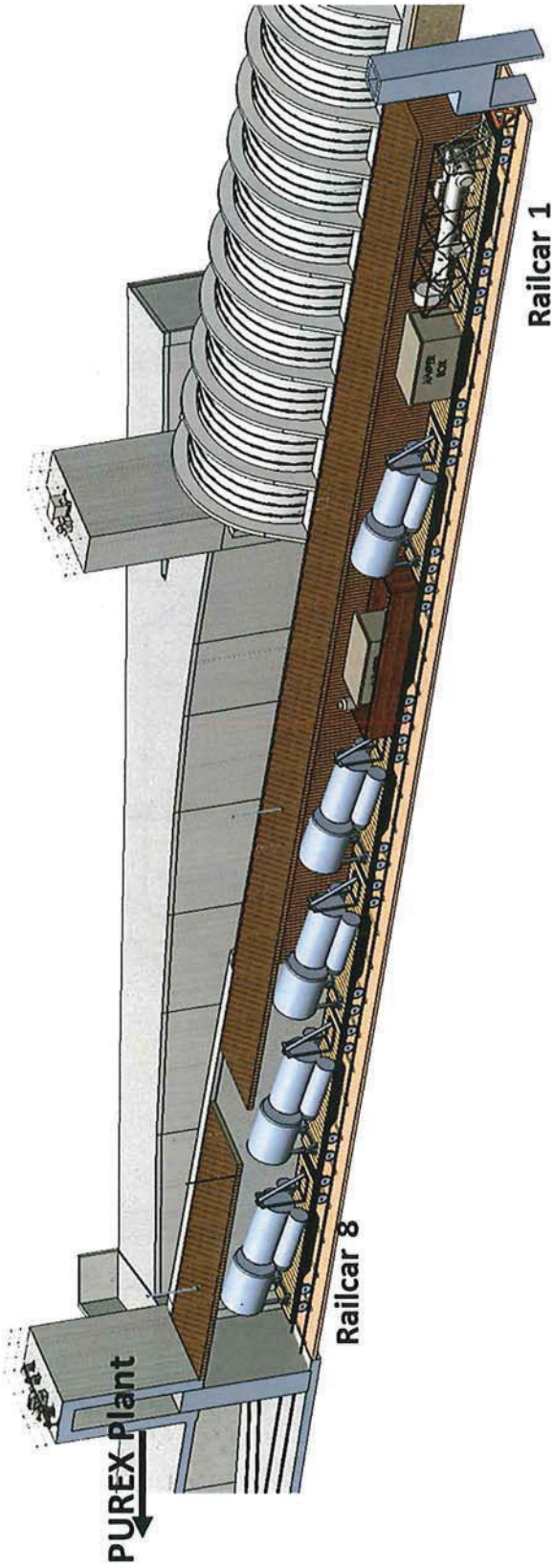
Section AA
Tunnel No. 2



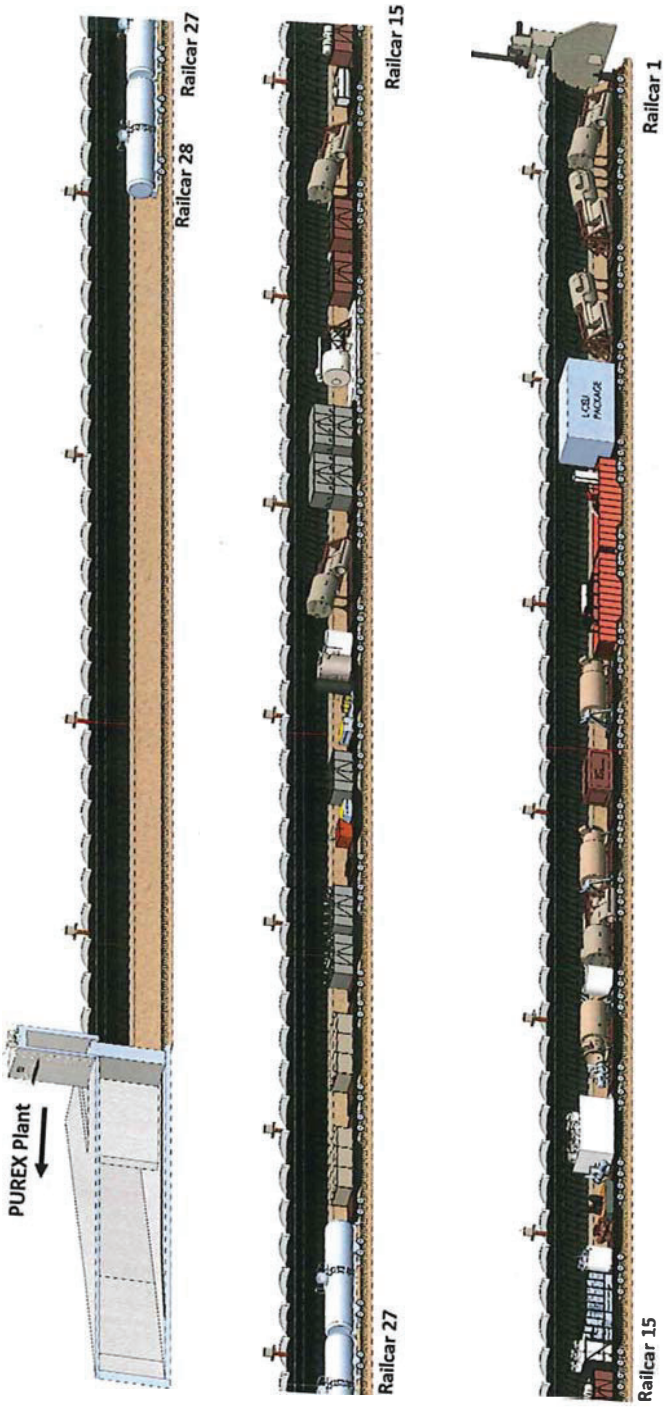
PUREX Tunnel No. 2 - Elevation View

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

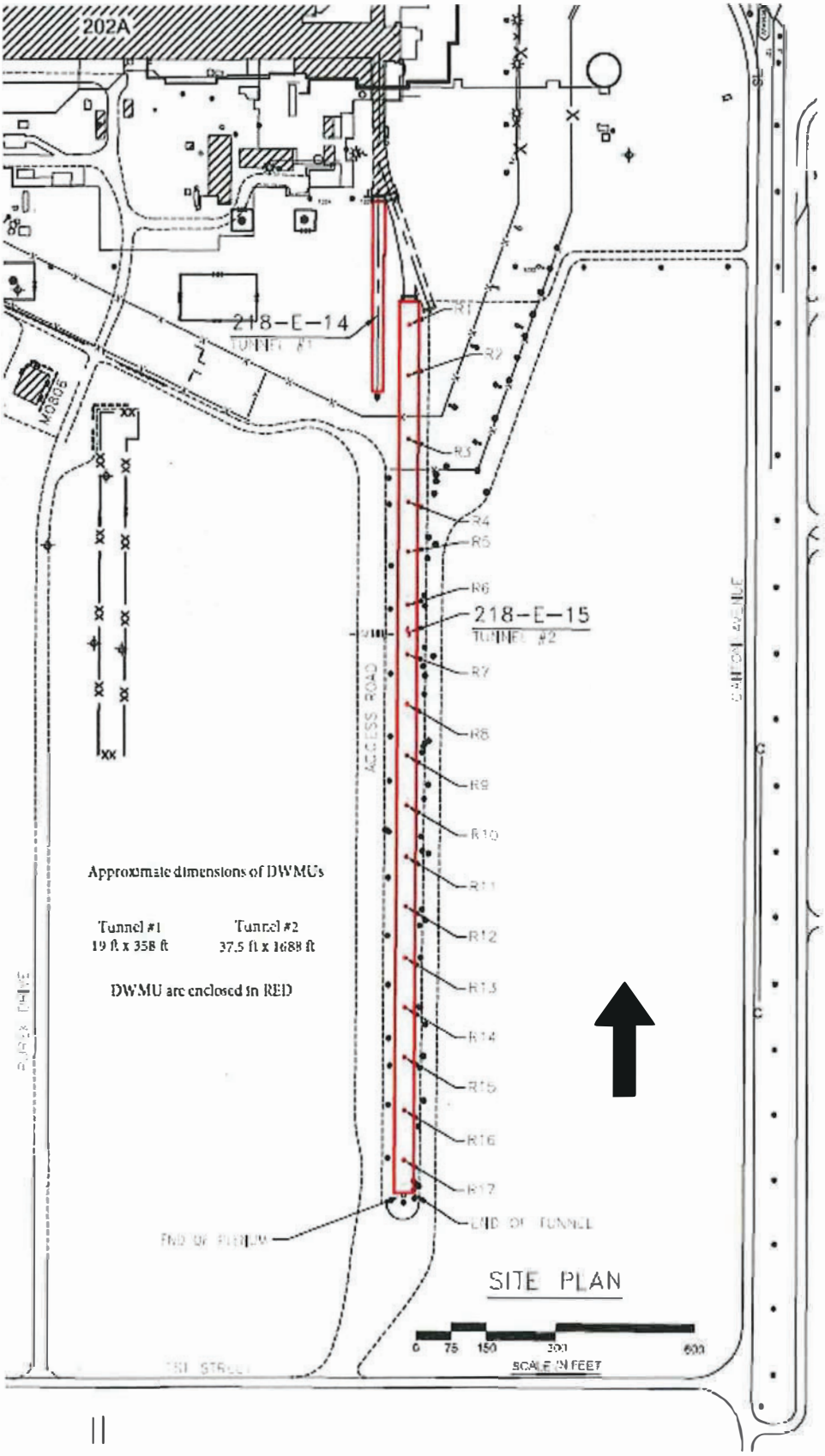
H9503186.1



PUREX Tunnel Number 1. The drawing shows a rendition of the eight railroad cars in the tunnel. The water-fillable door is to the left, and the end of the tunnel is to the right.

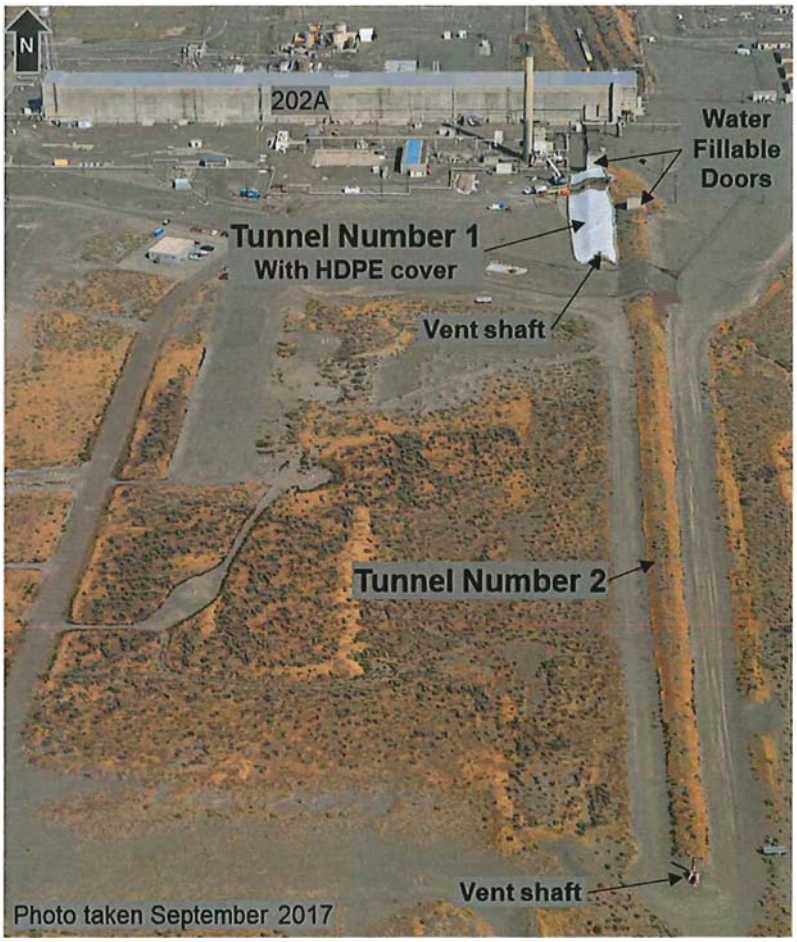


Purex Tunnel Number 2. The drawing shows a rendition of the 28 railroad cars in the tunnel. The water-fillable door is at top left, and the end of the tunnel is at bottom right.



Dangerous Waste Management Unit Boundary

PUREX Storage Tunnels



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