

Closure Plan for the 216-A-10 Crib

0069614

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



**United States
Department of Energy**
P.O. Box 550
Richland, Washington 99352

RECEIVED
MAY 08 2006

EDMC

Approved for Public Release;
Further Dissemination Unlimited

Closure Plan for the 216-A-10 Crib

Date Published
April 2006

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management



**United States
Department of Energy**
P.O. Box 550
Richland, Washington 99352

J. D. Ansdal
Release Approval

4/13/2006
Date

Approved for Public Release;
Further Dissemination Unlimited

TRADEMARK DISCLAIMER

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

This report has been reproduced from the best available copy. Available in paper copy.

Printed in the United States of America

This page intentionally left blank.

1	CONTENTS	
2	1.0	INTRODUCTION..... 1-1
3	2.0	FACILITY DESCRIPTION..... 2-1
4	2.1	FACILITY DESCRIPTION AND OPERATING HISTORY 2-1
5	2.2	SECURITY INFORMATION..... 2-1
6	3.0	PROCESS INFORMATION..... 3-1
7	3.1	WASTE GENERATING FACILITY AND PROCESS 3-1
8	3.2	DISPOSAL UNIT PROCESS 3-1
9	4.0	WASTE INVENTORY AND CHARACTERISTICS 4-1
10	4.1	WASTE INVENTORY 4-1
11	4.2	WASTE CHARACTERISTICS 4-1
12	5.0	216-A-10 CRIB RCRA SITE GROUNDWATER MONITORING..... 5-1
13	6.0	CLOSURE STRATEGY AND PERFORMANCE STANDARDS..... 6-1
14	6.1	CLOSURE STRATEGY 6-1
15	6.2	CLOSURE PERFORMANCE STANDARDS 6-1
16	7.0	CLOSURE ACTIVITIES 7-1
17	7.1	UNIT PHYSICAL ISOLATION..... 7-1
18	7.2	MODIFICATION OF CRIB REGULATORY STATUS 7-1
19	7.3	SCHEDULE FOR CLOSURE 7-2
20	7.4	AMENDMENT OF CLOSURE PLAN 7-2
21	7.5	CERTIFICATION OF CLOSURE..... 7-2
22	8.0	POSTCLOSURE PLAN..... 8-1
23	9.0	REFERENCES..... 9-1

24

25

FIGURES

26	Figure 2-1. 216-A-10 Crib Site Plan..... 2-2
27	Figure 2-2. Construction Diagram for the 216-A-10 Crib..... 2-3
28	Figure 3-1. Process Distillate Discharge Waste Stream Origin Information..... 3-2
29	Figure 7-1. Hanford Site As-Built Drawing H-2-77039, <i>Civil Site Plan</i> 7-3
30	Figure 7-2. Waste Source Piping Cut and Cap Detail. 7-5

1 Figure 7-3. Example of Change Request Form for Action Plan Appendix B. (2 Pages) 7-6

2 Figure 7-4. Example of Change Request Form for Action Plan Appendix C. (2 Pages) 7-8

3

4

1

TERMS

2	CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>
3		
4	Ecology	Washington State Department of Ecology
5	Hanford Facility RCRA Permit	<i>Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8, for the Treatment, Storage, and Disposal of Dangerous Waste, WA7890008967</i>
6		
7		
8		
9	OU	operable unit
10	PDD	process distillate discharge
11	PUREX	Plutonium-Uranium Extraction Plant
12	RCRA	<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980</i>
13		
14	RI Report	<i>Remedial Investigation Report for the 200-PW-2 Uranium-Rich Process Waste Group and 200-PW-4 General Process Condensate Group Operable Units, DOE/RL-2004-25</i>
15		
16		
17		
18	RI/FS	remedial investigation / feasibility study
19	Tri-Party Agreement	<i>Hanford Federal Facility Agreement and Consent Order, Ecology et al., 1989a</i>
20		
21	Tri-Party Action Plan	<i>Hanford Federal Facility Agreement and Consent Order Action Plan, Ecology et al., 1989b</i>
22		
23	TSD	treatment, storage, and/or disposal (unit)
24	WAC	<i>Washington Administrative Code</i>
25	WIDS	<i>Waste Information Data System</i> database
26	Work Plan	<i>Uranium-Rich/General Process Condensate and Process Waste Group Operable Units RI/FS Work Plan and RCRA TSD Unit Sampling Plan; Includes 200-PW-2 and 200-PW-4 Operable Units, DOE/RL-2000-60</i>
27		
28		
29		

METRIC CONVERSION CHART

Into Metric Units			Out of Metric Units		
<i>If You Know</i>	<i>Multiply By</i>	<i>To Get</i>	<i>If You Know</i>	<i>Multiply By</i>	<i>To Get</i>
Length			Length		
inches	25.4	Millimeters	millimeters	0.039	inches
inches	2.54	Centimeters	centimeters	0.394	inches
feet	0.305	Meters	meters	3.281	feet
yards	0.914	Meters	meters	1.094	yards
miles	1.609	Kilometers	kilometers	0.621	miles
Area			Area		
sq. inches	6.452	sq. centimeters	sq. centimeters	0.155	sq. inches
sq. feet	0.093	sq. meters	sq. meters	10.76	sq. feet
sq. yards	0.0836	sq. meters	sq. meters	1.196	sq. yards
sq. miles	2.6	sq. kilometers	sq. kilometers	0.4	sq. miles
acres	0.405	Hectares	hectares	2.47	acres
Mass (weight)			Mass (weight)		
ounces	28.35	Grams	grams	0.035	ounces
pounds	0.454	Kilograms	kilograms	2.205	pounds
ton	0.907	metric ton	metric ton	1.102	ton
Volume			Volume		
teaspoons	5	Milliliters	milliliters	0.033	fluid ounces
tablespoons	15	Milliliters	liters	2.1	pints
fluid ounces	30	Milliliters	liters	1.057	quarts
cups	0.24	Liters	liters	0.264	gallons
pints	0.47	Liters	cubic meters	35.315	cubic feet
quarts	0.95	Liters	cubic meters	1.308	cubic yards
gallons	3.8	Liters			
cubic feet	0.028	cubic meters			
cubic yards	0.765	cubic meters			
Temperature			Temperature		
Fahrenheit	subtract 32, then multiply by 5/9	Celsius	Celsius	multiply by 9/5, then add 32	Fahrenheit
Radioactivity			Radioactivity		
picocuries	37	Millibecquerel	millibecquerel	0.027	picocuries

1

1.0 INTRODUCTION

2 This closure plan is being submitted in accordance with *Hanford Federal Facility Agreement*
3 *and Consent Order* (Tri-Party Agreement) (Ecology et al. 1989a), interim milestone M-020-33
4 that requires submittal of a closure plan for the 216-A-10 Crib to the Washington State
5 Department of Ecology (Ecology) by April 30, 2006. The closure plan has been written to
6 administratively close the 216-A-10 Crib, because this waste site was inappropriately identified
7 as a treatment, storage, and/or disposal (TSD) unit. This closure plan is not intended to clean
8 close this waste site as a TSD unit. No other closure plan has been submitted for the 216-A-10
9 Crib.

10 The 216-A-10 Crib received process distillate discharge (PDD) that was a mixed waste from the
11 202-A Plutonium-Uranium Extraction (PUREX) Plant Canyon Building. The crib was a
12 percolation unit used to dispose of PDD liquid waste to the soil column. The crib last received
13 waste in March 1987. The 216-A-10 Crib was identified as a TSD unit because of the corrosive
14 characteristic of the mixed waste stream it received and because, during the 1986 time frame,
15 uncertainty existed regarding the regulatory status of by-product waste streams in the United
16 States and the effective date of mixed waste regulation in Washington State. This unit ceased
17 operations on March 31, 1987. A Part A, Form 3 (Rev. 0), for this unit was submitted to
18 Ecology in September, 1987 as a protective filing identifying this waste site as a TSD unit
19 landfill.

20 The 216-A-10 Crib was assigned to the process-based 200-PW-2 *Resource Conservation and*
21 *Recovery Act of 1976* (RCRA) past-practice Uranium-Rich Process Waste Group Operable Unit
22 (OU) for characterization and remedial decision making following the *Comprehensive*
23 *Environmental Response, Compensation and Liability Act of 1980* (CERCLA) remedial
24 investigation/feasibility study (RI/FS) process. Because of various similarities of process and
25 waste, this waste group was consolidated with the 200-PW-4 General Process Condensate Group
26 OU for characterization (DOE/RL-98-28, *200 Areas Remedial Investigation/Feasibility Study*
27 *Implementation Plan – Environmental Restoration Program*). Crib characterization data were
28 collected in accordance with DOE/RL-2000-60, *Uranium-Rich/General Process Condensate and*
29 *Process Waste Group Operable Units RI/FS Work Plan and RCRA TSD Unit Sampling Plan;*
30 *Includes 200-PW-2 and 200-PW-4 Operable Units* (Work Plan). Characterization data are
31 provided in DOE/RL-2004-25, *Remedial Investigation Report for the 200-PW-2 Uranium-Rich*
32 *Process Waste Group and 200-PW-4 General Process Condensate Group Operable Units*
33 (RI Report), Appendix B.

34 The strategy for the 216-A-10 Crib, with regard to relief from RCRA TSD unit closure
35 requirements, is administrative closure. Administrative closure refers to discontinuing the unit-
36 specific Part A permit application through administrative measures that will change the
37 regulatory status of this waste site from RCRA TSD unit to past-practice unit. This strategy is
38 based on information presented in Chapter 6.0, indicating that the 216-A-10 Crib never operated
39 as a RCRA TSD unit under WAC 173-303, "Dangerous Waste Regulations." Following
40 administrative closure, the 216-A-10 Crib will be dispositioned as a past-practice waste site
41 through past-practice processes for the consolidated 200-PW-2 and 200-PW-4 OUs identified in
42 the Tri-Party Agreement (Ecology et al. 1989a), Chapter 7.0, "Past Practice Processes." These

1 activities also will satisfy RCRA corrective-action requirements under the WA7890008967,
2 *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion,*
3 *Revision 8, for the Treatment, Storage, and Disposal of Dangerous Waste* (Hanford Facility
4 RCRA Permit), Condition II.Y. Final approval of this plan and the signatures of Ecology, the
5 U.S. Environmental Protection Agency, and the U.S. Department of Energy (Tri-Parties) on the
6 Tri-Party Agreement change requests attached to this plan will constitute approval of 216-A-10
7 Crib administrative closure.

8

2.0 FACILITY DESCRIPTION

This chapter describes the 216-A-10 Crib site and provides security information.

2.1 FACILITY DESCRIPTION AND OPERATING HISTORY

The 216-A-10 Crib is an engineered, subsurface liquid-effluent disposal facility (landfill) that was constructed in 1956 to dispose of PUREX PDD liquid effluent waste to the soil column. The 216-A-10 Crib is located in the 200 East Area approximately 82 m (270 ft) south of the southwest corner of the 202-A Canyon Building (PUREX Plant) (Figure 2-1). The rock-filled crib has a wedge-shaped cross section and is 84 by 14 m (275 by 45 ft) at the sisalkraft layer. The sisalkraft layer is about 9.2 m (30 ft) below grade and 4.6 m (15 ft) from the bottom of the crib. Elevation at the surface was 218 m (714 ft) (HW-43121, *Tabulation of Radioactive Liquid Waste Disposal Facilities*). The original 203 mm (8-in.) diameter vitrified clay distribution pipe was placed horizontally 9.2 m (30 ft) below grade at the crib centerline. In 1962, the original vitrified clay pipe was replaced with a 203 mm (8-in.) diameter stainless steel effluent pipeline, because the acidic waste destroyed the integrity of the original vitrified clay pipe. The replacement pipe was placed approximately 20 feet (6.2 m) east of the crib centerline. In 1967, some portions of the stainless steel pipe also were replaced. Figure 2-2 is a configuration diagram of the 216-A-10 Crib.

The crib was designed as a percolation unit for the disposal of liquid waste from the PUREX Plant and initially was a spare crib for the 216-A-5 Crib. From 1956 to 1959, the crib received only water [2.34×10^8 L (6.18×10^7 gal)]. The 216-A-10 Crib replaced the 216-A-5 Crib in 1961, which was the year that contaminated liquid waste began being discharged into the crib (*Waste Information Data System* database [WIDS]). The crib was inactive from 1978 to 1981. From 1981 to 1986, the crib received process condensate that was radioactive and acidic from the 202-A Canyon Building (PUREX Plant). Discharge of PDD to the crib was terminated in March 1987, and the crib has been out of service since then. Following operational use, the crib was backfilled.

The waste-feed piping from PUREX is not a portion of the 216-A-10 Crib. This piping is anticipated to be addressed in conjunction with the 200-IS-1 OU (DOE/RL-2002-14, *Tanks/Lines/Pits/Boxes/Septic Tank and Drain Fields Waste Group Operable Unit RI/FS/Work Plan and RCRA TSD Unit Sampling Plan; Includes 200-IS-1 and 200-ST-1 Operable Units*).

2.2 SECURITY INFORMATION

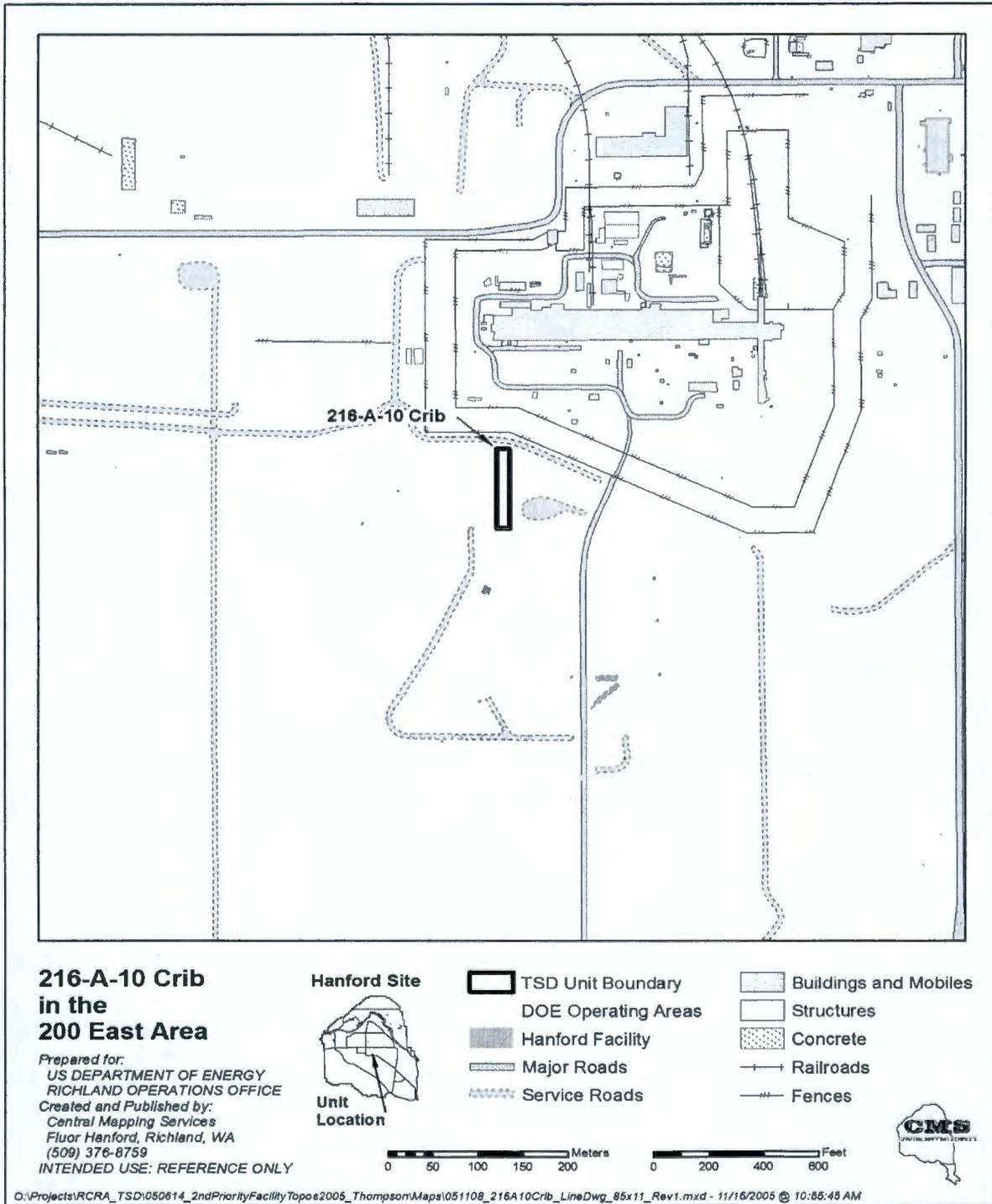
Security information for the Hanford Facility is discussed in DOE/RL-91-28, *Hanford Facility Dangerous Waste Permit Application*, Section 6.1. Because the 216-A-10 Crib is located in the 200 East Area, the security information pertaining to the 200 Areas applies to this site.

A chain barrier surrounds the 216-A-10 Crib. Changes to security are expected to occur during the course of 200 East Area deactivation and decommissioning activities. Security measures will

1 remain in place that limit unit entry to authorized personnel and that preclude unknowing access
 2 by unauthorized individuals until final TSD unit disposition.

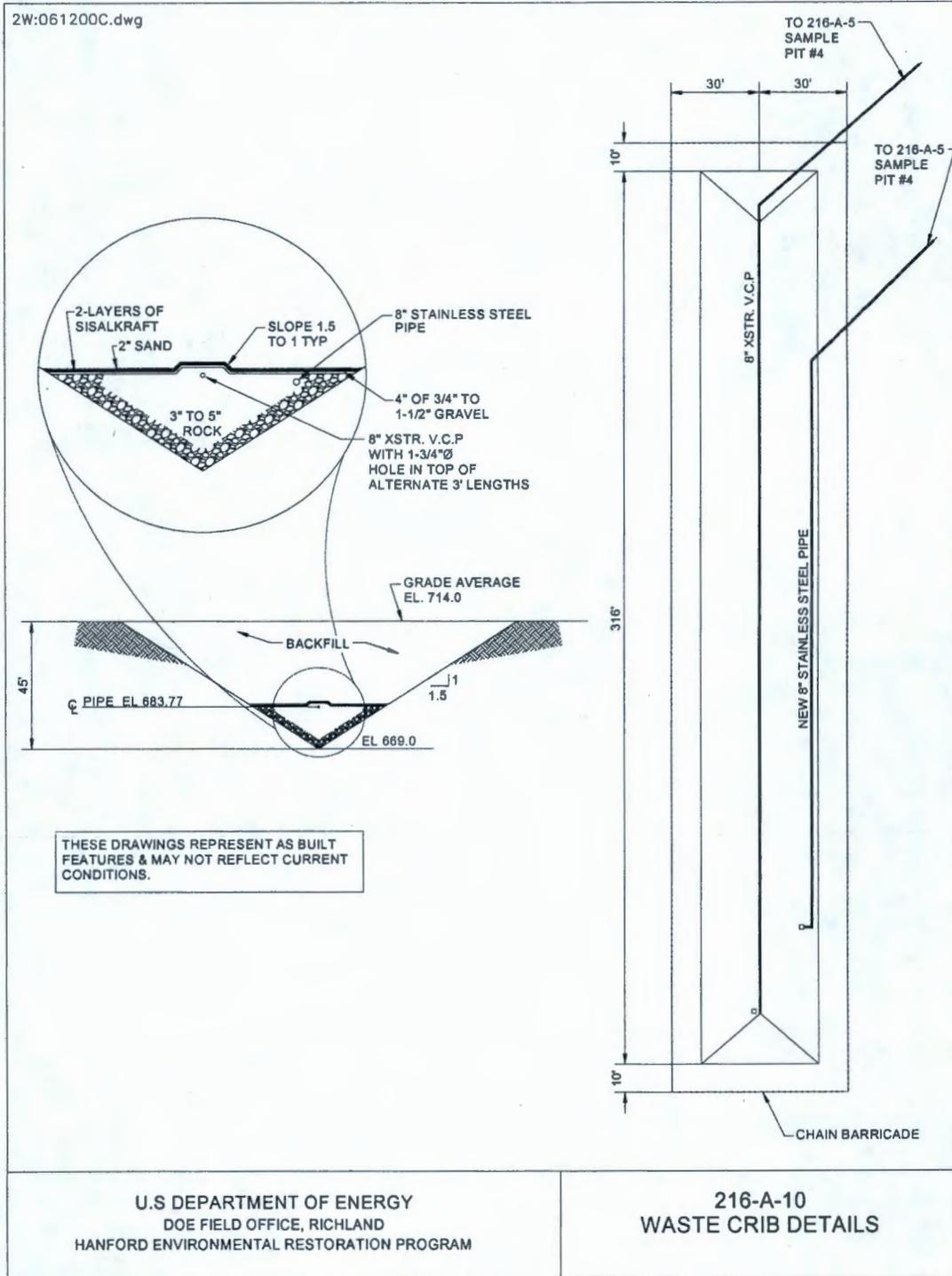
3
 4
 5
 6

Figure 2-1. 216-A-10 Crib Site Plan.



1
2
3

Figure 2-2. Construction Diagram for the 216-A-10 Crib.



4

This page intentionally left blank.

1

3.0 PROCESS INFORMATION

2 This chapter identifies the source of the waste disposed of at the 216-A-10 Crib and the crib
3 operating process.

4 3.1 WASTE GENERATING FACILITY AND 5 PROCESS

6 All waste contributions to the 216-A-10 Crib originated from the PUREX 202-A Canyon
7 Building. The discharges identified in the Part A Permit for the 216-A-10 Crib TSD unit
8 (DOE/RL-2000-60, Appendix A) included corrosive, mixed waste as liquid process condensate
9 resulting from PUREX Plant operations in the 202-A Canyon Building. This crib received only
10 PDD that was generated from two product concentrators that were a portion of the PUREX
11 process (Figure 3-1). Backwash from the regeneration of the demineralizer columns frequently
12 was corrosive (D002) and sometimes contained chemicals used in the regeneration process,
13 including nitric acid, sulfuric acid, sodium hydroxide, and potassium hydroxide.

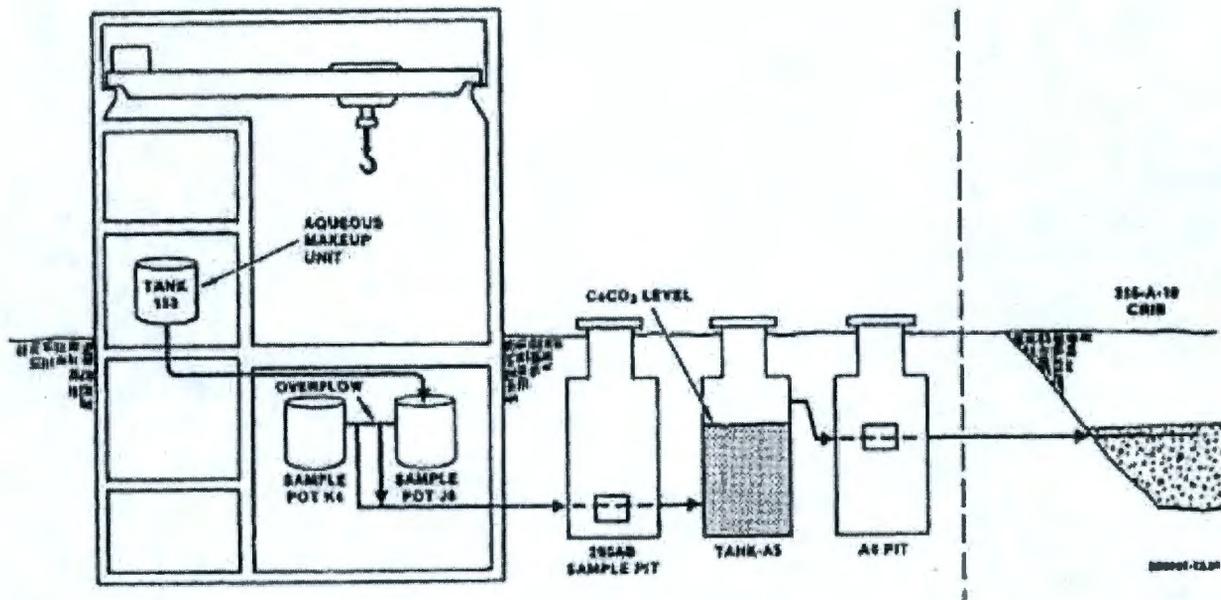
14 3.2 DISPOSAL UNIT PROCESS

15 The 216-A-10 Crib was a percolation unit used to dispose of liquid PUREX PDD to the soil
16 column. PDD was pumped from 202-A Canyon Building through waste-transfer piping to the
17 north end of the crib. At the crib, the transfer piping connected to the perforated waste-
18 distribution piping, which evenly distributed effluent waste over the length of the crib. No waste
19 treatment occurred at this site.

20

1
2
3
4

Figure 3-1. Process Distillate Discharge Waste Stream Origin Information.



1 4.0 WASTE INVENTORY AND CHARACTERISTICS

2 This chapter identifies the inventory and the characteristics of the waste disposed of at the
3 216-A-10 Crib. As discussed in Chapter 6.0, this waste site never operated as a TSD unit, and
4 the contaminants listed in this chapter are not TSD unit constituents. Information regarding
5 these contaminants does not infer that this waste site operated as a TSD unit.

6 4.1 WASTE INVENTORY

7 From 1956 to March 1987, the 216-A-10 Crib operated as a percolation unit to dispose of liquid
8 waste to the soil column. Between 1956 and 1959 the crib received only water. From 1959 to
9 1987, the 216-A-10 Crib received only PDD from the PUREX Canyon Building. This unit was a
10 sole source receiver of mixed waste from the PUREX process, which generated only mixed
11 waste. The design capacity for the 216-A-10 Crib was 272,500 L (72,000 gal) per day.
12 Approximately 62,640,345 kg were disposed of at the 216-A-10 Crib in 1986. The total volume
13 of liquid effluent discharged to the crib was approximately 3.2×10^9 L (8.5×10^8 gal)
14 (DOE/RL-96-81, *Waste Site Grouping for 200 Areas Soil Investigations*).

15 4.2 WASTE CHARACTERISTICS

16 The PUREX PDD disposed of at this crib was designated a corrosive (D002) mixed waste. The
17 pH of this waste ranged from 1.0 to 2.5 standard units. Stream-origination information is
18 provided in Figure 3-1. The 216-A-10 Crib Part A permit application identifies the dangerous
19 waste number assigned to the waste stream discharged to this waste site. However, the waste
20 stream constituents do not represent TSD unit constituents. Although not TSD unit constituents,
21 unit information is appropriate to address a future 216-A-10 Crib CERCLA remedial action or
22 RCRA corrective action under the 200-PW-2/200-PW-4 OUs.

This page intentionally left blank.

1 **5.0 216-A-10 CRIB RCRA SITE GROUNDWATER MONITORING**

2 The 216-A-10 Crib was inappropriately identified as a TSD unit (Chapter 6.0), so groundwater
3 monitoring information is not needed to pursue administrative closure. However, a RCRA
4 interim status groundwater monitoring program has been in operation for this unit since 1988.
5 Information regarding monitoring, aquifer identification, well location, and well sampling results
6 associated with this monitoring will be made available upon request.

7 After administrative closure, the interim status RCRA groundwater monitoring program will be
8 discontinued, and no RCRA final status groundwater monitoring program will be required for
9 this crib. Regional monitoring will continue for the PUREX Plant cribs by the 200-PO-1
10 Groundwater OU for past-practice (corrective action) constituents of concern to groundwater
11 (DOE/RL-2000-60, Rev. 1).

This page intentionally left blank.

6.0 CLOSURE STRATEGY AND PERFORMANCE STANDARDS

This chapter identifies an administrative closure strategy for the 216-A-10 Crib.

6.1 CLOSURE STRATEGY

This waste site will undergo administrative closure (i.e., change in regulatory status of this unit from that of a TSD unit to a past-practice unit through administrative actions). Although the 216-A-10 Crib never managed mixed waste after the effective date of mixed waste regulation (August 19, 1987), the 216-A-10 Crib has an open Part A Permit Application that, while remaining open, requires the 216-A-10 Crib to be managed as a TSD unit. The change in regulatory status will allow the Part A to be withdrawn, and the waste site no longer will require management under WAC 173-303 requirements for a TSD unit. Consequently, contaminants identified by unit characterization in 2004 as a portion of the 200-PW-2/200-PW--4 OU CERCLA RI/FS process are not TSD unit constituents and do not require disposition under the regulations governing closure of TSD units.

Administrative closure, as used in this context, implies that no mixed waste was managed after the effective date that the mixed-waste rule applies. Therefore, the 216-A-10 Crib never operated as a TSD unit, and TSD closure standard(s) established in accordance with WAC 173-303-610(2)(b)(i) and (ii), "Closure and Post-Closure," "Closure Performance Standard," do not apply. Any further physical activities necessary to complete waste-site disposition of this site as a past-practice unit will occur in conjunction with 200-PW-2/200_PW-4 CERLCA OU activities under Tri-Party Agreement (Ecology et al. 1989a), Chapter 7.0, past-practice processes that satisfy RCRA corrective action requirements under the WA7890008967, *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8, for the Treatment, Storage, and Disposal of Dangerous Waste*, Condition II.Y.

6.2 CLOSURE PERFORMANCE STANDARDS

Because the 216-A-10 Crib was inappropriately identified as a TSD unit, the closure performance standards of WAC 173-303-610 do not apply. This section identifies the information that must be provided for administrative closure of the 216-A-10 Crib, which will facilitate change in regulatory status of this unit from TSD unit to past-practice unit.

6.2.1 216-A-10 Administrative Closure Requirements

This crib began operations in 1956 and received only water and mixed waste (Chapter 4.0). Administrative closure (change in regulatory status) requires demonstration that this unit received no mixed waste containing RCRA-regulated dangerous waste constituents after August 19, 1987.

1 The current 216-A-10 Crib RCRA Part A (DOE/RL-2000-60, Appendix A), indicates that this
2 crib was used to dispose of PUREX PDD, a corrosive mixed waste. This crib is documented as
3 having received only PUREX PDD during operations and received its final volume of PDD in
4 March 1987 (Chapter 7.0). Because this unit received only mixed waste and never received
5 waste after August 19, 1987, the date, as agreed to by the U.S. Department of Energy, Richland
6 Operations Office and Ecology, that the mixed-waste rule applies, this unit never operated as a
7 TSD unit in the management of waste regulated under WAC 173-303. Because mixed waste
8 releases occurred to this unit before the August 19, 1987 date, the 216-A-10 Crib is a past-
9 practice waste site that will be dispositioned in accordance with Tri-Party Agreement, Section
10 7.0, "Past Practice Processes" (Ecology et al, 1989a).

11

1

7.0 CLOSURE ACTIVITIES

2 This chapter summarizes prior activities in support of administrative closure and future
3 administrative actions that will be required to complete administrative closure.

4 7.1 UNIT PHYSICAL ISOLATION

5 By March 1987, this unit was physically isolated to preclude any further discharges to this crib.
6 The waste transfer piping from PUREX, the sole source of 216-A-10 Crib waste, was physically
7 cut and capped. This action and the date of completion are verified in as-built drawings
8 (Figures 7-1 and 7-2). This action permanently isolated the downstream 216-A-37-1 Crib from
9 any further waste additions. No direct discharges (dumping) to this crib are documented to have
10 occurred, and any such discharges would have been precluded by the unit being 13.7 m (45 ft)
11 below ground surface (bgs).

12 7.2 MODIFICATION OF CRIB REGULATORY 13 STATUS

14 Administrative closure of the 216-A-10 Crib will occur by modification of the crib regulatory
15 status from RCRA TSD unit to past-practice waste site. The change in unit regulatory status will
16 be implemented by modification of the Tri-Party Agreement (Ecology et al. 1989a) and then
17 withdrawal of the unit-specific Part A permit application.

18 Appendix B of *Hanford Federal Facility Agreement and Consent Order Action Plan* (Ecology et
19 al., 1989b), (Tri-Party Agreement Action Plan) will be modified to remove the 216-A-10 Crib
20 from the list of TSD units, by using a change request form similar to that shown in Figure 7-3.
21 Appendix C of the Tri-Party Agreement Action Plan will be modified to identify this unit as a
22 past-practice unit using a change request form similar to that in Figure 7-4.

23 Upon Ecology concurrence with 216-A-10 Crib administrative closure, these draft Tri-Party
24 Agreement change requests will be finalized and submitted to Ecology and the
25 U.S. Environmental Protection Agency for approval.

26 7.2.1 Other Activities During the Closure Period

27 The duties associated with dangerous waste management activities include performing
28 inspections, notifying Ecology of any potential threats to human health and the environment,
29 training, contingency planning, and performing groundwater monitoring. Following Ecology
30 approval of administrative closure, all WAC 173-303 compliance activities at the 216-A-10 Crib
31 will be discontinued.

1 **7.3 SCHEDULE FOR CLOSURE**

2 In accordance with Tri-Party Agreement (Ecology et al. 1989a) milestone M-020-33, submittal
3 of a TSD unit closure plan to Ecology is required by April 30, 2006. Following submittal,
4 Ecology has 90-days to review the document in accordance with Tri-Party Agreement
5 Figure 9-2. The closure plan strategy for this TSD unit is administrative closure. Activities
6 completed in support of administrative closure include physical isolation of this crib (completed
7 March 1987) and completion of administrative closure actions comprising Tri-Party Agreement
8 modifications. No additional closure activities have been scheduled.

9 **7.4 AMENDMENT OF CLOSURE PLAN**

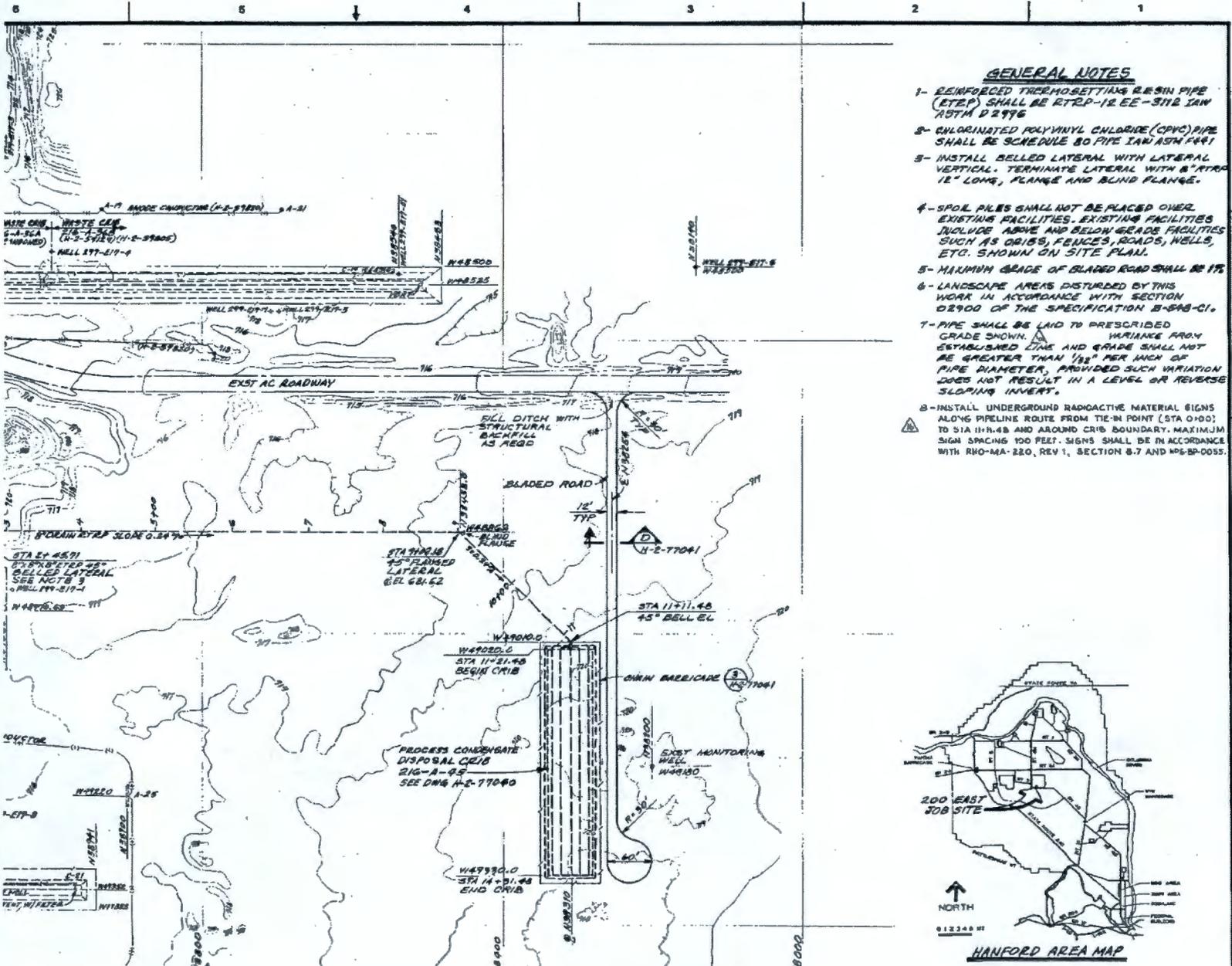
10 Because the 216-A-10 Crib was inappropriately identified as a TSD unit, the closure plan
11 modification requirements of WAC 173-303-610(3)(b), "Closure and Post-Closure," "Closure
12 Plan; Amendment of Plan," do not apply. If during the closure plan approval process in
13 accordance with the review and comment schedule presented in the Tri-Party Agreement, Action
14 Plan, Figure 9-2, an amendment to the plan is required, DOE will revise the plan. If 216-A-10
15 Crib administrative closure is not approved and the crib must close as a TSD unit, this plan will
16 be revised to identify a closure strategy and associated closure performance standards and
17 closure/postclosure activities that will meet WAC 173-303-610 requirements.

18 **7.5 CERTIFICATION OF CLOSURE**

19 Because the 216-A-10 Crib was inappropriately identified as a TSD unit, the requirements of
20 WAC 173-303-610(6), "Closure and Post-Closure," "Certification of Closure," to certify
21 completion of TSD unit closure do not apply.

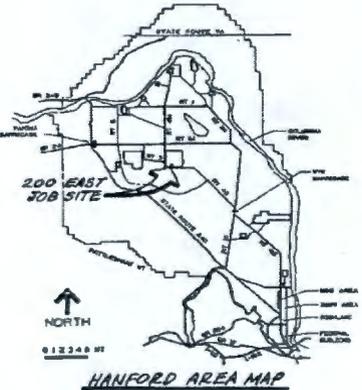
22

Figure 7-1. Hanford Site As-Built Drawing
H-2-77039, Civil Site Plan.



GENERAL NOTES

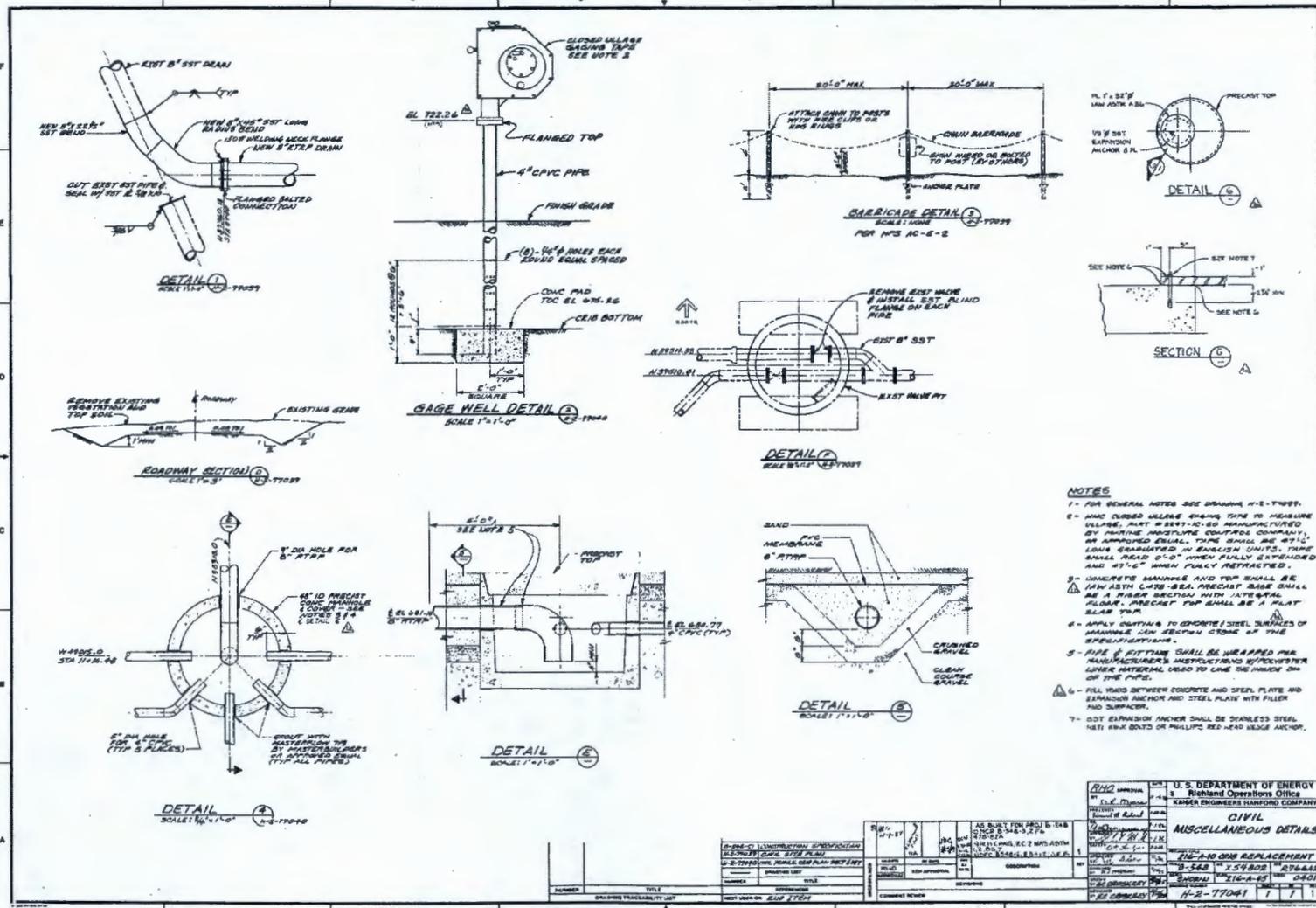
- 1- REINFORCED THERMOSETTING RESIN PIPE (ETEP) SHALL BE RTRP-12 EE-3112 IAW ASTM D 2976
- 2- CHLORINATED POLYVINYL CHLORIDE (CPVC) PIPE SHALL BE SCHEDULE 80 PIPE IAW ASTM F441
- 3- INSTALL BELLED LATERAL WITH LATERAL VERTICAL. TERMINATE LATERAL WITH 6" RTRP 12" LONG, FLANGE AND BLIND FLANGE.
- 4- SPOIL PILES SHALL NOT BE PLACED OVER EXISTING FACILITIES. EXISTING FACILITIES INCLUDE ABOVE AND BELOW GRADE FACILITIES SUCH AS CRIBS, FENCES, ROADS, WELLS, ETC. SHOWN ON SITE PLAN.
- 5- MAXIMUM GRADE OF BLADED ROAD SHALL BE 1%.
- 6- LANDSCAPE AREAS DISTURBED BY THIS WORK IN ACCORDANCE WITH SECTION 02900 OF THE SPECIFICATION B-S&S-C1.
- 7- PIPE SHALL BE LAID TO PRESCRIBED GRADE SHOWN. VARIANCE FROM ESTABLISHED LINE AND GRADE SHALL NOT BE GREATER THAN 1/8" PER INCH OF PIPE DIAMETER, PROVIDED SUCH VARIATION DOES NOT RESULT IN A LEVEL OR REVERSE SLOPING INVERT.
- 8- INSTALL UNDERGROUND RADIOACTIVE MATERIAL SIGNS ALONG PIPELINE ROUTE FROM TIE-IN POINT (STA 0+00) TO STA 11+4.8 AND AROUND CRIB BOUNDARY. MAXIMUM SIGN SPACING 100 FEET. SIGNS SHALL BE IN ACCORDANCE WITH RMO-MA-220, REV 1, SECTION 8.7 AND W&S-SP-0055.



1
2
4
6

Figure 7-2. Waste Source Piping Cut and Cap Detail.

7-5



- NOTES**
1. FOR GENERAL NOTES SEE DRAWING H-2-77007.
 2. WASTE CURBS SHALL BE MANUFACTURED BY THE WASTE CURB COMPANY, AN APPROVED SUPPLIER. THE CURBS ARE 18" LONG, 18" HIGH, AND 18" WIDE. THE CURBS SHALL BE MANUFACTURED IN ENGLISH UNITS. THE CURBS SHALL BE 18" LONG WHEN FULLY EXTENDED AND 18" LONG WHEN FULLY RETRACTED.
 3. WASTE CURBS AND TOP SHALL BE 18" LONG. WASTE CURBS SHALL BE 18" LONG. WASTE CURBS SHALL BE 18" LONG. WASTE CURBS SHALL BE 18" LONG.
 4. APPLY COATING TO EXPOSED STEEL SURFACES OF WASTE CURBS AND TOP OF THE SPECIFICATIONS.
 5. PIPE & FITTINGS SHALL BE WEARER PER MANUFACTURER'S INSTRUCTIONS. UNDER LAYER MATERIAL USED TO LINE THE HOLE OR ON THE CURB.
 6. FILL HOLES BETWEEN CONCRETE AND STEEL PLATE AND EXPANSION ANCHOR AND STEEL PLATE WITH FILLER AND SURFACING.
 7. DOT EXPANSION ANCHOR SHALL BE STAINLESS STEEL NETI 60K BOLT OR PHILLIPS RED-HEAD WEDGE ANCHOR.

PROJECT: WASTE SOURCE PIPING CUT AND CAP SHEET: H-2-77007-1 DATE: 11/11/07		U.S. DEPARTMENT OF ENERGY REGIONAL OPERATIONS OFFICE KAMBER ENGINEERS HANFORD COMPANY CIVIL MISCELLANEOUS DETAILS	
REVISIONS: NO. 1: AS SHOWN FOR H-2-77007-1 NO. 2: AS SHOWN FOR H-2-77007-2 NO. 3: AS SHOWN FOR H-2-77007-3	DRAWN BY: J. J. JONES CHECKED BY: J. J. JONES DATE: 11/11/07	PROJECT NO.: H-2-77007 SHEET NO.: 1 TOTAL SHEETS: 1	SCALE: AS SHOWN MATERIAL: CONCRETE, CPVC, STEEL

DOE/RL-2006-37 DRAFT A

Figure 7-3. Example Change Request Form for Action Plan Appendix B. (2 Pages)

Change Number B-06-01	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink. D R A F T	Date January 3, 2006
Originator Phone	B. L. Foley, U.S. Department of Energy (509) 376-7087	
Class of Change		
<input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
Change Title		
Delete the 216-A-10 Crib from Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Appendix B.		
Description/Justification of Change		
<p>The 216-A-10 Crib Resource Conservation and Recovery Act (RCRA) Dangerous Waste Part A, Permit Application, Revision 4, identifies that this crib was used to dispose of Plutonium-Uranium Extraction (PUREX) process distillate discharge (PDD) that was a corrosive mixed waste. This crib is documented to have received only PUREX PDD during operations. The RCRA Part A Permit Application, states that this site received its last waste in March 1987. As agreed to by the U.S. Department of Energy and the Washington State Department of Ecology, the date that the mixed waste rule applies is August 19, 1987, and any discharges occurring before this effective date would constitute a past-practice waste site. Documentation in the form of as-built drawings signed and dated April 1, 1987; verify the completion of piping modifications that physically isolated the 216-A-10 Crib from further receipt of waste. Because the 216-A-10 Crib received only mixed waste and ceased operations before August 19, 1987, this unit never received waste after the date that the mixed-waste rule applies. Consequently, the 216-A-10 Crib should be reclassified as a RCRA past-practice (RPP) site, from that of a treatment, storage, and disposal (TSD) unit, by modification of Tri-Party Agreement Action Plan Appendix C.</p>		
Impact of Change		
This is an administrative change to Appendix B that will not impact Agreement milestones or schedules.		
Affected Documents		
Hanford Federal Facility Agreement and Consent Order, Appendix B, as amended.		
Approvals		Page 1 of 2
_____	_____ Approved _____ Disapproved	
DOE	Date	
_____	_____ Approved _____ Disapproved	
EPA	Date	
_____	_____ Approved _____ Disapproved	
Ecology	Date	

Change Form B-06-01

Page 2 of 2

D R A F T**Modifications to Tri-Party Agreement Appendix B.**

Modifications to Tri-Party Agreement Appendix B are denoted using ~~strikeout~~ for text deletions.

Appendix B

Listing of Treatment, Storage, and Disposal Groups/Units.

<u>Treatment, Storage, and Disposal</u>			<u>Planned Action</u>	
Group Number	Group/Units	Operable Unit (if applicable)	Closure*	Operating Permit
D-2-2	216-A-10 Crib	200-PO-2	X	

Figure 7-4. Example Change Request Form for Action Plan Appendix C. (2 Pages)

Change Number C-06-01	Federal Facility Agreement and Consent Order Change Control Form <small>Do not use blue ink. Type or print using black ink.</small> D R A F T	Date January 3, 2006
Originator Phone	B. L. Foley, U.S. Department of Energy (509) 373-7087	
Class of Change <input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
Change Title Remove Double Asterisk (indicating a TSD unit) for the 216-A-10 Crib in Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) Appendix C.		
Description/Justification of Change <p>The 216-A-10 Crib Resource Conservation and Recovery Act (RCRA) Dangerous Waste Part A, Permit Application, Revision 4, identifies that this crib was used to dispose of Plutonium-Uranium Extraction (PUREX) process distillate discharge (PDD) that was a corrosive mixed waste. This crib is documented to have received only PUREX PDD during operations. The RCRA Part A Permit Application states that this site received its last waste in March 1987. As agreed to by the U.S. Department of Energy and the Washington State Department of Ecology, the date that the mixed waste rule applies is August 19, 1987, and any discharges occurring before this effective date would constitute a past practice waste site. Documentation in the form of as-built drawings signed and dated April 1, 1987, verify the completion of piping modifications that physically isolated the 216-A-10 Crib from further receipt of waste. Because the 216-A-10 Crib received only mixed waste and ceased operations before August 19, 1987, this unit never received waste after the date that the mixed waste rule applies.</p> <p style="text-align: center;">Description/Justification continued on page 2.</p>		
Impact of Change Administrative changes to Tri-Party Agreement Appendix C; no impact to Tri-Party Agreement milestones or schedule.		
Affected Documents The Hanford Federal Facility Agreement and Consent Order, Appendix C, as amended.		
Approvals <hr/> DOE _____ Date _____ Approved _____ Disapproved _____ <hr/> EPA _____ Date _____ Approved _____ Disapproved _____ <hr/> Ecology _____ Date _____ Approved _____ Disapproved _____		Page 1 of 2

1 **Change Request C-06-01**

2 **Page 2 of 2**

3

4

D R A F T

5

6 Description/Justification Continued:

7

8 Consequently, the 216-A-10 Crib is reclassified as a RCRA past practice (RPP), site from that
9 of a treatment, storage, and disposal (TSD), by modification of Tri-Party Agreement Action
10 Plan Appendix C. The double asterisks indicating a TSD site are removed by this change
11 request from the 216-A-10 Crib in Appendix C.

12

13

14

Modifications to Tri-Party Agreement Appendix C.

15

16

Modifications to Tri-Party Agreement Appendix C are denoted using ~~strikeout~~ for text deletions.

17

18

Appendix C

Listing by Operable Unit.

19

OPERABLE UNIT	LEAD REGULATORY AGENCY		
Waste Unit Name	Waste Unit Aliases	Unit Type	Status
200-PW-2	Ecology	RPP	
216-A-10**	216-A-10, 216-A-10 Crib	Crib	

20

21

22

Note: The strike through appearing below the double asterisk is indicating the deletion of the double asterisk.

23

Appendix C footnotes (displayed for information)

24

25

* Active waste management units where a hazardous substance has been potentially released or a substantial threat of a release of a hazardous substance exists.

26

27

** Treatment, storage, and disposal units where closure and permitting activities are to be coordinated with past-practice investigation and remediation activities.

28

29

† Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units (1999)

30

31

This page intentionally left blank.

1

8.0 POSTCLOSURE PLAN

2 The 216-A-10 Crib never operated as a TSD unit and so qualifies for administrative closure.
3 No waste remaining at this site after administrative closure will require disposition as a TSD unit
4 constituent and, therefore, no postclosure plan will be required. Past-practice activities
5 associated with corrective action will continue at this crib as a past-practice site under the
6 CERCLA RI/FS processes for the 200-PW-2/200-PW--4 (source) OU for the vadose zone soil
7 and the 200-PO-1 Groundwater OU for groundwater beneath this unit.

1

This page intentionally left blank.

9.0 REFERENCES

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, 42 USC 9601, et seq.
- DOE/RL-91-28, 2004, *Hanford Facility Dangerous Waste Permit Application*, Rev. 7, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-96-81, 1997, *Waste Site Grouping for 200 Areas Soil Investigations*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-98-28, 1999, *200 Areas Remedial Investigation/Feasibility Study Implementation Plan – Environmental Restoration Program*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-2000-60, 2004, *Uranium-Rich/General Process Condensate and Process Waste Group Operable Units RI/FS Work Plan and RCRA TSD Unit Sampling Plan; Includes 200-PW-2 and 200-PW-4 Operable Units*, Rev. 1 Re-issue, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-2002-14, 2004, *Tanks/Lines/Pits/Boxes/Septic Tank and Drain Fields Waste Group Operable Unit RI/FS/Work Plan and RCRA TSD Unit Sampling Plan; Includes 200-IS-1 and 200-ST-1 Operable Units*, Rev. 1, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- DOE/RL-2004-25, 2004, *Remedial Investigation Report for the 200-PW-2 Uranium-Rich Process Waste Group and 200-PW-4 General Process Condensate Group Operable Units*, Draft A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- Ecology, EPA, and DOE, 1989a, *Hanford Federal Facility Agreement and Consent Order*, 2 vols., Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington, as amended.
- Ecology, EPA, and DOE, 1989b, *Hanford Federal Facility Agreement and Consent Order Action Plan*, Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington.
- H-2-77039, *Civil Site Plan*, Hanford Site drawing.
- Hanford Environmental Information System*, Hanford Site database.
- HW-43121, 1956, *Tabulation of Radioactive Liquid Waste Disposal Facilities*, General Electric Company, Richland, Washington.
- Resource Conservation and Recovery Act of 1976*, 42 USC 6901, et seq.

WA7890008967, 2004, *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8, for the Treatment, Storage, and Disposal of Dangerous Waste*, Washington State Department of Ecology, Richland, Washington, as amended.

WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington.

WAC 173-303-400, "Dangerous Waste Regulations," "Interim Status Facility Standards," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington.

WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," "Closure Performance Standard," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington.

WAC 173-303-610(3), "Dangerous Waste Regulations," "Closure and Post-Closure," "Closure Plan; Amendment of Plan," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington.

WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," "Certification of Closure," *Washington Administrative Code*, as amended, Washington State Department of Ecology, Olympia, Washington.

Waste Information Data System, Hanford Site database.

DISTRIBUTION

Onsite

1	<u>U.S. Department of Energy</u> <u>Richland Operations Office</u>	
	DOE Public Reading Room	H2-53
1	<u>Pacific Northwest National Laboratory</u>	
	Hanford Technical Library	P8-55
1	<u>Lockheed Martin Information Technology</u>	
	Document Clearance	H6-08

This page intentionally left blank.