Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

13-ESQ-0074

OCT 11 2013

Ms. J. A. Hedges, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Hedges:

RESPONSE TO CONSENT AGREEMENT AND FINAL ORDER CONCERNING (CAFO) THE SUBMITTAL OF CLOSURE PLANS FOR CLOSING DANGEROUS WASTE MANAGEMENT UNITS (DWMUs)

On June 26, 2013, the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) executed a CAFO (Docket No: RCRA-10-2013-0113) requiring initiation of closure of several Hanford Site DWMUs. CAFO Section 3.11 identifies the DWMUs affected, and Section 4.4 of the CAFO requires the following:

> "b. Within 120 days of the effective date of the Final Order, Respondent shall submit to Ecology a permit modification request in accordance with WAC 173-303-830 for the units listed above in Paragraph 3.11 that includes a written closure plan that satisfies the closure plan requirements at WAC 173-303-610 or, in the event that one or more of the units is duly authorized by a permit for the treatment, storage, and/or disposal of dangerous waste within 120 days of the effective date of the Final Order, then Respondent shall submit a closure plan for those units to Ecology within 120 days of the effective date of the Final Order that satisfies applicable closure plan permit requirements. Respondent also must submit a copy of the closure plan submittals and all subsequent revisions to EPA."

This DOE letter is submitting the permit modification request, including closure plans for the Treatment, Storage, and Disposal units identified in CAFO Paragraph 3.11, Low Level Burial Grounds Trenches 31-34-94 (Attachment 1), T-Plant Complex (Attachment 2) and the Central Waste Complex-Waste Receiving and Processing (CWC-WRAP), including the 2401W Building (Attachment 3) (CAFO Paragraph 3.13). This permit modification request includes the following:

- Part A permit applications for the unit groups: CWC-WRAP, T-Plant Complex, Low-Level Burial Grounds (LLBG) Trenches 31-34-94
- Closure Plans for the CAFO Paragraph 3.11 units and for Building 2401W (Paragraph 3.13)
- Addendum G Training Plans for the CWC-WRAP, T-Plant Complex, LLBG Trenches 31-34-94

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- Addendum I Inspection Plans for the CWC-WRAP, T-Plant Complex, LLBG Trenches 31-34-94.

DOE requested in a separate letter 13-AMRP-0311, dated September 26, 2013, that Ecology address the additional unit identified in CAFO Paragraph 3.13 (T-Plant Railroad Tunnel) by granting an extension for the submittal of a closure plan. Ecology approved that request in the letter 13-NWP-108, dated October 4, 2013.

A copy of the permit modification request, including copies of the closure plans, is also being submitted to the EPA Region 10 per the CAFO requirements.

A sixty-day public comment period will be held on the permit modification request as required by Washington Administrative Code (WAC) 173-303-830(4)(c)(ii)(A). The notice required by the Permittees in WAC 173-303-830(4)(c)(ii) will be included in the appropriate Hanford Federal Facility Agreement and Consent Order publication or list server, as described in Hanford Facility RCRA Permit Condition I.C.3. A public meeting will be held on December 9, 2013, per WAC 173-303-830(3)(c)(iv).

If you have any questions, please contact me, or your staff may contact Stacy L. Charboneau, Assistant Manager for Safety and Environment on (509) 373-3841

Sincerely,

Matt McCormick
Manager

ESQ:ACM

Attachments

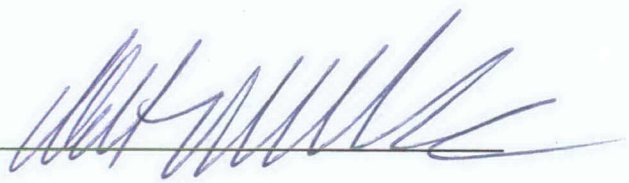
cc w/attachs:
E. Kowalski, EPA Region 10
Ecology NWP Library
Environmental Portal, LMSI, A3-95
Administrative Record, TSD: T-2-7, TS-2-4, D-2-9
HF Operating Record (J. K. Perry, MSA, H7-28)

cc w/o attachs:
D. B. Bartus, EPA
L. T. Blackford, CHPRC
A. E. Cawrse, CHPRC
S. J. Dahl, Ecology
B. J. Dixon, CHPRC
M. N. Jaraysi, CHPRC
S. S. Lowe, Ecology
J. B. Price, Ecology
A. L. Prignano, Ecology
F. A. Ruck III, CHPRC
J. R. Seaver, CHPRC

U.S. Department of Energy, Richland Operations Office Certification

The following certification statement is provided for the submittal of the permit modification package contained in letter 13-ESQ-0074.

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.



10/11/13

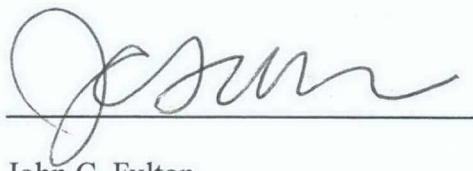
Matt McCormick, Manager
U.S. Department of Energy
Richland Operations Office

Date

CH2M HILL Plateau Remediation Company (CHPRC) Certification

The following certification statement is provided for the submittal of the permit modification package contained in letter 13-ESQ-0074.

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.



10-3-2013

John C. Fulton,
President and Chief Executive Officer
CH2M HILL Plateau Remediation Company

Date

Addendum G

Personnel Training

SWOC Closure Units

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Addendum G1

Personnel Training

LLBG Trenches 31-34-94

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Addendum G1

Personnel Training

Permit Attachment 5 describes specific requirements for the Hanford Facility Personnel Training program. The Permittees will comply with the following training matrix, which provides training requirements for Hanford Facility personnel associated with the Solid Waste Operations Complex (SWOC) Low-Level Burial Ground (LLBG) Trench 31-34-94 closure unit. Table G1-1 identifies the personnel training for a Closure Unit when dangerous waste containers are present. No LLBG Trench 31-34-94 closure units have dangerous waste containers present and, therefore, no personnel will undergo training using Table G1-1.

Table G1-2 identifies personnel training for Dangerous Waste Management Units undergoing closure where dangerous waste is no longer present. The LLBG Trench 31-34-94 closure unit where dangerous waste containers are no longer present is FS-1.

The SWOC Closure Units Dangerous Waste Training Plan (DWTP) provides a complete description of the personnel training requirements. As required by Permit Condition II.I.2, a copy of the DWTP will be placed in the operating record of the facility and will be updated by the Permittee as unit-specific conditions change. Training received by facility personnel will be commensurate with the duties they perform. Individuals are not required to receive training for work/duties they do not perform.

Table G1-1. Training Matrix for Closing DWMUs Where Dangerous Waste is Present

	Training Category[a]				
Permit Attachment 5 Training Category	General Hanford Facility Training	Contingency Plan Training	Emergency Coordinator Training	Operations Training	
SWOC Closure Units DWTP Implementing Plan	Orientation Program	Emergency Response (Contingency Plan)	Emergency Coordinator Training	General Waste Management and Closure Support	Container Management
Job title/position					
Nuclear Chemical Operator	X	X		X[a]	X[b]
Operations Supervisor	X	X	X	X[b]	
Environmental Compliance Officer (ECO)	X			X[b]	
Waste Service Provider	X			X[b]	X[b]
Sampler	X			X[b]	

a. Refer to the SWOC Closure Units Dangerous Waste Training Plan for a complete description of coursework in each training category.

b. Training received is commensurate with the duties performed. Individuals in this category who do not perform these duties are not required to receive this training.

Table G1-2. Training Matrix for Closing DWMUs Where Waste is No Longer Present

	Training Category[a]				
Permit Attachment 5 Training Category	General Hanford Facility Training	Contingency Plan Training	Emergency Coordinator Training	Operations Training	
SWOC Closure Units DWTP Implementing Plan	Orientation Program	Emergency Response (Contingency Plan)	Emergency Coordinator Training	General Waste Management and Closure Support	Container Management
Job title/position					
Nuclear Chemical Operator	X	X		X[a]	X[b]
Operations Supervisor	X	X	X	X[b]	
Environmental Compliance Officer (ECO)	X			X[b]	
Waste Service Provider	X			X[b]	X[b]
Sampler	X			X[b]	

a. Refer to the SWOC Closure Units Dangerous Waste Training Plan for a complete description of coursework in each training category.

b. Training received is commensurate with the duties performed. Individuals in this category who do not perform these duties are not required to receive this training.

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Addendum G2

Personnel Training

T-Plant Complex

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Addendum G2

Personnel Training

Permit Attachment 5 describes specific requirements for the Hanford Facility Personnel Training program. The Permittees will comply with the following training matrix, which provides training requirements for Hanford Facility personnel associated with the Solid Waste Operations Complex (SWOC) T-Plant Closure Unit. Table G2-1 identifies the personnel training for T-Plant Closure units where dangerous waste containers are present. Currently, one T-Plant closing DWMU, the 221-T Tank System is an unclosed, non-operating tank system containing mixed waste residue and, therefore, personnel associated with this system will undergo training consistent with Table G2-1.

Table G2-2 identifies the personnel training for T-Plant Dangerous Waste Units undergoing closure where dangerous waste containers are no longer present at waste storage areas and tank systems are inactive (disconnected and emptied). Following are the T-Plant closure units where dangerous waste is no longer present at waste storage areas and tank systems are inactive:

- 211-T Pad
- 221-T-R5 waste storage area
- 221-T Pipe Gallery Storage
- 221-T Railroad Cut
- 221-T Sand Filter Pad
- 2706-TB Tank system
- 271-T Cage
- 277-T outdoor storage area
- 277-T Building

The SWOC Closure Units Dangerous Waste Training Plan (DWTP) presents a complete description of the personnel training requirements. As required by Permit Condition II.I.2, a copy of the DWTP will be placed in the operating records of the facility and will be updated by the Permittee as unit-specific conditions change. Training received by facility personnel will be commensurate with the duties they perform. Individuals are not required to receive training for work/duties they do not perform.

1 **Table G2-1. Training Matrix for Closing DWMUs Where Dangerous Waste is Present**

	Training Category[a]				
Permit Attachment 5 Training Category	General Hanford Facility Training	Contingency Plan Training	Emergency Coordinator Training	Operations Training	
SWOC Closure Units DWTP Implementing Plan	Orientation Program	Emergency Response (Contingency Plan)	Emergency Coordinator Training	General Waste Management and Closure Support	Container Management
Job title/position					
Nuclear Chemical Operator	X	X		X[a]	X[b]
Operations Supervisor	X	X	X	X[b]	
Environmental Compliance Officer (ECO)	X			X[b]	
Waste Service Provider	X			X[b]	X[b]
Sampler	X			X[b]	

a. Refer to the SWOC Closure Units Dangerous Waste Training Plan for a complete description of coursework in each training category.

b. Training received is commensurate with the duties performed. Individuals in this category who do not perform these duties are not required to receive this training.

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Table G2-2 Training Matrix for Closing DWMUs Where Dangerous Waste Is No Longer Present

	Training Category[a]				
Permit Attachment 5 Training Category	General Hanford Facility Training	Contingency Plan Training	Emergency Coordinator Training	Operations Training	
SWOC Closure Units DWTP implementing plan	Orientation Program	Emergency Response (Contingency Plan)	Emergency Coordinator Training	General Waste Management and Closure Support	Container Management
Job title/position					
Nuclear Chemical Operator	X	X		X[a]	X[b]
Operations Supervisor	X	X	X	X[b]	
Environmental Compliance Officer (ECO)	X			X[b]	
Waste Service Provider	X			X[b]	X[b]
Sampler	X			X[b]	

a. Refer to the SWOC Closure Units Dangerous Waste Training Plan for a complete description of coursework in each training category.

b. Training received is commensurate with the duties performed. Individuals in this category who do not perform these duties are not required to receive this training.

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Addendum G3

Personnel Training

CWC-WRAP

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Addendum G3

Personnel Training

Permit Attachment 5 describes specific requirements for the Hanford Facility Personnel Training program. The Permittees will comply with the following training matrix, which provides training requirements for Hanford Facility personnel associated with the Solid Waste Operations Complex (SWOC) Central Waste Complex Waste Receiving and Processing Plant (CWC-WRAP) closures. Table G3-1 identifies training for personnel associated with the SWOC CWC Outside Storage Area A and Outside Storage Area B, where dangerous waste containers are present. Until such a time as the dangerous waste containers are moved to another treatment, storage, and disposal location, personnel will be trained consistent with Table G3-1.

Table G3-2 identifies the personnel training for Dangerous Waste Management Units undergoing closure where dangerous waste containers are no longer present. The closure unit at CWC-WRAP where dangerous waste containers are no longer present is Building 2401-W.

The SWOC Closure Units Dangerous Waste Training Plan (DWTP) provides a complete description of the personnel training requirements. As required by Permit Condition II.I.2, a copy of the DWTP will be placed in the operating record of the facility and will be updated by the Permittee as unit-specific conditions change. Training received by facility personnel will be commensurate with the duties they perform. Individuals are not required to receive training for work/duties they do not perform.

Table G3-1. Training Matrix for Closing DWMUs Where Dangerous Waste is Present

	Training Category[a]				
Permit Attachment 5 Training Category	General Hanford Facility Training	Contingency Plan Training	Emergency Coordinator Training	Operations Training	
SWOC Closure Units DWTP Implementing Plan	Orientation Program	Emergency Response (Contingency Plan)	Emergency Coordinator Training	General Waste Management and Closure Support	Container Management
Job title/position					
Nuclear Chemical Operator	X	X		Xa	X[b]
Operations Supervisor	X	X	X	X[b]	
Environmental Compliance Officer (ECO)	X			X[b]	
Waste Service Provider	X			X[b]	X[b]
Sampler	X			X[b]	

a. Refer to the SWOC Closure Units Dangerous Waste Training Plan for a complete description of coursework in each training category.

b. Training received is commensurate with the duties performed. Individuals in this category who do not perform these duties are not required to receive this training.

1 **Table G3-2 Training Matrix for Closing DWMUs Where Dangerous Waste Is Not Present**

	Training Category[a]				
Permit Attachment 5 Training Category	General Hanford Facility Training	Contingency Plan Training	Emergency Coordinator Training	Operations Training	
SWOC Closure Units DWTP Implementing Plan	Orientation Program	Emergency Response (Contingency Plan)	Emergency Coordinator Training	General Waste Management and Closure Support	Container Management
Job title/position					
Nuclear Chemical Operator	X	X		X[a]	X[b]
Operations Supervisor	X	X	X	X[b]	
Environmental Compliance Officer (ECO)	X			X[b]	
Waste Service Provider	X			X[b]	X[b]
Sampler	X			X[b]	

a. Refer to the SWOC Closure Units Dangerous Waste Training Plan for a complete description of coursework in each training category.

b. Training received is commensurate with the duties performed. Individuals in this category who do not perform these duties are not required to receive this training.

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Addendum H

Closure Plans

SWOC Closure Units

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Addendum H – SWOC Closure Units

H. Consolidated Closure Plan for the Solid Waste Operations Complex Closure Units

These Closure Plans (Plans) specify the performance standards and describe the process for final closure of the Dangerous Waste Management Units (DWMUs). Upon termination of operations, the owner/operator shall willfully close the DWMUs in accordance with the applicable Washington Administrative Codes (WAC)/ *Resource Conservation and Recovery Act of 1976* (RCRA) closure requirements promulgated at WAC 173-303-610 (40 CFR 264, Subpart G). The activities and closure performance standards described herein apply only to wastes and waste constituents regulated under WAC/RCRA. In this Plan, the term "decontamination" refers to the removal of WAC/RCRA-regulated wastes and waste constituents.

H.1 Closure Requirements [WAC 173-303-610 and WAC 173-303-630(10); 40 CFR Part 264, Subpart G and 270.14(B)(13)]

These Plans satisfy the requirements of WAC 173-303-610 [40 CFR 264.112(a)] that waste management units have written closure plans. Of the additional requirements at WAC 173-303-610(2)(b) [40 CFR 264.111(c)], only those at WAC 173-303-630(10) (40 CFR 264.178) apply. Closure of the DWMUs in accordance with these Plans satisfies the requirements of WAC 173-303-610 and WAC 173-303-630(10) (40 CFR 264, Subpart G and 40 CFR 264.178).

Although closure under WAC/RCRA is primarily concerned with the hazardous waste constituents in the dangerous waste managed at the DWMUs, closure is performed with awareness of the radiological component and the threat to human health and the environment by that component. Closure will be performed to ensure the safety of personnel, as follows:

- Qualified personnel will supervise and perform closure activities in compliance with established safety procedures,
- Personnel will be equipped with appropriate PPE and trained in applicable safety procedures.

While the health and safety of personnel is of the utmost priority, closure activities will be performed in a manner to minimize waste generation.

Information specific to the closure of the Solid Waste Operations Complex (SWOC) Closure Units is presented in Addendum H. The information pertaining to the closure of the LLBG Trenches 31-34-94 is presented in Addendum H1; T-Plant Complex specific SWOC Units in Addendum H2; and CWC-WRAP specific SWOC units is presented in Addendum H3.

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Addendum H3

Closure Plans

CWC-WRAP

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H3 – CWC-WRAP

H3 Introduction

Addendum H3 discusses closure activities for the Central Waste Complex – Waste Receiving and Processing (CWC-WRAP) Operating Unit Group (OUG).

H3.1 Facility Contact Information

The Hanford Facility is owned by the U.S. Government and operated by the U.S. Department of Energy. The contact information is as follows:

U.S. Department of Energy, Richland Operations Office
P.O. Box 550
Richland, WA 99352
(509) 372-2400

H3.2 Facility Description

The Hanford Site is located in southeastern Washington State. The Site is owned by the U.S. Government, and it is managed and operated by the U.S. Department of Energy (DOE). Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed at the Hanford Site.

H3.3 Facility History, Function, Location, and Layout

The CWC-WRAP is located in Hanford's 200 West Area. (Figure 1) Waste management operations began at CWC in August 1988 and WRAP began waste management operations in March 1997. The CWC provides container storage and treatment for dangerous, mixed, and *Toxic Substances Control Act of 1976* polychlorinated biphenyl (TSCA-PCB) waste, including the retrievably stored transuranic (TRU) waste being retrieved from the Hanford Facility Low-Level Burial Grounds. The waste received and processed by CWC has been generated both on and off the Hanford Site. The primary mission for WRAP is to process TRU and transuranic-mixed (TRUM) waste to meet the Waste Isolation Pilot Plant (WIPP) acceptance requirements; however, WRAP also has processing capabilities to disposition low-level waste (LLW) and mixed low-level waste (MLLW). The waste received and processed by WRAP has been generated both on and off the Hanford Site.

Previously, CWC and WRAP were managed as separate OUGs; however, due to similar missions and operational capabilities they are now being combined into one OUG.

H3.4 Products and Production Processes

The CWC-WRAP OUG does not produce products and does not have production processes. The section is not applicable.

H3.5 Dangerous Waste and Used Oil Management Units

The CWC dangerous waste management units (DWMUs) are designed for storage but also can sort, treat, repackage, sample, and physically/chemically screen to characterize waste. Additionally, the CWC can verify the characterization of containers of mixed waste and can perform nondestructive examination on an as-needed basis. Limited treatment of mixed waste is provided in the 2402-W, 2403-W, and 2404-W series buildings' DWMUs. Treatment will consist of absorption of free liquids, absorption to accomplish deactivation, and neutralization of corrosive materials.

The WRAP DWMUs began waste management operations in March 1997. The primary mission for WRAP is to process TRU and TRUM waste to meet the WIPP acceptance requirements; however, WRAP also has processing capabilities to disposition LLW and MLLW, including TSCA-PCB mixed and non-mixed radioactively contaminated wastes. The waste received and processed by WRAP has been generated both on and off the Hanford Site. The storage and treatment DWMUs provide space for the storage and processing of mixed and non-mixed radioactive wastes, including TSCA-PCB contaminated mixed and non-mixed radioactively contaminated wastes. Waste treatment at Building 2336-W includes repackaging; solidification and/or absorption; puncturing and decanting aerosol cans; amalgamation of mercury using various metals or sulfur based reactants; neutralization of acids and bases; deactivation of corrosives, ignitables, and/or reactives; stabilization; and volume reduction.

The current Part A application for the CWC-WRAP OUG identifies the DWMUs' various *Resource Conservation and Recovery Act of 1976* (RCRA) permitted capabilities, as well as permitted operating DWMUs and closing DWMUs.

This summary closure plan will add closing DWMUs for the CWC-WRAP OUG and serve as an overarching document for those units' closure plans.

The CWC-WRAP consists of the following storage and/or treatment DWMUs identified in purple on Figure 1:

- Flammable and Alkali Metal Waste Storage Modules (Storage)
- 2402–W Series Waste Storage Buildings (Storage and Treatment)
- 2403–WA through WC Series Waste Storage Buildings (Storage and Treatment)
- 2403-WD Waste Storage Building (Storage and Treatment)
- 2404-WA Waste Storage Building (Storage and Treatment)
- CWC Tank D-10 Outside Storage Area (Storage)
- CWC East Outside Storage Area (Storage)
- CWC Shipping and Receiving Area (Storage)
- 2336-W Building Process Area (Storage and Treatment within gloveboxes)
- 2336-W Building NDA/NDE Area (Storage)
- 2336-W Building Shipping and Receiving Area (Storage)
- 2336-W Building Room 152 (Storage)
- 2404-WB Waste Storage Building (Storage)
- 2404-WC Waste Storage Building (Storage and Treatment)
- HERTR and Super HENC Waste Outdoor Storage Area (Storage)

Following are the CWC-WRAP OUG closing DWMUs identified in red on Figure 1:

- CWC Outside Storage Area A (Closing DWMU)
- CWC Outside Storage Area B (Closing DWMU)
- CWC 2401W Waste Storage Building (Closing DWMU)

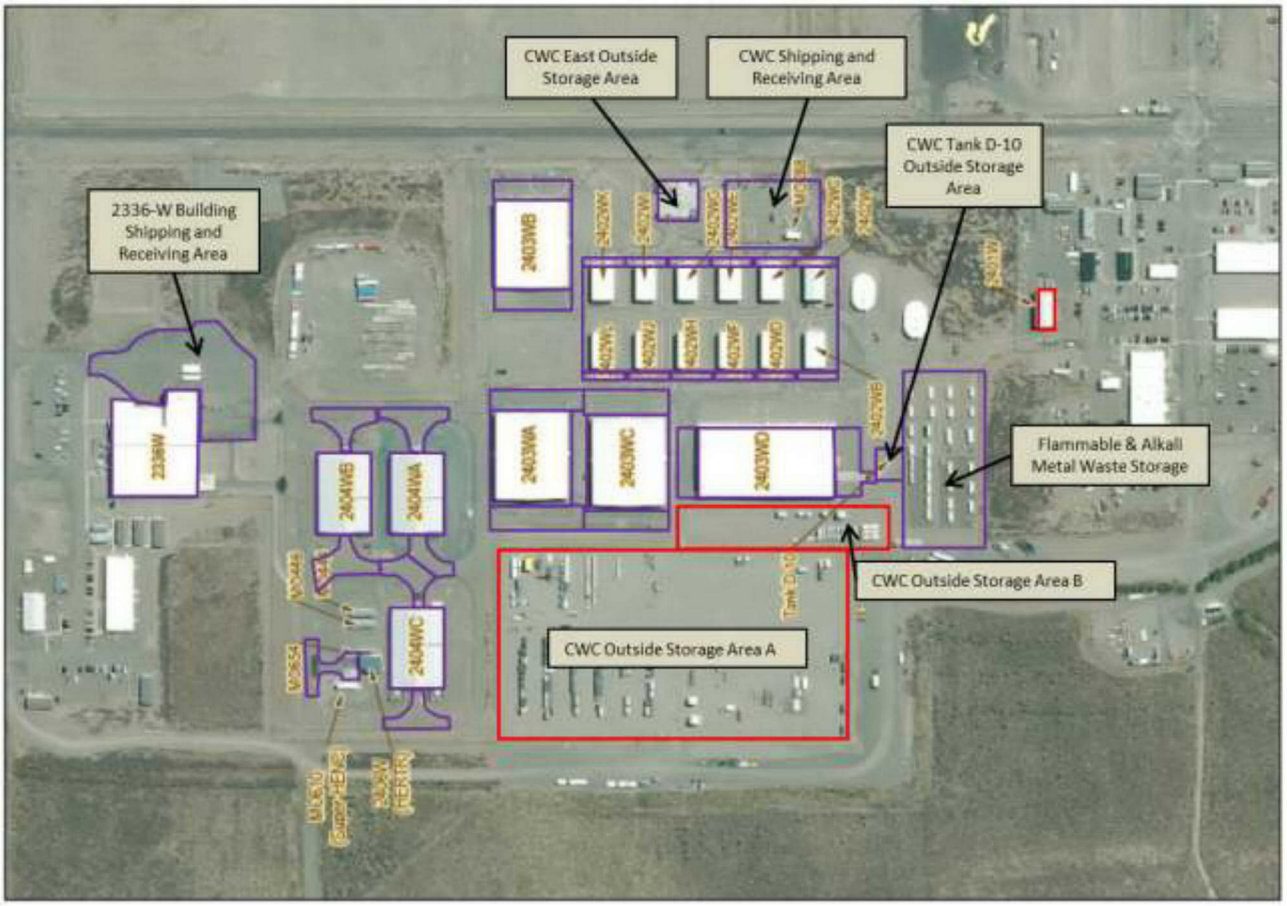

Figure 1. CWC-WRAP Operating and Closing DWMU

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H3 – CWC-WRAP
H3.A - Appendix A – CWC-WRAP Outdoor Storage Area A *(includes Care & Maintenance during closure)*

A1 Introduction

This appendix discusses closure activities for the Central Waste Complex-Waste Receiving and Processing (CWC-WRAP) Operating Unit Group (OUG) Outdoor Storage Area A dangerous waste management unit (Area A) (Figure A-1). The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU. The closure will be performed in accordance with the included schedule. This closure plan complies with Washington Administrative Code (WAC) 173-303-610(2) through WAC 173-303-610(6) and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

A1.1 Unit Description

Area A was activated in December 2006 with the primary purpose of storing large transuranic mixed (TRUM) waste boxes removed from storage as part of the Waste Retrieval Project. Area A is a gravel-covered, rectangular-shaped outdoor storage area west of the 2403-series buildings and is approximately 252 m (827 ft) long and 140 m (459 ft) wide, with a total area of 35,280 m^2 (379,751 ft^2). Area A is an uncovered area that does not have a constructed secondary containment for management of containers with liquids.

Transfer of additional dangerous, mixed, or *Toxic Substances Control Act of 1976* polychlorinated biphenyl (TSCA-PCB) waste into Area A is not authorized.

A1.1.1 Maximum Waste Inventory

The total accumulative maximum inventory of Area A consists of 451 *Resource Conservation and Recovery act of 1976* (RCRA)-regulated waste containers with a total volume of 7,083 m^3 (9,264 yd^3) and 11 TSCA-PCB containers with a total volume of 13 m^3 (17 yd^3). As of August 2013, Area A currently contains 171 mixed waste containers with a total volume of 5,183 m^3 (6,779 yd^3) consisting of TRUM or TSCA-PCB TRUM waste, and one TSCA-PCB waste container with a total volume of 10 m^3 (13 yd^3). The TRUM and TSCA-PCB TRUM waste was first introduced into Area A in 2006. Details on the waste containers are presented in Section A3.4 of this closure plan.

Closure performance standards for the Area A will be based on requirements found in WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," which require closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas to the degree possible, given the nature of the previous dangerous waste activity

These performance standards are addressed in the Sections A2.1 and A3.13 of this closure plan.

Figure A-1. CWC 2401W Building and Outside Storage Areas

A2 Closure Performance Standard

A2.1 Clean Closure Levels

The Area A will be clean closed. In accordance with WAC 173-303-610(2)(b)(i), the clean closure levels for soil will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the *Model Toxics Control Act* (MTCA) (WAC 173-340, "Model Toxics Control Act-Cleanup") cleanup regulations (WAC 173-340-700 through -760, excluding WAC 173-340-745). These numeric cleanup levels will be calculated according to the MTCA Method B unrestricted use standards current at the time of closure.

Sampling and analysis will support clean closure levels for the Area A gravel and soil. Should sampling and analysis of the Area A indicate contamination above the MTCA Method B unrestricted use standards, then the potential for groundwater contamination will be reviewed and discussed with Ecology. Any required changes to this closure plan and the associated sampling and analysis plan (SAP) resulting from the discussions will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

A3 Closure Activities

As a storage unit, clean closure determination for Area A will be based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and a visual inspection of the area to verify that waste-related staining is not present. Subsequently, soil characterization will be conducted via a SAP to demonstrate that clean closure numeric levels have been achieved.

Area A currently stores mixed waste. An extended period will be needed to ship these containers to another receiving treatment, storage, and/or disposal (TSD) facility for waste processing (see Section A3.3). These shipments must be completed prior to final clean closure verification.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure for soil are as follows:

- Review waste container storage, operating, and inspection records up through July 2013. (Completed. See Section A3.4.)
- Perform a visual inspection of the gravel areas currently accessible (i.e., not under waste containers or restricted due to contamination areas.) (Completed. See Section A3.4.)

Extended closure activities include the following activities:

- Continue weekly inspections in accordance with Addendum I, *Inspection Requirements*, for the Part V CWC-WRAP closing unit group
- Remove all dangerous waste inventory
- Review waste container storage, operating, and inspection records from August 2013 through the last waste removal
- Perform an additional visual inspection of gravel and visible surface soil once all waste is removed
- Update the SAP through the permit modification process to incorporate any issues identified during the visual inspections and updated records review (if necessary)
- Perform sampling and analysis to confirm clean closure standards are met

A3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) CWC-WRAP, Addendum G, *Personnel Training,* and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided, including the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements
- Requirement that samplers be qualified in the type of sampling being performed in the field

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities

- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

A3.2 Care and Maintenance During Closure

Due to the nature of the waste and extended period necessary for closing Area A, the Permittees must ensure that the dangerous waste containers stored in Area A do not pose a risk to human health and the environment. The Permittee has taken, and will continue to take steps to prevent threats to human health and the environment, including compliance with all applicable RCRA compliance requirements. These RCRA compliance requirements include dangerous waste management unit inspections, personnel training, and emergency preparedness. No new mixed waste containers will be accepted in Area A.

As identified in Addendum I, *Inspection Requirements*, weekly inspections of dangerous or mixed waste containers will continue until all containers have been removed from Area A. Upon removal of the containers, annual inspections will be performed until such a time as the closure certification is complete.

In addition to required inspections, the CWC-WRAP OUG has a contingency plan that satisfies the requirements of WAC 173-303-350. A copy of the contingency plan for CWC-WRAP OUG is kept in the RCRA operating record.

A3.3 Removal of Wastes and Waste Residues

Removal of waste from Area A will begin as part of the closure process and is governed by the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement; HFFACO) (Ecology et al., 1989) major Milestone M-091-00, and additional waste stream M-091 milestones. Currently, the capacity to process the large containers of contact-handled (CH)-TRUM and remote-handled (RH)-TRUM waste does not exist on the Hanford Site. Commercial capabilities are available to process containers with low grams of plutonium of CH-TRUM waste and low-dose-rate RH-TRUM waste. For TRUM waste, a "large container" is defined as any container that is larger than a 208 L (55 gal) drum or standard waste box.

The schedule for these waste removal activities is associated with Tri-Party Agreement milestones (HFFACO as amended):

- Completion of the conceptual design of large container CH-TRUM and RH-TRUM waste repackaging capability is scheduled in Tri-Party Agreement Milestone M-091-01A.
- Completion of the definitive design of large container CH-TRUM and RH-TRUM waste repackaging capability is scheduled in Tri-Party Agreement Milestone M-091-01B.
- Completion of construction for large container waste repackaging capabilities is scheduled in Tri-Party Agreement Milestone M-091-01B.

- Completion of certification and shipment of large containers of CH-TRUM and RH-TRUM waste is scheduled in Tri-Party Agreement Milestone M-091-44.

A3.4 CWC Outside Storage Area A Records Review and Visual Inspection

To support the development of this closure plan and the associated SAP (Attachment A), a review of the Area A RCRA operating records was completed (Table A-1). The records review included the following RCRA operating record documents: facility operating logbooks (which contain the facility spill log), waste management records, and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, or TSCA-PCB waste storage. The facility operating records reviewed to date identified one area of interest related to container 231ZDR-11.

Waste management records for the TRUM and TSCA-PCB TRUM waste containers stored in Area A were reviewed to determine the target analytes to be included in the closure plan SAP. Currently, 164 TRUM and 7 TSCA-PCB TRUM waste containers are being stored in Area A. Container data are presented in Table A-2.

A visual inspection was performed of the visible ground surface in Area A on August 14, 2013, to identify any dangerous waste-related staining. No waste-related staining was identified during the visual inspection; however, once all waste is removed, an additional visual inspection will be conducted.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment B. These include the CWC Outdoor Waste Container Storage Area A Daily Operating Log Book Review sheet, the CWC Outdoor Waste Container Storage Area A Weekly Dangerous Waste Inspection Checklist Review, the CWC Outdoor Container Storage Area "A" visual inspection sheet, and any additional supporting information.

A3.5 Unit Components, Parts, and Ancillary Equipment

Area A does not have any components, parts, or ancillary equipment.

A3.6 Inspection of Units Before Decontamination

Decontamination activities are not planned for Area A.

A3.7 Decontamination

Decontamination activities are not planned for Area A.

A3.8 Identifying and Managing Contaminated Environmental Media

If contaminated media are identified during the final visual inspection or as a result of the confirmation sampling, the contaminated materials will be removed and packaged, and a waste determination will be completed in accordance with applicable environmental and waste management procedures. Treatment or disposal of the resulting waste will be performed at an approved TSD facility.

A3.9 Confirming Clean Closure

Area A will be clean closed. During closure activities, all waste will be removed. After all of the waste has been removed, a visual inspection of the area will be performed to identify any waste-related staining of the gravel or visible surface soil. Since all dangerous waste will be removed and sampling will confirm that contamination does not remain, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

Table A-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Weekly RCRA Inspection Checklist for CWC	Weekly Inspection	CWC – Area A	01/05/2006	06/26/2013	Yes[a]
Weekly CWC RCRA/Non-RCRA Inspection Checklist	Weekly Inspection	CWC-Area A	01/03/2012	12/27/2012	Yes[a]
Daily Operating Logbook	Logbook	CWC Area-A	12/06/2006	08/12/2013	Yes[a]

a. Item of concern was the 231ZDR-11 box on 02/06/2012.

N/A = not applicable

Table A-2. CWC Outdoor Storage Area B Container Data

Container Quantity	Facility ID	Storage Unit	Waste Package Type	Package Volume (m^3)	Waste Type	Earliest Moved In Date	Latest Moved Out Date	Assigned Waste Code
171	CWC	Area A	Various large containers	5183	TRUM/ TSCA-PCB TRUM	December 2006	N/A[a]	D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D027, D028, D029, D030, D033, D034, D035, D037, D038, D043, D032, F001, F002, F003, F004, F005
1	CWC	Area A	Various large containers	10	TSCA-PCB	December 2006	N/A[a]	N/A
280	CWC	Area A	Various	1900	Mixed	December 2006	August 2013	D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D027, D028, D029, D030, D033, D034, D035, D037, D038, D043, D032, F001, F002, F003, F004, F005
10	CWC	Area A	Various	3	TSCA-PCB	December 2006	August 2013	N/A

a. Current container inventory for CWC Outdoor Storage Area A.

N/A = not applicable

Record reviews have been completed for the operational period of December 2006 through July 2013, as discussed in Section A3.4 of this closure plan. Prior to the startup of closure activities, a review of the RCRA operating records from August 2013, through closure startup will be performed. The records review will include the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections.

Once all waste has been removed, sampling will be conducted to confirm that unrestricted use cleanup standards (MTCA B) for soil have been achieved. Once analytical results confirm clean closure levels of target analytes, a determination will be made to leave the gravel surface of the Area A in place.

A3.10 Sampling and Analysis and Constituents to Be Analyzed

A3.10.1 Sampling and Analysis Plan

Sampling and analysis of the gravel and soil will be conducted to confirm that clean closure levels have been achieved at Area A. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP (Attachment A). The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable EPA guidance. Sampling and analysis activities will meet applicable requirements of SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

A3.10.2 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to this SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii).

A3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

A3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the Area A DWMU, a certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the Washington State Department of Ecology by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

A3.13 Conditions That Will Be Achieved When Closure Is Complete

Upon confirmation of clean closure levels through sampling and analysis, Area A will remain in an "as-is" state, with the gravel remaining in place. The area and buildings surrounding Area A are active DWMUs that will continue to be used; therefore, removal of the gravel is not necessary, and the land will not be restored to its pre-operational appearance. The storage area marking will be removed after the closure activities are completed. A permit modification request will be submitted after clean closure has been confirmed to remove Area A DWMU from the sitewide permit active DWMUs.

A4 Closure Schedule and Time Frame

Due to the container size and nature of the waste being stored in Area A, closure of Area A will take place over an extended period of time; therefore, meeting the 180-day requirement to complete closure activities in the DWMU as required in WAC 173-303-610(4) is not possible. The closure schedule and period to treat, remove, and dispose the large containers of waste will be developed based on Tri-Party Agreement Milestone M-091-00 and other sub-milestones noted in Section A3.3 (Figure A-2).

Approval of this closure plan will grant the Hanford Site an extended closure period in accordance with WAC 173-303-610(4)(c) and a separate extension request will not be filed.

A5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

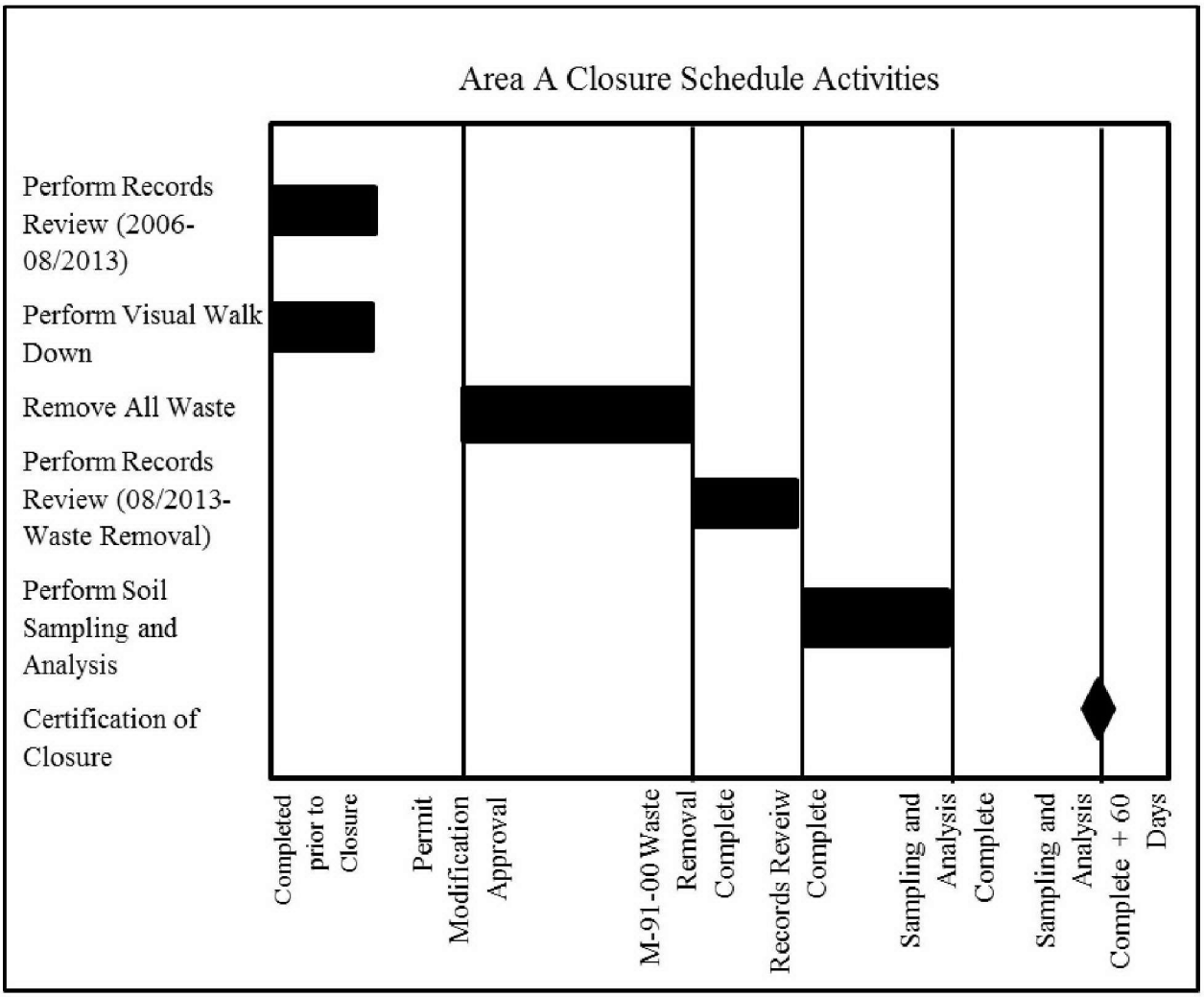

Figure A-2. CWC Outdoor Storage Area A Closure Schedule Activities

Attachment A

CWC-WRAP Outdoor Storage Area A

Sample and Analysis Plan

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CWC-WRAP Outdoor Storage Area A

Sample and Analysis Plan

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Terms

ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Services
CWC	Central Waste Complex
CWC-WRAP	Central Waste Complex Operating-Waste Receiving and Processing Unit Group
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DQA	data quality assessment
DQI	data quality indicator
DUP	field duplicate
EB	equipment blank
ECO	Environmental Compliance Officer
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FSP	field sampling plan
FTB	full trip blank
FWS	Field Work Supervisor
FXR	field transfer blank
HASQARD	*Hanford Analytical Services Quality Assurance Requirements Documents*
HEIS	Hanford Environmental Information System
MDA	minimum detectable activity
POC	point of contact
QA	quality assurance
QAPjP	quality assurance project plan
QC	quality control
RPD	relative percent difference
SAF	sampling authorization form
SAP	sampling and analysis plan
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*

VOA	volatile organic analysis
VOC	volatile organic compound
VSP	Visual Sample Plan (software)

1 Introduction

1.1 Purpose

The purpose of the sampling and analysis plan (SAP) is to assist in the determination that clean closure levels have been achieved for Central Waste Complex-Waste Receiving and Processing (CWC-WRAP) Outside Storage Area A (Area A).

Sampling and analysis of the gravel and/or soil will be conducted to confirm that clean closure levels have been achieved. Sampling includes grid sampling over Area A and focused sampling in the former storage location of container 231ZDR-11. All sampling and analysis will be performed in accordance with the sampling and quality standards established in this closure SAP. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*, and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements in SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (U.S. Department of Energy, Richland Operations Office [DOE/RL-96-68]).

1.2 Statement of the Problem

The objective of the sampling described in this document is to verify that the MTCA Level B closure performance standards for soil were met demonstrating clean closure of the Area A.

1.3 Target Analytes

The target analytes were determined by reviewing waste management records for the dangerous waste stored in Area A (Table 1-1).

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Trichloroethylene (F001) (F002)	79-01-6
Barium (D005)	7440-39-3	Chlorobenzene (F002)	108-90-7
Cadmium (D006)	7440-43-9	1,1,2-Trichloroethane (F002)	79-00-5
Chromium (Hexavalent) (D007)	18540-29-9	Acetone (F003)	67-64-1
Lead (D008)	7439-92-1	N-butyl alcohol (F003)	71-36-3
Mercury (D009)	7439-97-6	Cyclohexanone (F003)	108-94-1
Selenium (D010)	7782-49-2	Ethyl acetate (F003)	141-78-6
Silver (D011)	7440-22-4	Ethyl benzene (F003)	100-41-4
Benzene (D018) (F005)	71-43-1	Ethyl ether (F003)	60-29-7

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Methanol (F003)	67-56-1
Chloroform (D022)	67-66-3	Methyl isobutyl ketone (F003)	108-10-1
1,4-Dichlorobenzene (D027)	106-46-7	Ortho-dichlorobenzene (F002)	95-50-1
1,2-Dichloroethane (D028)	107-06-2	m-Xylene (F003)	108-38-3
1,1-Dichloroethylene (D029)	75-35-4	o-Xylene (F003)	95-47-6
2,4-Dinitrotoluene (D030)	121-14-2	p-Xylene (F003)	106-42-3
Hexachlorobenzene (D032)	118-74-1	Benzene, nitro (F004)	98-95-3
Hexachlorobutadiene (D033)	87-68-3	*m*-cresol (F004)	108-39-4
Hexachoroethane (D034)	67-72-1	*o*-cresol (F004)	95-48-7
Methyl ethyl ketone (MEK) (D035) (F005)	78-93-3	*p*-cresol (F004)	106-44-5
Pentachlorophenol (D037)	87-86-5	Carbon disulfide (F005)	75-15-0
Pyridine (D038) (F005)	110-86-1	2-Ethoxyethanol (F005)	110-80-5
Vinyl chloride (D043)	75-01-4	Isobutanol (F005)	78-83-1
Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane) (F001) (F002)	76-13-1	2-Nitropropane (F005)	79-46-9
Methylene chloride (F001) (F002)	75-09-2	Pyridine (F005)	110-86-1
Tetrachloroethylene (F001) (F002)	127-18-4	Toluene (F005)	108-88-3
1,1,1-Trichloroethane (F001) (F002)	71-55-6	Polychlorinated biphenyl (PCB)	1336-36-3

1.4 Project Schedule

The sampling and analysis schedule will be determined by the associated *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al., 1989a) Milestone M-091-00 activities. Sampling will not commence until all dangerous waste containers have been removed from Area A.

2 Quality Assurance Project Plan

The quality assurance project plan (QAPjP) establishes the quality requirements for environmental data collection, including planning, implementation, and assessment of sampling, field measurements, and laboratory analysis. This QAPjP complies with the requirements of the following:

- 10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements"
- DOE O 414.1D, *Quality Assurance*
- *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA/240/B-01/003)
- *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68)

This chapter describes the applicable quality requirements and controls. Sections 6.5 and 7.8 of *Hanford Federal Facility Agreement and Consent Order Action Plan* (Tri-Party Agreement Action Plan) (Ecology et al., 1989b) require the quality assurance (QA)/quality control (QC) and sampling and analysis activities to specify the QA requirements for treatment, storage, and disposal units, as well as for past-practice processes. Therefore, this QAPjP follows the QA elements of EPA/240/B-01/003. This QAPjP demonstrates conformance to Part B requirements of *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs* (ANSI/ASQC E4-2004).

This QAPjP is divided into the following four sections, which describe the quality requirements and controls applicable to this investigation: Project Management, Data Generation and Acquisition, Assessment and Oversight, and Data Validation and Usability.

2.1 Project Management

The following subsections address project management and ensure that the project has defined goals, that the participants understand the goals and the approaches used, and that the planned outputs are appropriately documented. Project management roles and responsibilities discussed in this section apply to the major activities covered under the SAP.

2.1.1 Project/Task Organization

The Permittee is responsible for planning, coordinating, sampling, preparation, packaging, and shipping samples to the laboratory. The project organization (regarding sampling and characterization) is described in the following subsections and shown graphically in Figure 2-1. The Project Manager maintains a list of individuals or organizations as points of contact (POCs) for each functional element in Figure 2-1.

The project has several key positions, including the following:

- **Regulatory Project Manager:** The Washington State Department of Ecology (Ecology) has assigned project managers responsible for oversight of cleanup projects and activities. Ecology, as lead regulatory agency for the CWC Area A closure sampling project, has oversight authority for the work being performed under this SAP. Ecology will work with DOE-RL to resolve concerns over the work as described in this SAP in accordance with the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement; Ecology et al., 1989).

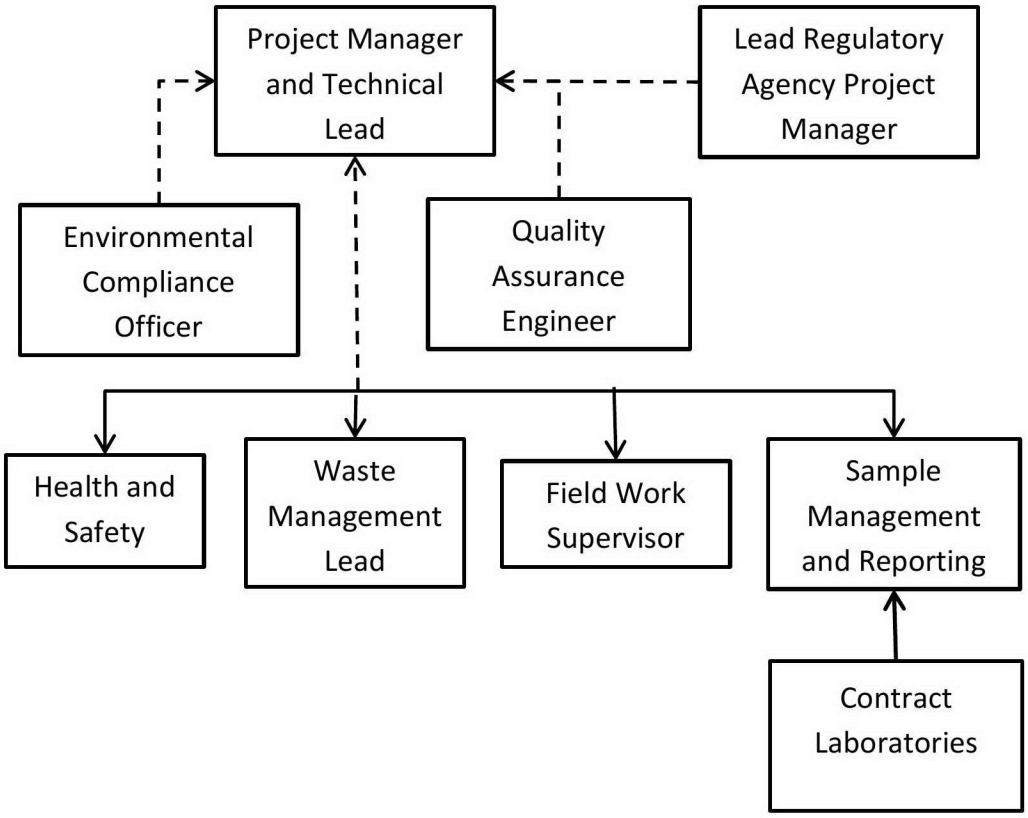

Figure 2-1. CWC Outdoor Storage Area A Closure Sampling Project Organization

- **Project Manager**. The Project Manager provides oversight for activities and coordinates with DOE-RL, EPA, Ecology, and contract management. In addition, support is provided to the project technical lead to ensure that work is performed safely and cost effectively. The Project Manager (or designee) for the CWC Area A closure sampling is responsible for direct management of sampling documents and requirements, field activities, and subcontracted tasks. The Project Manager is responsible for ensuring that the project personnel are working to the current version of the SAP. The Project Manager works closely with QA, Health and Safety, and the Field Work Supervisor (FWS) to integrate these and other lead disciplines in planning and implementing the work scope. The Project Manager also coordinates with DOE-RL and the primary contractor management on all sampling activities. The Project Manager supports DOE-RL in coordinating sampling activities with the regulators.

- **Environmental Compliance and Quality Assurance**. The Environmental Compliance Officer (ECO) provides technical oversight, direction, and acceptance of project and subcontracted environmental work, and develops appropriate mitigation measures with a goal of minimizing adverse environmental impacts. The ECO also reviews plans, protocols, and technical documents to ensure that environmental requirements have been addressed; identifies environmental issues that affect operations and develops cost-effective solutions; and responds to environmental/regulatory issues or concerns raised by DOE-RL and/or regulatory agencies. The ECO also oversees project implementation for compliance with applicable internal and external environmental requirements.

The QA POC is matrixed to the Project Manager and is responsible for QA issues on the project. Responsibilities include overseeing implementation of the project QA requirements, reviewing project documents (including SAP and the QAPjP), and participating in QA assessments on sample

collection and analysis activities, as appropriate. The QA POC must be independent of the unit generating the data.

- **Health and Safety:** The Health and Safety organization's responsibility for coordinating industrial safety and health support within the project, as carried out through health and safety plans, job hazard analyses, and other pertinent safety documents required by federal regulation or by internal primary contractor work requirements. In addition, Health and Safety assists project personnel in complying with applicable health and safety standards and requirements.

- **Sample Management and Reporting:** The Permittee's sampling organization coordinates laboratory analytical work, ensuring that laboratories conform to Hanford Site internal laboratory QA requirements (or their equivalent), as approved by DOE-RL, EPA, and Ecology. The sampling organization receives the analytical data from the laboratories, performs the data entry into the Hanford Environmental Information System (HEIS) database, and arranges for data validation. The sampling organization is responsible for informing the Project Manager of any issues reported by the analytical laboratory. The sampling organization develops and oversees implementation of the letter of instruction to the analytical laboratories, oversees data validation, and works with the Project Manager to prepare a characterization report on the sampling and analysis results.

- **Contract Laboratories:** The contract laboratories analyze samples in accordance with established procedures and provide necessary sample reports and explanation of results in support of data validation. The laboratories must meet site-specific QA requirements and must have an approved QA plan in place.

- **Waste Management:** The Waste Management organization communicates policies and protocols, and ensures project compliance for storage, transportation, disposal, and waste tracking in a safe and cost-effective manner. In addition, Waste Management is responsible for identifying waste management sampling/characterization requirements to ensure regulatory compliance, interpreting the characterization data to generate waste designations and profiles, and preparing and maintaining other documents confirming compliance with waste acceptance criteria.

- **Fieldwork Supervisor:** The FWS is responsible for planning and coordinating field sampling resources. The FWS ensures that samplers are appropriately trained and available. Additional related responsibilities include ensuring that the sampling design is understood and can be performed as specified by directing training, mock-ups, and practice sessions with field personnel.

  The FWS directs the samplers. The samplers collect soil samples, including replicates/duplicates, and prepare sample blanks in accordance with the SAP, corresponding protocols, and work packages. The samplers complete field logbook entries, chain-of-custody forms, and shipping paperwork, and ensure delivery of the samples to the analytical laboratory.

2.1.2 Quality Objectives and Criteria

The QA objective of this plan is to develop implementation guidance providing data of known and appropriate quality. Data quality indicators (DQIs) describe data quality by evaluation against identified data needs and the work activities identified in this SAP. The applicable QC guidelines, quantitative target limits, and levels of effort for assessing data quality are dictated by the intended use of the data and the nature of the analytical method. The principal DQIs are precision, bias or accuracy, representativeness, comparability, completeness, and sensitivity. These DQIs are defined for the purposes of this document in Table 2-1. The DQIs will be evaluated during the data quality assessment (DQA) process (Section 2.4.5).

Quality objectives and project-specific analytical performance requirements are presented in Table 2-2. In consultation with the laboratory, the Project Manager, the sampling organization, and/or others as appropriate, identify appropriate analytical methods.

2.1.3 Special Training/Certification

A graded approach is used to ensure that workers receive a level of training that is commensurate with responsibilities and compliant with applicable DOE orders and government regulations. The FWS, in coordination with line management, will ensure that special training requirements for field personnel are met.

Typical training requirements or qualifications have been instituted by the Permittee to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided, including the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely will be in accordance with QA requirements.
- Requirement that samplers be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittee's training organization maintains the training records system.

2.1.4 Documents and Records

The Project Manager is responsible for ensuring the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document

control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to the DOE and lead regulatory agency.

The FWS is responsible for ensuring that the field instructions are maintained and aligned with any revisions or approved changes to the SAP. The FWS will ensure that deviations from the SAP or problems encountered in the field are documented appropriately (e.g., in the field logbook or on nonconformance report forms) in accordance with internal corrective action protocols.

The Project Manager, FWS, or designee is responsible for communicating field corrective action requirements and ensuring that immediate corrective actions are applied to field activities.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook and only authorized persons may make entries in logbooks. Logbooks will be signed by the FWS, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Precision	The measure of the degree of reproducibility of measurements under prescribed similar conditions. May be expressed as a percentage of the mean of the measurements, such as relative range, relative percent difference, or relative standard deviation (coefficient of variation).	Use the same analytical instrument to make repeated analyses on the same sample. Use the same method to make repeated measurements of the same sample within a single laboratory. Split a sample in the field and submit both for sample handling, preservation and storage, and analytical measurements. Collect, process, and analyze collocated samples for information on sample acquisition, handling, shipping, storage, preparation, and analytical processes and measurements.	Field precision: At randomly selected locations, duplicate samples will be taken one per 20 samples per media. Laboratory precision; analysis of laboratory duplicate or matrix spike duplicate.	If duplicate data do not meet objective: • Evaluate apparent cause (e.g., sample heterogeneity). • Request reanalysis or remeasurement • Qualify the data before use
Accuracy	A measure of the overall agreement of a measurement to an accepted reference or true value. Sample accuracy is expressed as the percent recovery of a spiked sample.	Analyze a reference material or reanalyze a sample to which a material of known concentration or amount of pollutant has been added (a spiked sample).	Laboratory accuracy Determination based on matrix spikes and matrix spike duplicates.	If recovery does not meet objective: • Qualify the data before use • Request re-analysis or remeasurement

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Representa-tiveness	A qualitative term to express "the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition." (ANSI/ASQC S2-1995)	Evaluate whether measurements are made and physical samples collected in such a manner that the resulting data appropriately reflect the environment or condition being measured or studied.	Samples will be collected as described in the sampling design. Judgment sampling ensures areas most likely to be contaminated, based on current information, will be evaluated. Random sampling is based on ensuring all members of the group are equally likely to be chosen and allows probability statements to be made about the quality of estimates derived from the data.	If results are not representative of the system sampled: • Identify the reason for the not being representative • Reject the data, or, if data are otherwise usable, qualify the data for limited use and define the portion of the system that the data represent • Redefine sampling and measurement requirements and protocols • Resample and reanalyze

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Comparability	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: • Identify appropriate changes to data collection and/or analysis methods • Identify quantifiable bias, if applicable. • Qualify the data as appropriate • Resample and/or reanalyze if needed. • Revise sampling/analysis protocols to ensure future comparability

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Completeness	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: • Identify appropriate changes to data collection and/or analysis methods • Identify quantifiable bias, if applicable. • Qualify the data as appropriate • Resample and/or reanalyze if needed. • Revise sampling/analysis protocols to ensure future comparability
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest.	Determine the minimum concentration or attribute to be measured by a method (method detection limit), by an instrument (instrument detection limit), or by a laboratory (quantitation limit). The practical quantitation limit is the lowest level, which can be routinely quantified and reported by a laboratory.	Ensure sensitivity, as measured detection limits, is appropriate for the action levels.	If sensitivity does not meet objective: • Request reanalysis or remeasurement. • Qualify/reject the data before use.

DQI = data quality indicators
QA = quality assurance

Table 2-2. Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
Performance Requirements for Laboratory Measurements (Nonradiological)							
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010 or 200.8	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010 or 200.8	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010 or 200.8	N/A	240	1.0	±30	≤30
7439-91-1	Lead	SW-846 Method 6010 or 200.8	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010 or 200.8	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
106-46-7	1,4-Dichlorobenzene	SW-846 Method 8260	41.7	1600	0.004	N/A[c]	≤20

Table 2-2. Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
107-06-2	1,2-Dichloroethane	SW-846 Method 8260	11	1600	0.005	N/A[c]	≤20
75-35-4	1,1-Dichloroethylene	SW-846 Method 8260	1.67	4000	0.01	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
118-74-1	Hexachlorobenzene	SW-846 Method 8270	62.5	64	0.33	N/A[c]	≤20
87-68-3	Hexachlorobutadiene	SW-846 Method 8270	12.8	16	0.33	N/A[c]	≤20
67-72-1	Hexachloroethane	SW-846 Method 8270	25	56	0.005	N/A[c]	≤20
78-93-3	Methyl ethyl ketone (MEK) (2-butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
87-86-5	Pentachlorophenol	SW-846 Method 8260	8.33	2,400	0.33	N/A[c]	≤20
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
75-01-4	Vinyl chloride	SW-846 Method 8260	66.7	240	0.01	N/A[c]	≤20
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2400000	0.01	N/A[c]	≤20
75-09-2	Methylene chloride	SW-846 Method 8260	133	4,800	0.005	N/A[c]	N/A[c]
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1,600	0.005	N/A[c]	N/A[c]
79-00-5	1,1,2-trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]

Table 2-2. Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol (I-Butanol)	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK) (4-Methyl-2-Pentanone)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	N/A[c]
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	3,2000	200	N/A[c]	N/A[c]

Table 2-2. Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
1336-36-3	Polychlorinated biphenyls	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the MTCA cleanup regulation (WAC 173-340-740, -747, -and -7490 through -7494). These numeric clean-up levels will be calculated according to MTCA Method B (unrestricted use standards)

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the Required Detection Limit and the Practical Quantification Limit are identical.

CAS = Chemical Abstract Services

MTCA = *Model Toxics Control Act*

N/A = not applicable

2.2 Data Generation and Acquisition

The following subsections present the requirements for sampling methods and identification, sample handling and custody, analytical methods, measurement and analysis, data collection or generation, data handling, and field and laboratory QC. The requirements for instrument calibration and maintenance, supply inspections, and data management are also addressed. The sampling design is presented in the field sampling plan (Section 3) of this SAP.

The FWS is responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities under this SAP. The field team lead must document all deviations from procedures or other problems pertaining to sample collection, chain-of-custody, sample analytes, sample transport, or noncompliant monitoring. As appropriate, such deviations or problems will be documented in the field logbook or in nonconformance report forms in accordance with internal corrective action procedures. The FWS or Project Manager is responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to field activities.

2.2.1 Sampling Process Design

The sampling design uses a systematic and grid sampling approach with judgmental sampling under the former storage location of the 231ZDR-11 container. Judgmental sampling will be taken of any dangerous waste-related staining.

Additional sampling process design details are provided in Section 3.

2.2.2 Analytical Methods

Analytical methods and parameters are provided in Table 2-2. These analytical methods are controlled in accordance with the laboratory's QA plan and the requirements of this QAPjP. Laboratory operations and analytical services shall comply with Volume 4 of HASQARD (DOE/RL-96-68, Laboratory Technical Requirements) and any specific criteria identified in Table 2-2. Criteria in Table 2-2 take precedence over similar criteria in HASQARD. In consultation with the laboratory, the project manager, and/or others as appropriate, changes to analytical methods can be approved as long as the method is based upon a nationally recognized standard (e.g., EPA, American Society for Testing and Materials [ASTM]) method, the new method achieves project data needs as well or better than the replaced method, and the new method is required due to the nature of the sample. Oversight of offsite analytical laboratories to qualify them for performing Hanford Site analytical work is performed as necessary.

If the laboratory uses a nonstandard or unapproved method, then the laboratory must provide method validation data to confirm that the method is adequate for the intended use of the data. This includes information such as determination of detection limits, quantitation limits, typical recoveries, and analytical precision and bias. Deviations from the analytical methods noted in Table 2-2 must be approved in consultation with the Project Manager.

Issues that may affect analytical results are to be resolved in coordination with the project manager.

2.2.3 Quality Control

The QC procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table 2-3.

Table 2-3. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Field QC		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed If only disposable equipment is used, an equipment blank is not required. Otherwise, one per 20 samples per media [a]	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples [b])	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory QC[h]		
Method Blanks	1 per batch[h]	Laboratory Contamination
Laboratory Duplicates	[c]	Laboratory Reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate Laboratory Accuracy
Performance Evaluation Programs[d]	Annual	Evaluate Laboratory Accuracy
Double-Blind Standards	Quarterly[e]	Evaluate Laboratory Accuracy
Audit/Assessment	Annually[f] or Every 3 years[g]	Evaluate overall laboratory performance and operations

Table 2-3. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.
b. Soil grab samples are exempted from duplicate sampling.
c. As defined in the laboratory contract or QA plan and/or analysis procedures.
d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.
e. Soil matrix double-blind standards are submitted by request of Analytical Services.
f. DOE QSAS requires annual audit of commercial laboratories.
g. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.
h. Batching across projects is allowing for similar matrices.
QA = Quality assurance.
QC = Quality control.
VOC = Volatile organic compound.

2.2.3.1 Field Quality Control Samples

Field QC samples will be collected to evaluate the potential for cross-contamination and to provide information pertinent to field sampling variability and laboratory performance to help ensure reliable data are obtained. Field QC samples include field duplicates, split samples, and three types of field blanks. The three types of field blanks are full trip, field transfer, and equipment blanks. Field blanks are typically prepared using high-purity reagent water. Silica sand should be used, instead of reagent water, when required by the SAP. The QC samples and the required frequency for collection are described in this subsection. Particular care will be exercised to avoid the following common ways in which cross-contamination or background contamination may compromise samples:

- Improperly storing or transporting sampling equipment and sample containers
- Contaminating the equipment or sample bottles by setting the equipment/sample bottle on or near potential contamination sources (e.g., uncovered ground)
- Handling bottles or equipment with dirty hands or gloves
- Improperly decontaminating equipment before sampling or between sampling events

This number of QC samples is conservatively established based on site procedures that call for approximately one set of QC samples per 20 samples.

- **Full trip blank (FTB):** FTBs are prepared by the sampling team prior to traveling to the sampling site. The preserved bottle set is either for volatile organic analysis (VOA) only or identical to the set that will be collected in the field. It is filled with high purity reagent water or silica sand, as appropriate to the primary sample media. The bottles are sealed and transported, unopened, to the field in the same storage containers used for samples collected the same day. The FTBs are typically analyzed for the same constituents as the samples from the associated sampling event. FTBs are used to evaluate potential contamination of the samples attributable to the sample bottles, preservative, handling, storage, and transportation.

- **Field transfer blank (FXR):** FXRs are preserved VOA sample bottles filled at the sample collection site with high purity reagent water or silica sand (as appropriate to the primary sample media) that has been transported to the field. The samples are prepared during sampling to evaluate potential

contamination attributable to field conditions. After collection, FXR sample bottles are sealed and placed in the same storage containers with the samples collected the same day for the associated sampling event. The FXR samples will be analyzed for volatile organic compounds (VOCs) only.

- **Equipment blank (EB):** EBs consist of high purity reagent water or silica sand passed through or poured over the decontaminated sampling equipment identical to the sample set that will be collected and placed in sample containers, as identified on the project sampling authorization form (SAF). The EB sample bottles are placed in the same storage containers with the samples from the associated sampling event. The EB samples will be analyzed for the same constituents as the samples from the associated sampling event. The EBs will be used to evaluate the effectiveness of the decontamination process.

  Equipment blanks are collected from reusable sampling devices on a 1-in-20 basis and are not required for disposable sampling equipment.

  For the field blanks (i.e., FTB, FXR, and EB), results greater than two times the method detection limit or minimum detectable activity (MDA) are identified as suspect contamination. However, for common laboratory contaminants such as acetone, methylene chloride, 2-butanone, toluene, and phthalate esters, the limit is five times the method detection limit.

- **Field duplicates:** Field duplicates (DUP) are independent samples collected as close as possible to the same time and same location as the parent sample and are intended to be identical. DUPs are collected at a frequency of one in 20 samples. Soil grab samples are exempt from DUPs. DUPs are two separate samples collected from the same source, placed in separate sample containers, and analyzed independently. The DUPs should be collected from an area expected to have some contamination so valid comparisons between the samples can be made (i.e., some constituents will be greater than detection limit).

  DUPs must agree within 20 percent, as measured by the RPD, to be acceptable. Only those DUPs with at least one result greater than five times the MTCA Level B limit are evaluated. DUP results not satisfying evaluation criteria will be qualified and flagged in HEIS, as appropriate.

  Soil DUPs will be collected and homogenized before dividing into two separate samples in the field. VOA soil duplicates will be sampled as collocated samples (described below). DUPs are stored and transported together and will be analyzed for the same constituents. The DUPs are used to determine precision for both sampling and laboratory measurements. Evaluation of the results can provide an indication of intra-laboratory variability. Large RPDs can be an indication of potential laboratory performance problems and should be investigated.

  Collocated samples are two samples collected as close as possible to the same time and location and are not homogenized. This sampling protocol is used when homogenizing samples for split or duplicate samples could affect the quality of data (i.e., VOA analysis).

- **Field split samples:** Field split samples (SPLIT) are two samples collected as close as possible to the same time and same location and are intended to be identical. VOA soil splits will be sampled as collocated samples, as described previously. SPLITs are stored in separate containers and analyzed by different laboratories for the same or similar analytes. SPLITs are inter-laboratory comparison samples used to evaluate comparability between laboratories. Large RPDs can be an indication of potential laboratory performance problems and should be investigated.

2.2.3.2 *Laboratory Quality Control Samples*

The laboratory QC samples (e.g., method blanks and laboratory control sample/blank spike) are defined for the three-digit EPA methods (EPA/600/4-79/20, *Methods for Chemical Analysis of Water and Wastes*) and for the four-digit EPA methods (SW-846) and will be run at the frequency specified in the respective reference, unless superseded by agreement.

The QC checks outside of control limits will be reflected in the narrative of the analytical report and during the DQA process, if performed.

For chemical analyses, the control limits for laboratory duplicate samples, matrix spike samples, matrix spike duplicate samples, surrogate recoveries, and laboratory control samples are typically derived from historical data at the laboratories in accordance with SW-846. Typical control limits are within 25 percent of the expected values, although the limits may vary considerably depending upon the method and analyte.

2.2.4 Equipment

Equipment used for collection, measurement, and testing should meet applicable standards (e.g., ASTM) or will have been evaluated as acceptable and valid in accordance with the procedures, requirements, and specifications. The FWS, field technical representative, or equivalent will ensure that the data generated from instructions using a software system are backed up and/or downloaded on a regular basis. Software configuration will be acceptance tested prior to use in the field.

Measurement and testing equipment used in the field or in the laboratory that directly affect the quality of analytical data will be subject to preventive maintenance measures to minimize measurement system downtime. Laboratories and onsite measurement organizations must maintain and calibrate their equipment. Maintenance requirements (e.g., documentation of routine maintenance) will be included in the individual laboratory and onsite organization's QA plan or operating procedures, as appropriate. Maintenance of laboratory instruments will be performed in a manner consistent with the three-digit EPA methods (EPA/600/4-79/020) and four-digit EPA methods (SW-846), or with auditable DOE Hanford Site and contractual requirements. Consumables, supplies, and reagents will be reviewed per SW-846 requirements and will be appropriate for their use.

2.2.5 Inspection of Consumable Supplies

Consumables, supplies, and reagents will be reviewed in accordance with the current requirements of SW-846, or other EPA method being used, or by an approved site analytical procedure. Potential contamination is monitored by field QC samples and laboratory blanks. The lot number from the manufacturer certified, pre-cleaned sample containers will be recorded in the sampler's logbook.

2.2.6 Data Management

Data resulting from the implementation of the SAP will be stored in the HEIS database. Reports and supporting analytical data packages will be subject to final technical review by qualified reviewers before submittal to the regulatory agencies or before inclusion in reports or technical memoranda.

2.2.7 Field Documentation Management

Field documentation shall be maintained in the form of chain-of-custody/sample analysis request forms and logbook entries. Other documentation is described in Section 2.1.4. Approved work control packages and procedures will be used to document field activities, including nonradiological measurements, when this SAP is implemented. Field activities will be recorded in the field logbook.

2.3 Assessment and Oversight

The elements in assessment and oversight address the activities for assessing the effectiveness of project implementation and associated QA and QC activities. The purpose of assessment is to ensure that the QAPjP is implemented as prescribed.

2.3.1 Assessments and Response Actions

Contractor management, Regulatory Compliance, QA, and/or Health and Safety organizations may conduct surveillances and assessments to verify compliance with the requirements outlined in this SAP, project work packages, the project quality management plan, procedures, and regulatory requirements. The project manager will determine whether a DQA will be performed for the activities identified in this SAP. The DQA process, if performed, is discussed in Section 2.4. The results of the DQA will be provided to the project manager. No other planned assessments have been identified.

If circumstances arise in the field dictating the need for additional assessment activities, then additional assessments would be performed. Deficiencies identified by these assessments will be reported in accordance with existing programmatic requirements. The project's line management chain coordinates the corrective actions/deficiencies in accordance with the contractor QA program, the corrective action management program, and associated procedures implementing these programs. When appropriate, corrective actions will be taken by the Project Manager.

2.3.2 Reports to Management

Management will be made aware of deficiencies identified by self-assessments, corrective actions from ECOs, and findings from QA assessments and surveillances.

2.4 Data Review, Verification, and Validation, and Usability Requirements

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified (Section 2.4.1). A total of 5 percent of the data will be validated (Section 2.4.4). A DQA may be performed, if requested, on the final data (Section 2.4.5). At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

2.4.1 Verification and Validation Methods

Validation activities will be based on EPA functional guidelines. Data validation may be performed by the Permittee and/or by a party independent of both the data collector and the data user. Data validation qualifiers must be compatible with the HEIS database.

When outliers or questionable results are identified, the data associated with these outliers and questionable data will be evaluated and additional data validation will be performed. The additional data validation will consist of selecting up to an additional 5 percent of the statistical outliers and/or questionable data. The additional validation will begin with Level C and may increase to Levels D and E, as needed, to ensure that data are usable. Level C validation is a review of the QC data, while Levels D and E include review of calibration data and calculations of representative samples from the data set. Data validation results will be documented in data validation reports. An example of questionable data is a positive detection greater than the practical quantitation limit or reporting limit in soil from a site that should not have exhibited contamination. Similarly, results below background would not be expected and could trigger a validation inquiry. The determination of data usability will be conducted and documented in a DQA report.

Data validation results will be documented in data validation reports, which will be included in the project file.

2.4.2 Data Verification and Usability Methods

Review of field paperwork, analytical data packages, and electronic files from the laboratory information management system will be performed. Sampling documents include the soil sampling record, chain-of-custody forms, field logbook pages, and other paperwork associated with sampling and shipping. These documents are reviewed for completeness, approvals, and legibility. Analytical and QC data from the laboratories are verified to be complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data is processed, resolution of those issues will be initiated.

2.4.3 Resolution of Analytical System Errors

Errors reported by the laboratories are reported and a sample disposition record is initiated in accordance with Permittee procedures. This process is used to document analytical errors and to establish resolution with the Project Manager. In addition, the Permittee QA Engineer receives reports providing summaries and statistics of the analytical errors.

2.4.4 Data Validation

The format and requirements for data validation activities are based upon the most current version of *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01 [OSWER 9240.1-48]) and *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011 [OSWER 9240.1-51]). Performance of data validation activities is arranged, typically by a party independent of the data collector, the data generator, and the data user. The independent party as well as Project QA personnel review third party data validation reports for completeness and contractual compliance. A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

2.4.5 Data Quality Assessment

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the DQA process in *Data Quality Assessment: A Reviewer's Guide* (EPA/240/B-06/002), and *Data Quality Assessment: Statistical Methods for Practitioners* (EPA/240/B-06/003).

3 Field Sampling Plan

The purpose of the field sampling plan (FSP) is to provide a discussion of the project sampling and analytical requirements. This includes defining the number and location of samples, sampling methods, and analyses that will be performed, overall sampling objectives, and a discussion of waste management.

3.1 Site Background and Objectives

Site background information is contained in Section 1. The target analytes are presented in Table 1-1. The objective of the FSP is to identify project sampling and analysis activities clearly. The FSP uses the sampling design identified during the systematic planning process and identifies sampling locations, the total number of samples to be collected, and the analyses to be performed.

3.2 Sampling Design

The sampling design is a systematic and grid sampling approach, with judgmental sampling in the previous storage location of the 231ZDR-11 container. In addition, judgmental sampling will be performed for any waste-related staining identified in the visual inspection performed as part of closure activities and addressed in the closure plan. The systematic and grid sampling, and the judgmental sampling methods are described as follows:

- **Systematic and Grid Sampling:** In systematic and grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and then the remaining sampling locations are defined so the locations are at regular intervals over an area (grid) or time (systematic). Systematic and grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters, and is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

- **Judgmental Sampling:** In judgmental sampling, the selection of sampling units (i.e., the number and location and/or timing of collecting samples) is based on knowledge of the feature or condition under investigation and on professional judgment. Judgmental sampling is distinguished from probability-based sampling in that inferences are based on professional judgment, not statistical scientific theory. Therefore, conclusions about the target population are limited and depend entirely on the validity and accuracy of professional judgment. Probabilistic statements about parameters are not possible.

3.3 Sample Location and Frequency

Table 3-1 provides the sample locations, frequencies, and sampling methods to be used. Grab samples will be collect into containers at the node sample locations indicated by the Visual Sample Plan (VSP) software and shown in Figure 3-1. Attachment C of the CWC-WRAP Outdoor Storage Area A Closure Plan provides VSP software supporting documentation.

Table 3-1. Sample Locations, Frequencies, and Sampling Methods

Sampling Objectives	Sample Matrix	Sample Locations	Number of Samples	Number of QA Samples	Sampling Methods
Decision unit	Soil	Surface samples taken at 0 to 15.2 cm (0 to 6 in.) bgs. See VSP software map (Figure 3-1) for exact locations.	20	One each of the following samples: full trip blank, field transfer blank, equipment rinsate blank, and field duplicate.	Grab

bgs = below ground surface

QA = quality assurance

1

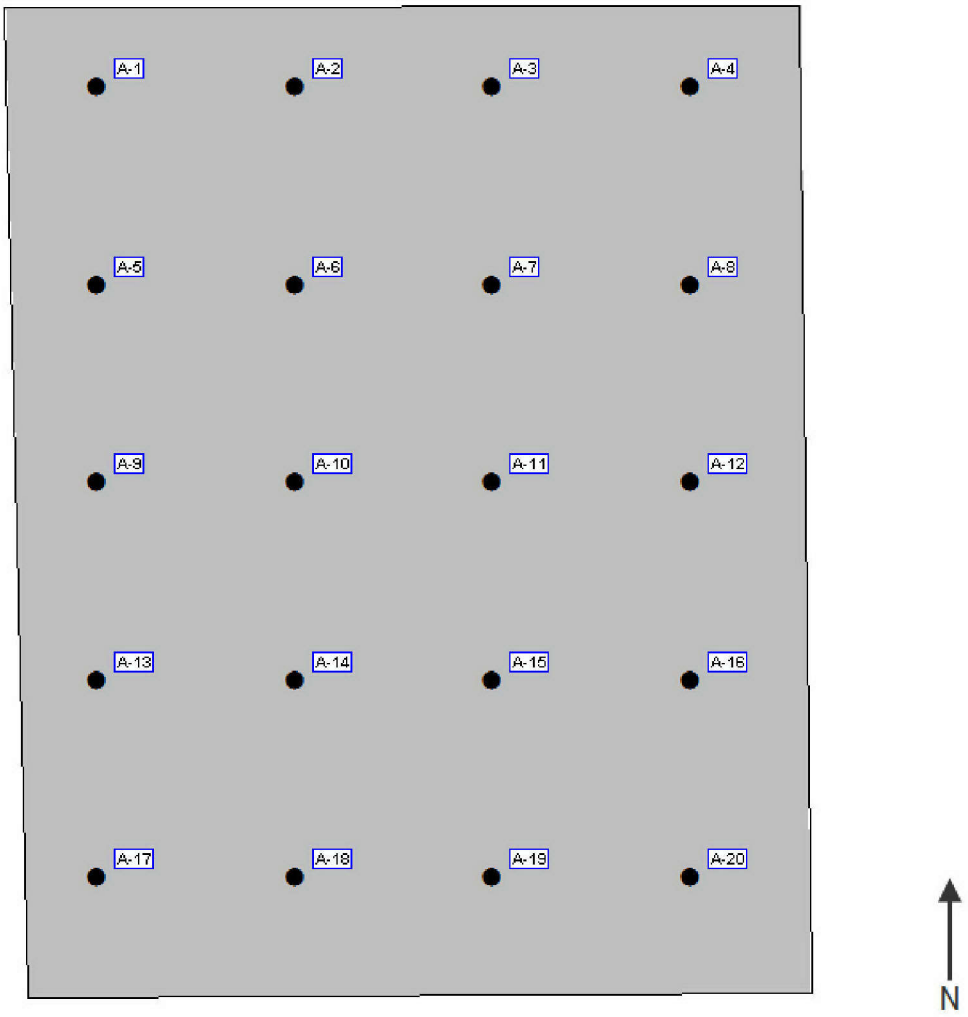

Figure 3-1. CWC Outdoor Storage Area A Sampling Locations

3.4 Sampling Methods

To ensure sample and data usability, sampling associated with this SAP will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling. The Project Manager and contractor management are responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities.

Grab sample matrix will consist of gravel and soil collected in pre-cleaned sample containers taken at a depth of 0 to 15.2 cm (0 to 6 in.) below ground surface. For the purpose of this SAP, ground surface is defined as the exposed surface layer once loose gravel has been moved aside. To gather the most representative sample, loose gravel will be moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil is sampled, the sampled media will be screened to remove material larger than approximately 2 mm (0.08 in) in diameter. To ensure sample and data usability, sampling will

be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table 3-2 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form.

Field sampling shall comply with HASQARD requirements (DOE/RL-96-68), Volumes 1 and 2.

Table 3-2. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by cold vapor atomic absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl	None	1 year	aG	250 g
EPA 8260	Volatile organic analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile organic compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 200.8	Metals by ICP/MS	None	6 months	G/P	10 g

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days

aG = amber glass
G = glass
ICP/MS = inductively coupled plasma/mass spectrometry
P = plastic

3.4.1 Decontamination of Sampling Equipment

To prevent potential contamination of the samples, care should be taken to use decontaminated equipment for each sampling activity.

3.5 Sample Handling

A sampling and data tracking database (e.g., HEIS) is used to track the samples from the point of collection through the laboratory analysis process. Samplers should note any anomaly with a sample (e.g., sample appears unusual) and inform the Project Manager.

Laboratory analytical results are entered and maintained in the HEIS database. HEIS sample numbers are issued to the sampling organization for the project. Each sample is identified and labeled with a unique HEIS sample number.

3.5.1 Packaging

Level I EPA pre-cleaned sample containers will be used for soil samples collected for chemical analysis. Container sizes may vary depending on laboratory-specific volumes/requirements for meeting analytical detection limits. Preliminary container types and volumes are identified in Table 3-2.

3.5.2 Container Labeling

The sample locations, depths, and corresponding HEIS numbers are documented in the sampler's field logbook. Except for VOA samples, a custody seal (i.e., evidence tape) will be affixed to the lid of each sample container and or sample collection package in such a way as to indicate potential tampering. The custody seal will be inscribed with the sampler's initials and date. Custody tape is not applied directly to VOA sample containers based on the potential for affecting analyte results and/or fouling of laboratory equipment. Custody seals and any other required labels/documentation can be fixed to the exterior of a plastic bag holding the VOA vials in such a manner that prevents potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water-resistant labels:

- Sampling Authorization Form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)
- Chain-of-custody identification number

In addition to the above information, sample records must include the following:

- Sample location
- Matrix (water, soil, etc.)

3.5.3 Sample Custody

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure the maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained. A chain-of-custody record is initiated in the field at the time of sampling and will accompany each set of samples shipped to any laboratory.

Shipping requirements will determine how sample shipping containers are prepared for shipment. The analyses requested for each sample will be indicated on the accompanying chain-of-custody form. Each time the responsibility changes for the custody of the sample, the new and previous custodians will sign the record and note the date and time.

The following information is required on a completed chain-of-custody form:

- Project name
- Signature of sampler
- Unique sample number
- Date and time of collection
- Matrix

- Preservatives
- Signatures of individuals involved in sample transfer
- Requested analyses (or reference thereto)

3.5.4 Sample Transportation

All packaging and transportation instructions will be in compliance with the applicable transportation regulations, DOE requirements, and contactor requirements. Regulations for classifying, describing, packaging, marking, labeling, and transporting hazardous materials, hazardous substances, and hazardous waste mandated by the U.S. Department of Transportation as described in 49 CFR 171 "General Information, Regulations, and Definitions," through Part 177, "Carriage By Public Highway". Carrier specific requirements also should be considered when preparing sample shipments conveyed by air freight providers.

Samples containing hazardous constituents shall be considered hazardous material in transportation and transported according to DOT 49 CFR, "Transportation," "Shippers – General Requirements for Shipments and Packagings," are exceeded. Samples shall be screened, or relevant historical data shall be used, to determine if these values are exceeded. When screening or historical data indicate that samples are radioactive, they shall be properly classified, describes, packaged, marked, labeled, and transported according to DOT requirements.

3.5.5 Corrective Actions and Deviations for Sampling Activities

The Project Manager, FWS, or designee must document deviations from procedures or other issues pertaining to sample collection, chain-of-custody, target analytes sample transport, or noncompliance. Examples of deviations include samples not collected because of field conditions, changes in sample locations because of physical obstructions, or additions of sample depths.

As appropriate, such deviations or problems will be documented in the field logbook or on nonconformance report forms in accordance with internal corrective action procedures. The Project Manager, FWS, or designee will be responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to sampling activities.

Changes in sample locations not affecting the data needs will require notification and approval of the Project Manager. Changes to sample locations affecting the data needs will require concurrence from DOE-RL and the lead regulatory agency. Changes to the SAP will be documented as noted in Section 2.1.4.

3.6 Documentation of field activities

Logbooks or data forms are required for field activities. Requirements for the logbook are provided in Section 2.1.4. Data forms may be used to collect field information; however, the data forms must follow the same requirements as those for logbooks. The data forms must be referenced in the logbooks. A summary of information to be recorded in logbooks is as follows:

- Purpose of activity
- Day, date, time, and weather conditions
- Names, titles, and organizations of personnel present
- Deviations from the QAPjP or procedures
- All site activities, including field tests
- Materials quality documentation (e.g., certifications)
- Details of samples collected (e.g., preparation, splits, duplicates, matrix spikes, and blanks)

- Location and types of samples
- Chain-of-custody details and variances relating to chain-of-custody
- Field measurements
- Field calibrations and surveys, and equipment identification numbers, as applicable;
- Equipment decontaminated, number of decontaminations, and variations to any decontamination procedures
- Equipment failures or breakdowns, and descriptions of any corrective actions
- Telephone calls relating to field activities

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4 Management of Waste

All waste generated during sampling activities will be managed in accordance with applicable regulations.

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5 Health and Safety

Field operations will be performed in accordance with health and safety requirements and appropriate project requirements. The project's site-specific health and safety plan will be followed. Work control documents will be prepared to control site operations further. Safety documentation will include an activity hazard analysis.

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6 References

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EPA-505-B-04-900A, 2005, *Intergovernmental Data Quality Task Force Uniform Federal Policy for Quality Assurance Project Plans: Evaluating, Assessing, and Documenting Environmental Data Collection and Use Programs Part 1: UFP-QAPP Manual*, Version 1, U.S. Environmental Protection Agency, Washington, D.C. Available at: http://www.epa.gov/swerffrr/pdf/ufp_qapp_v1_0305.pdf.

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WAC 173-303, "Dangerous Waste Regulations," *Washington Administrative Code*, Olympia, Washington. Available at: http://apps.leg.wa.gov/WAC/default.aspx?cite=173-303

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Distribution

	MS	Quantity
U.S. Department of Energy, Richland Operations Office		
Work Package Manager		
DOE Public Reading Room	H2-53	1
CH2M HILL Plateau Remediation Company		
Document Lead		
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Washington Closure Hanford, LLC		
POC		
Administrative Record	H6-08	1
Document Clearance	H6-08	1

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Attachment B

RCRA Records Review and Visual Inspection Supporting Documentation

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CWC, Outdoor Container Storage Area "A"

Purpose:

A visual inspection walkdown of the CWC outdoor container storage area "A" was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that were and are stored at this location. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on August 14, 2013, by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

Staining (excluding herbicides) was observed at the northeast corner of the outdoor storage area "A" (see attached photos). Stains appear to be rust. No other stains were observed.

Some debris materials were observed:

- Metal pallets
- Wood pallets
- Composite roofing material
- Metal ladders
- Wooden boxes
- Buckets
- Metal banding strips
- Cinder blocks
- Tie-downs
- Rubber chocks
- Fiberglass rods with orange flags
- Tables
- Metal posts
- Railroad ties
- Pressure treated lumber
- Other types of lumber
- Rubber mats
- Tool boxes
- Metal railings
- Concrete barriers
- Change trailer

- Portable electrical lighting
- Tumbleweeds
- Extension cords
- Nylon rope
- Cylinders for applying fixative
- Plastic chain
- Metal chain
- Concrete personnel protection barriers
- Wagons
- Metal pipes
- Brooms
- Plastic traffic markers

Housekeeping will be performed on the area prior to closure and the debris material will be removed.

Signature/Date:

Brett M. Barnes: Brett M Barnes 9/3/13

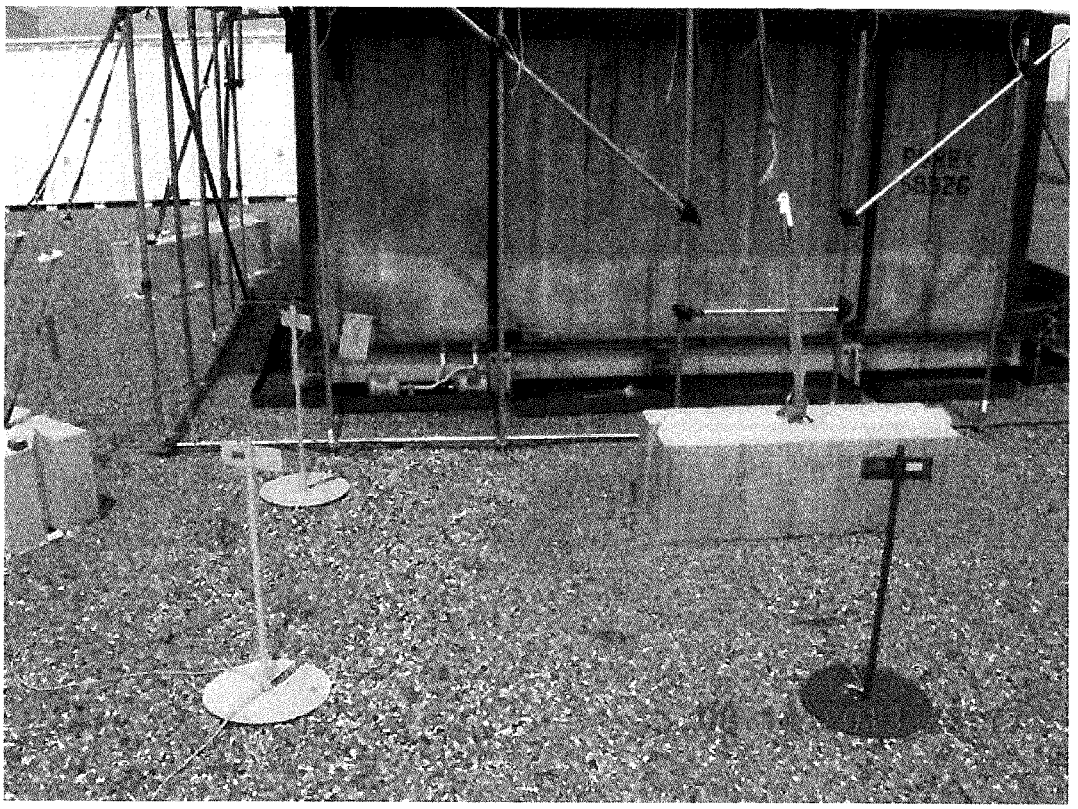
Strickling, Lana R

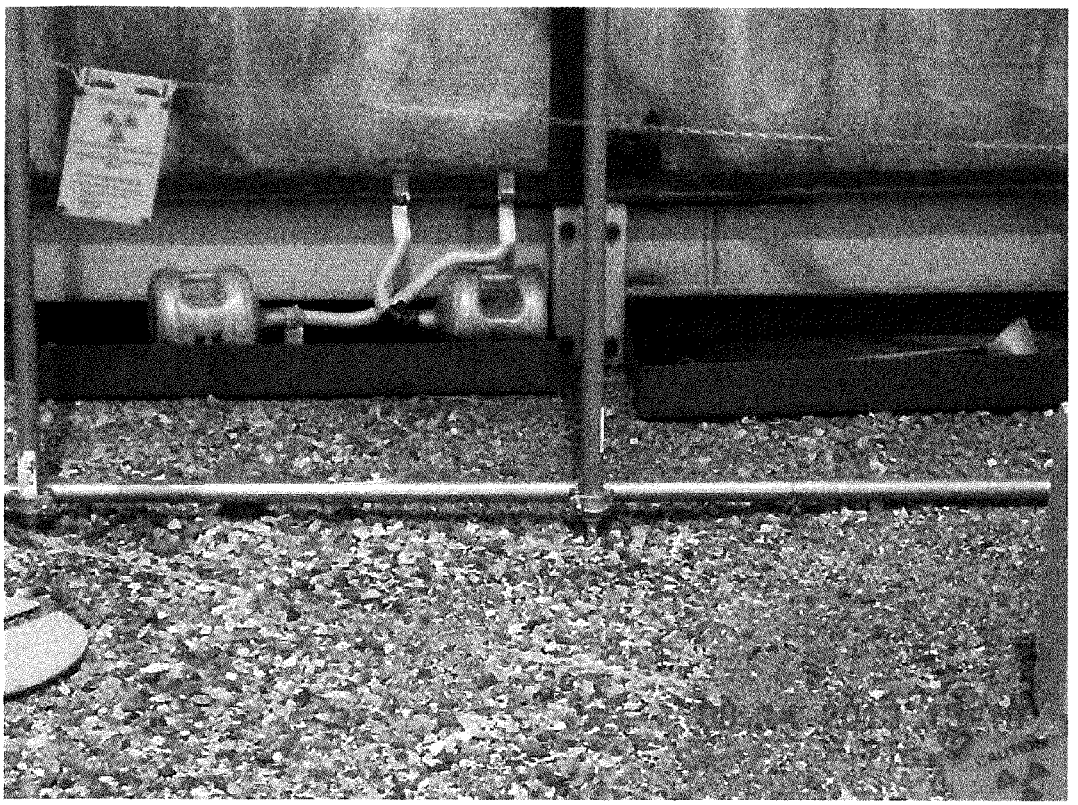
From:	Barnes, Brett M
Sent:	Tuesday, September 03, 2013 1:24 PM
To:	Horn, Sarah R; Strickling, Lana R
Cc:	Engelmann, Richard H; Dixon, Brian J; Ruck, Fred A III; Seaver, Jennie R
Subject:	REVISED CWC OUTDOOR CONTAINER STORAGE AREA "A" CLOSURE INSPECTION REPORT
Attachments:	SPDQ0638013090313010.pdf

All, please ignore my previous closure inspection reports...I had to correct some editorial comments.

Attached is the closure inspection report for the CWC Outdoor Container Storage Area "A." The photographs that are attached to this report are directly below, in descending order. Should you have any questions, please call me on my cell phone, 521-3053.

Brett M. Barnes
Environmental Compliance Officer





CWC Outdoor Waste Container Storage Area A
Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form: Weekly RCRA Inspection Checklist for CWC

Date of Weekly Waste Inspection Review: Finalized 9/5/13

Reviewer's Name: Lana Strickling

A review of the summary sheets completed by Linda Carr, which covered both CWC Outdoor Storage Areas A and B, was performed. Weekly RCRA Inspection checklists could not be located for the following time period: Mid September 2008 – Mid December 2008.

Waste Management Units: CWC Outdoor Waste Container Storage Area A

Time Frame of Weekly Inspections: 1/5/06 – 6/26/13

Items of Concern Noted: YES _ X__ NO _ __
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concern: One item of concern was noted for CWC Outside Waste Container Storage Area A. On 2/6/12, dangerous waste box 231ZDR-11 was identified as "leaking" during the weekly RCRA inspection. Subsequent review determined this was a radiological contamination event. Mitigative actions were performed via work package 2X-12-01430, *Apply Fixative and Absorbent to Contamination Area.*

Reviewer's Signature and Date: Lana Strickling 9/6/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

CWC Outdoor Waste Container Storage Area A
Weekly Dangerous Waste Inspection Checklist Review

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

CWC Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Weekly CWC RCRA/Non-RCRA Inspection Checklist
Date of Review:	8/8/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	Outside Staging Areas
Time Frame of Weekly Inspections:	2012-January 3 - December 27
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☒ NO☐
Items of Concerns:	leak (week 2/8/12)
Attach copies of Weekly Inspection sheets noting concern.	
Dates of Corrective Actions:	"Plan now in Progress 2/8/12"
Attach copies of Weekly Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

Inspect CWC & Miscellaneous Buildings

Published Date: 01/27/12 **Effective Date: 01/27/12**

Appendix A - Weekly CWC RCRA/Non-RCRA Inspection Checklists

Location/Facility/Module: OUTSIDE STORAGE AREAS Date/Time: 02/08/12 13:45

Weekly CWC RCRA Checklist				
#	Yes	No	N/A	Area Inspection
1	✓			Marker-barricades (chain barricades, chain-link fences, marker posts, etc.) around area are intact and in good condition. Area ground postings are intact, unobscured, legible and in good condition?
2			①✓	Containment curbing and flooring is free of scratches that penetrate to the concrete, cracks, or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall?
3	✓			Area is generally dry and free of accumulated water. There is no standing and/or unexpected water or snow accumulation in or around area?
4	✓			Areas where dangerous waste may be accumulated have "Danger – Unauthorized Personnel Keep Out" (or an equivalent legend) and "No Smoking" signs posted?
5	✓			Postings are accurate, intact, visible, legible and in good condition?
6			②✓	Secondary containment system is free of liquid? If "No", notify FWS and go to SW-080-003.
#	Yes	No	N/A	Container Inspection
7		*✓		Container integrity is not compromised by punctures, dents, penetrating scratches, loose lids, bulging, excessive corrosion or other physical damage/deterioration. [TSR 5.6.4.b]
8		*✓		Containers are closed, are stored in a manner which will not rupture the containers or cause them to leak, and show no evidence of spillage or leakage, such as moisture on the sides or underneath?
9	✓			Container top does not have excessive buildup of dirt/debris that would possibly interfere with the proper operation of the drum's ventilation system (such as, clogging of NucFils).
10	✓			Container marking/labeling is intact, unobscured, legible and in good condition?
11	✓			Dangerous/hazardous waste containers are marked as "hazardous" or "dangerous" and have major risk label, as applicable?
12	✓			Aisle space between rows of containers appears to be at least 36 inches? [FHA SWOC Key 1.3.1.13][FHA Key #10]
13	✓			Containers are stored in rows no more than 2 wide?
14	✓			Containers are elevated (palletized)?
Weekly CWC Non-RCRA Checklist				
#	Yes	No	N/A	Area Inspected/Description of Non-RCRA Items
15	✓			Lighting is adequate to complete inspection (where applicable)?
16	✓			Areas in and around waste stored in the facilities/modules are free of combustibles such as tumbleweeds, paper, rags, trash, empty wood pallets, etc.? [TSR 5.7.1.b&c][TSR 5.6.4.h]
17	✓			Roadways are clear and unobstructed. Fire fighting vehicles have free and easy access to the area. Exits are clear and unobstructed?
18	✓			PCB label at facilities/modules entrances are intact, unobscured, legible and in good condition (where applicable)?
19	✓			Pallet condition is adequate to ensure module stability.
20	✓			Aisle space between rows of containers appears to be at least 36 inches? [FHA SWOC Key 1.3.1.13][FHA Key #10]
21	✓			Waste containers staged or stored outside are no higher than 2 tiers. [TSR 5.6.4.a]
22	✓			Space between inside waste array zones is > 12 ft and free of combustibles. [TSR 5.6.4.g]
23			③✓	Third-tier drums are banded horizontally with metal band (single drum banded to pallet) [TSR 5.6.4.a]

Comments: SEE open item # 11-015

① Container are sitting on dirt/gravel ② No secondary containment.
③ No third tier drums.
* Container # 231-ZDR-11 was found to be leaking. Work plan & recovery now in progress.

Operator (print/sign/date/time): Christine Kiehn Christine Kiehn 02/08/12 13:45

FWS (print/sign/date/time): Dwayne Bierman 2/8/12 1803

CWC Outdoor Waste Container Storage Area A
Daily Operating Log Book Review

Date of Log Book Review: 8/12/13

Reviewer's Name: Joel Williams

Daily Operating Log Book Document No./Log Book Timeframe (Month/Year to Month/Year):

LOGBOOK NUMBER	DATES
HNF-N-450-84	12-06-2006 through 07-09-2007
HNF-N-450-85	07-10-2007 through 02-06-2008
HNF-N-450-91	02-07-2008 through 08-26-2008
HNF-N-450-94	08-27-2008 through 04-16-2009
HNF-N-450-95	04-20-2009 through 11-17-2009
HNF-N-450-100	11-02-2009 through 06-23-2010
HNF-N-450-103	06-24-2010 through 01-16-2011
HNF-N-450-107	01-19-2011 through 08-11-2011
HNF-N-450-109	08-15-2011 through 03-06-2012
HNF-N-450-110	03-07-2012 through 07-16-2012
HNF-N-450-113	07-07-2012 through 12-01-2012
HNF-N-450-111	12-02-2012 through 05-01-3013
HNF-N-450-112	05-02-2013 through 08-12-2013

Items of Concern Noted (Circle) YES__X__ NO____

If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concern (Attach copies of log book pages noting concern)

On 2/6/12, box 231ZDR-11 was identified as having contamination area levels around the box. See attached logbook pages.

Dates of Corrective Actions:

Mitigative actions were performed via work package 2X-12-01430, *Apply Fixative and Absorbent to Contamination Area.*

Reviewer's Signature and Date: Lena Stickling for Joel Williams per telecon 9/5/13

Page 118 HNF-N-450-109 2-6-12 Days Cont. (2)

1501 millwrites have completed work for packages 2X-12-00215 and 2X-12-00215 for today. will work again at a later

1612 Turned logbook duties over to Patty Carter. Janelle Junker - took over logbook Patricia Carter

1613 Patricia Carter.

2048 Reentry team reentering zone 14 to perform rad sh testing Box 231 ZDR-11

2209 Exiting Team expanded Area after surveys Expan area posted CA. Last entry Patricia Carter Patricia Security Checks all buildings Locked.

2308 Late Entry 1440 Rad Con found CA Level contamination around Was Box 231 ZDR-11 in Zone 14, Rad Con notified Operation manager Dwayne Bierman

2311 SDO completed logbook review Dwayne Bierman

No further entries
DB 3/6/12

pg 123 HNF-N-450-109 02-11-2012 Days (3)

0900 Richard A. Monlux is The Logbook Custodian, Dave Gilles is The Be
Richard A Monlux Richard A Monlux

0906 Notified Dave Gilles on The status of Box 231ZDR-11 catch Con
in CWC's Expansion Area Z14. The Following Results were Repor
To Dave Gilles. The North 2 catch Containers are empty, The
catch Container is Approximant 1/2 inch from overflow, The SouthWe
corner catch Container is Full, The South catch Container is Em
(center), The SouthEast catch Container is Full, and the East
Container is Approximant 1/4 inch from overflow. The 3 gallon ca
bottles are as follows from East to West #1 Empty, #2 Empty, #3 Empt
is Approximant 3/4 To The Full line.

1334 Checked on status of Box 231ZDR-11 catch Containers NO change fr
Previous entery.

2010 SDO Reviewed Logbook

No further entries this day
2-11-12

HNF-N-450-111 1-30-13 LAY PAGE 61 (1)

0625 Reviewed log and assumed duties as SDO. DA Gilles

0700 BED/SDO Dave Gilles. Logbook custodian Dave Cleavenger Dave Cleavenger
Minimum shift complement verified. CWC/LLBG is in stand-by mode

0725 Patrol has been notified for access to 3A, 3AE, 4B & 4C

0804 Management safety drive through of CWC complex completed with no issu

0900 Perform Ultrasonic Testing on fire piping in 2402WG

1310 The 3 gallon container has liquid in it catch pans have moisture in them
straps are tight and in good condition. No change to tear and punctures.
The Box is not dripping.

1520 End of shift sweeps complete

1523 Last Entry Dave Cleavenger Dave Cleavenger

1750 Late Entry 1900 NCO notified FWS that prior to starting a planned activity
to apply invisable to the 2312DR-11 Box (2x-12-8198) he observed the
lower south rail (angle iron) of the box dripping in 2 spots. The drips
were in the area adjacent to the catch container in the western most
south catch pan. Drip rate was reported to be 1 drip every 5-6
seconds. Liquid was noted in the catch container and the catch pan.
RADCON performed boundary surveys and found no spread of contamin
The NCO and Team continued with the activity and applied a heavy
coat of invisable to the entire perimitar of the box. The
FWS notified the SDO/OPS Manager who notified the Facility Manager
and Director. Facility Manager and OPS Manager observed the box.
Weather conditions during the past 2 days had high temperatures
in the mid 90's and mid 50's as opposed to the below freezing
temperatures of the past few weeks. An entry to replace the
catch container and remove liquid from the catch pan is planned
for tomorrow. Appropriate notifications have been made.

1810 SDO Log Review Complete. DA Gilles

NO further entries

Attachment C

Visual Sampling Plan Software Supporting Documentation

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

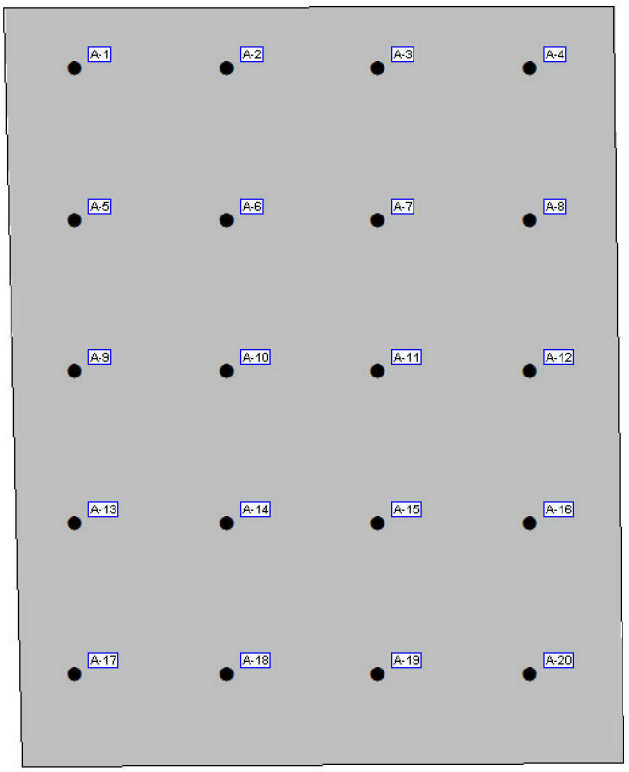
SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	0.00 m^2
Size of grid / Area of grid cell [d]	0.00149158 x 0.00149159 feet / 2.22482e-006 ft^2
Grid pattern	Rectangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.

[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.

[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.

[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.



Area: CWC A					
X Coord	**Y Coord**	**Label**	**Value**	**Type**	**Historical**
119.642340	46.554124	A-17		Systematic	
119.642794	46.554124	A-18		Systematic	
119.643249	46.554124	A-19		Systematic	
119.643703	46.554124	A-20		Systematic	
119.642340	46.554578	A-13		Systematic	
119.642794	46.554578	A-14		Systematic	
119.643249	46.554578	A-15		Systematic	
119.643703	46.554578	A-16		Systematic	
119.642340	46.555033	A-9		Systematic	
119.642794	46.555033	A-10		Systematic	
119.643249	46.555033	A-11		Systematic	
119.643703	46.555033	A-12		Systematic	
119.642340	46.555488	A-5		Systematic	
119.642794	46.555488	A-6		Systematic	
119.643249	46.555488	A-7		Systematic	
119.643703	46.555488	A-8		Systematic	
119.642340	46.555942	A-1		Systematic	
119.642794	46.555942	A-2		Systematic	

119.643249	46.555942	A-3		Systematic	
119.643703	46.555942	A-4		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

The values of these inputs that result in the calculated number of sampling locations are:

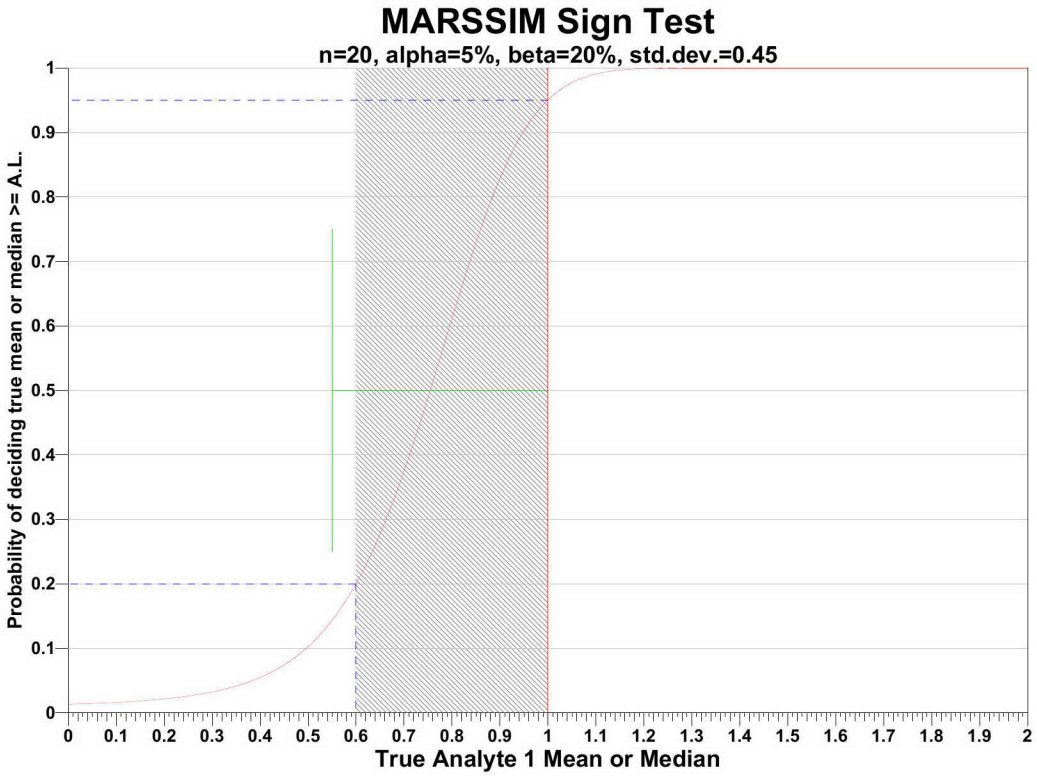
Analyte	n[a]	Parameter

	S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]	
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%),

probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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H3 – CWC-WRAP
H3.B - Attachment B – CWC-WRAP Outdoor Storage Area B *(includes Care & Maintenance during closure)*

B1 Introduction

This appendix discusses closure activities for the Central Waste Complex-Waste Receiving and Processing (CWC-WRAP) Operating Unit Group (OUG) Outdoor Storage Area B dangerous waste management unit (Area B) (Figure B-1). The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU. The closure will be performed in accordance with the included schedule. This closure plan complies with Washington Administrative Code (WAC) 173-303-610(2) through WAC 173-303-610(6) and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

B1.1 Unit Description

Area B was activated in 2006 with the primary purpose of storing large transuranic mixed waste (TRUM) waste boxes removed from storage as part of the Waste Retrieval Project and large waste containers from other Hanford generators (e.g., 212N crates). The Area B is located between the CWC Outside Storage Area A and the 2403-Series buildings. The Area B is a gravel covered, rectangular-shaped outside storage area approximately 257 m (281 yd) long and 20 m (22 yd) wide for a total area of 5,140 m^2 (6,147 yd^2). Area B is an uncovered area that does not have a constructed secondary containment system.

Transfer of additional dangerous or mixed waste into the Area B is not authorized.

B1.1.1 Maximum Waste Inventory

Mixed waste was introduced into Area B in 2006. Waste management tracking records indicate the maximum inventory of mixed waste stored in Area B over its lifetime included 163 *Resource Conservation and Recovery Act of 1976* (RCRA)-regulated waste containers with a total volume of 2,608 m^3 (3,411 yd^3) and one *Toxic Substance Control Act of 1976* polychlorinated biphenyl (TSCA-PCB) waste container with a total volume of 10 m^3 (13 yd^3). As of August 2013, Area B contains five containers of mixed waste with a total volume of 203 m^3 (266 yd^3), which originated from PFP and 212N. Details on the waste containers are presented in Section B3.4 of this closure plan.

Figure B-1. CWC Outside Storage Areas and 2401W Building

B2 Closure Performance Standard

Closure performance standards for the Area B will be based on requirements found in WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," which require closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity

These performance standards are addressed in the Sections B2.1 and B3.13 of this closure plan.

B2.1 Clean Closure Levels

The Area B will be clean closed. In accordance with WAC 173-303-610(2)(b)(i), the clean closure levels for soil will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the *Model Toxics Control Act* (MTCA) (WAC 173-340, "Model Toxics Control Act—Cleanup") cleanup regulations (WAC 173-340-700 through -760, excluding WAC 173-340-745). These numeric cleanup levels will be calculated according to MTCA Method B unrestricted use standards current at the time of closure.

Sampling and analysis will support clean closure levels for the Area B gravel and/or soil. Should sampling and analysis of the Area B indicate contamination above the MTCA Method B unrestricted use standards, then the potential for groundwater contamination will be reviewed and discussed with Ecology. Any required changes to this closure plan and the associated SAP resulting from the discussions will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

B3 Closure Activities

As a storage unit, clean closure determination for Area B will be based on a review of the operational history, operating records (including any dangerous and/or mixed waste releases), waste management records, and a visual inspection of the area to verify that waste-related staining is not present. Subsequently, soil characterization will be conducted via a sampling and analysis plan (SAP) to demonstrate that clean closure numeric levels have been achieved.

Area B currently stores mixed waste; an extended period will be needed to ship these containers to another receiving treatment, storage, and disposal (TSD) for waste processing (see section B3.3). These shipments must be completed prior to final clean closure verification.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure for soil are as follows:

- Review waste container storage, operating, and inspection records up through July 2013 (Completed. See Section B3.4)
- Perform a visual inspection of the gravel areas currently accessible (i.e., not under waste containers or restricted due to contamination areas.) (Completed. See Section B3.4)

Extended closure activities include the following:

- Continue weekly inspections in accordance with Addendum I, *Inspection Requirements*, for the Part V CWC-WRAP OUG
- Remove all dangerous waste inventory
- Review waste container storage, operating, and inspection records from August 2013 through the last waste removal
- Perform an additional visual inspection of gravel and visible surface soil once all waste is removed
- Update the SAP through the permit modification process to incorporate any issues identified during the visual inspections and updated records review (if necessary).
- Perform sampling and analysis to confirm clean closure standards are met

B3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) CWC-WRAP, Addendum G, *Personnel Training,* and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided and includes the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements
- Requirement that samplers be qualified in the type of sampling being performed in the field

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required

- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees' training organization maintains the training records system.

B3.2 Care and Maintenance During Closure

Due to the nature of the waste and extended period necessary for closing Area B, the Permittees must ensure that the dangerous waste containers stored in Area B do not pose a risk to human health and the environment. The Permittee has taken, and will continue to take steps to prevent threats to human health and the environment, including compliance with all applicable RCRA compliance requirements. These RCRA compliance requirements include dangerous waste management unit inspections, personnel training, and emergency preparedness. No new mixed waste containers will be accepted in Area B.

As identified in Addendum I, *Inspection Requirements,* weekly inspections of dangerous or mixed waste containers will continue until all containers have been removed from Area B. Upon removal of the containers, annual inspections will be performed until such a time as the closure certification is complete.

In addition to required inspections, the CWC-WRAP OUG has a contingency plan that satisfies the requirements of WAC 173-303-350. A copy of the contingency plan for CWC-WRAP OUG is kept in the RCRA operating record.

B3.3 Removal of Wastes and Waste Residues

Removal of waste from Area B will begin as part of the closure process and is governed by the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al., 1989) major Milestone M-091-00, and additional waste stream M-091 milestones. Currently, the capacity to process the large containers of contact-handled (CH)-TRUM and remote-handled (RH)-TRUM waste does not exist on the Hanford Site. Commercial capabilities are available to process containers with low grams of plutonium of CH-TRUM waste and low-dose-rate RH-TRUM waste. For TRUM waste, a "large container" is defined as any container that is larger than a 208 L (55 gal) drum or standard waste box.

The schedule for these waste removal activities is associated with Tri-Party Agreement milestones (HFFACO as amended):

- Completion of the conceptual design of large container CH-TRUM waste and RH-TRUM waste repackaging capability is scheduled in the Tri-Party Agreement Milestone M-091-01A.
- Completion of the definitive design of large container CH-TRUM and RH-TRUM waste repackaging capability is scheduled in Tri-Party Agreement Milestone M-091-01B.
- Completion of construction for large container waste repackaging capabilities is scheduled in Tri-Party Agreement Milestone M-091-01B.
- Completion of certification and shipment of large containers of CH-TRUM and RH-TRUM waste is scheduled in Tri-Party Agreement Milestone M-091-44.

B3.4 CWC Outside Storage Area B Records Review and Visual Inspection

To support the development of this closure plan and the associated SAP (Attachment A), a review of the Area B RCRA operating records was completed (Table B- 1). The records review included the following

RCRA operating record documents: facility operating logbooks (which contain the facility spill log), waste management records, and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active RCRA-regulated, TRUM, and TSCA-PCB waste storage. The RCRA operating record for the Area B DWMU, including the facility operating logbooks and weekly inspection sheets, indicates that there were no documented spills or releases and no items of concern.

Table B- 1 Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Daily Operating Logbook	Logbook	CWC Area B	12/06/2006	08/12/2013	No
Weekly RCRA Inspection Checklist for CWC	Weekly Inspection	CWC Area B	01/05/2006	06/26/2013	No

N/A = not applicable

Waste management records for the RCRA-regulated, TRUM, and TSCA-PCB waste containers stored in Area B were reviewed to determine the target analytes to be included in the closure plan SAP. Currently, five large containers of TRUM are being stored in Area B. Container data are presented in Table B- 2.

A visual inspection was performed of the visible ground surface in Area B on August 14, 2013, to identify any RCRA-regulated, TRUM, or TSCA-PCB waste-related staining in visible portions of Area B. No waste-related staining was identified during the visual inspection; however, once all waste is removed, an additional visual inspection will be conducted.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment B. These include the CWC Daily Operating Log Book Review Outdoor Waste Container Storage Area B sheet, the CWC Outdoor Waste Container Storage Area B Weekly Dangerous Waste Inspection Checklist Review, and the CWC, Outdoor Container Storage Area “B” visual inspection sheet, and any additional supporting information.

Table B- 2 CWC Outdoor Storage Area B Container Data

Container Quantity	Facility ID	Storage Unit	Waste Package Type	Package Volume (m^3)	Waste Type	Earliest Moved In Date	Latest Moved Out Date	Assigned Waste Code
5	CWC	OSA "B"	Large Containers	263	TRUM	2006	N/A[a]	D008, D019, F002, F003
158	CWC	OSA "B"	Various	2,345	RCRA-Regulated	2006	August 2013	D008, D019, F002, F003
1	CWC	OSA "B"	Box	10	TSCA-PCB	2006	August 2013	N/A

a. Current container inventory for CWC Outdoor Storage Area B.

N/A = not applicable

B3.5 Unit Components, Parts, and Ancillary Equipment

Area B does not have components, parts, or ancillary equipment.

B3.6 Inspection of Units Before Decontamination

Decontamination activities are not planned for Area B.

B3.7 Decontamination

Decontamination activities are not planned for Area B.

B3.8 Identifying and Managing Contaminated Environmental Media

If contaminated media are identified during the final visual inspection or as a result of the confirmation sampling, then the contaminated materials will be removed and packaged, and a waste determination will be completed in accordance with applicable environmental and waste management procedures. Treatment or disposal of the resulting waste will be performed at an approved TSD facility.

B3.9 Confirming Clean Closure

Area B will be clean closed. During closure activities, all waste will be removed. After all the waste has been removed, a visual inspection of the area will be performed to identify any waste-related staining of the gravel or visible surface soil. Since all RCRA-regulated, TRUM, and TSCA-PCB waste will be removed and sampling will confirm that contamination does not remain, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

Record reviews have been completed for the operational period of December 2006 through July 2013, as discussed in Section B3.4 of this closure plan. Prior to the startup of closure activities, a review of the RCRA operating records from August 2013 to closure startup will be performed. The records review will include the following RCRA operating record documents: facility operating logbooks (including spill reports), and weekly inspections.

Once all waste has been removed, sampling will be conducted to confirm that unrestricted use cleanup standards (MTCA B) for soil have been achieved. Once analytical results confirm clean closure levels of target analytes, a determination will be made to leave the gravel surface of the Area B in place.

B3.10 Sampling and Analysis and Constituents to Be Analyzed

B3.10.1 Sampling and Analysis Plan

Sampling and analysis of the gravel and soil will be conducted to confirm that clean closure levels have been achieved at Area B. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP (Attachment A). The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements of SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

B3.10.2 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit modification, as required in WAC 173-303-610(3)(b)(iii).

B3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure, and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

B3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the Area B DWMU, a certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to Ecology by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

B3.13 Conditions That Will Be Achieved When Closure Is Complete

Upon confirmation of clean closure levels through sampling and analysis, Area B will remain in an "as-is" state, with the gravel remaining in place. The area and buildings surrounding Area B are active DWMUs that will continue to be used; therefore, removal of gravel is not necessary, and the land will not be restored to its pre-operational appearance. The storage area marking will be removed once the closure activities are completed. A permit modification request will be submitted after clean closure has been confirmed to remove the Area B DWMU from the sitewide permit active DWMUs.

B4 Closure Schedule and Time Frame

Due to the container size and nature of the waste being stored in Area B, closure of Area B will take place over an extended period of time; therefore, meeting the 180-day requirement to complete closure activities in the DWMU as required in WAC 173-303-610(4) is not possible. The closure schedule and period to treat, remove, and dispose the large container waste will be developed based on Tri-Party Agreement Milestone M-091-00 and other sub-milestones noted in Section B3.3 (Figure B-2).

Approval of this closure plan will grant the Hanford Site an extended closure period in accordance with WAC 173-303-610(4)(c) and a separate extension request will not be filed.

B5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

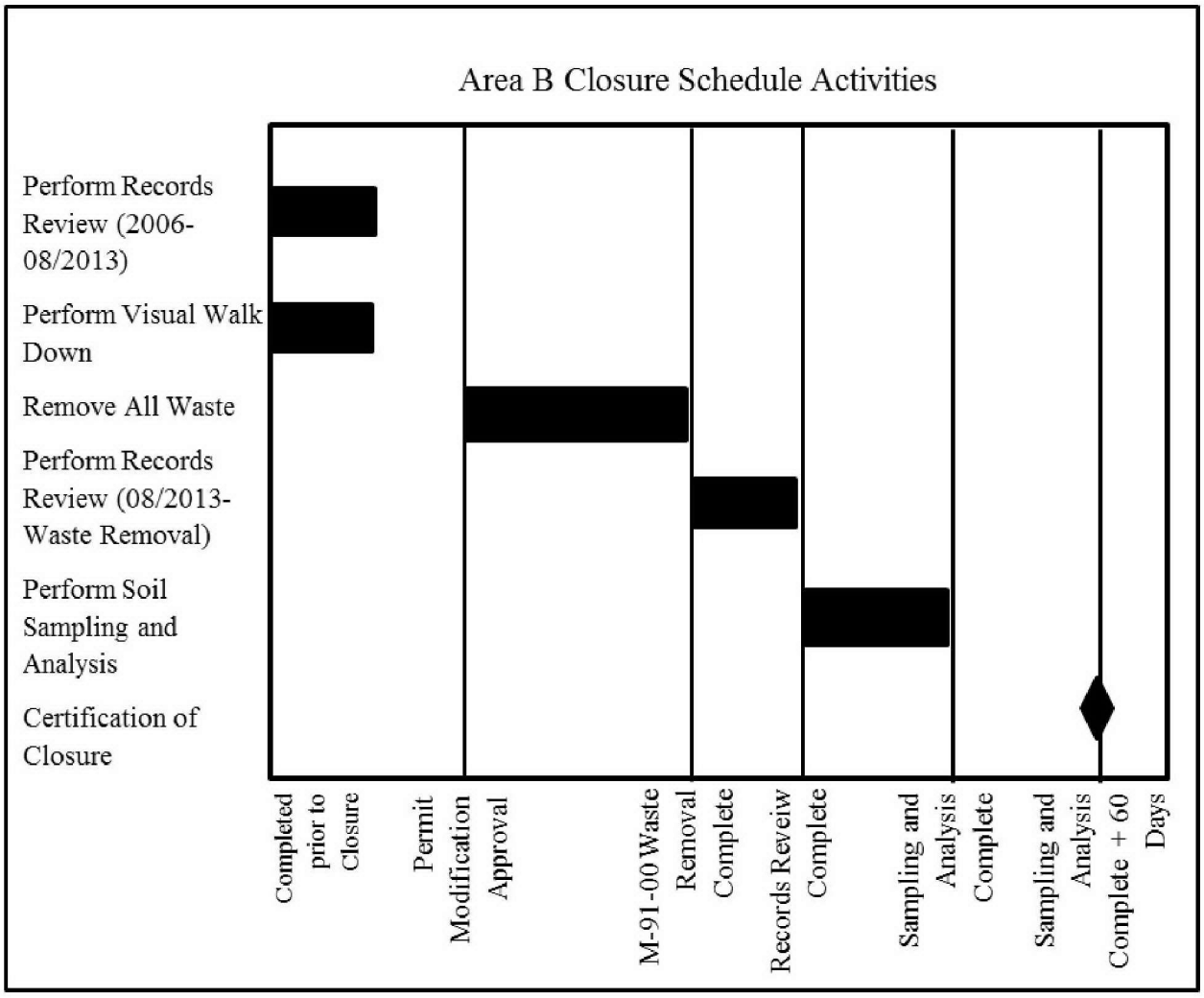

Figure B-2. CWC Outdoor Container Storage Area B Closure Activities

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Attachment A

CWC-WRAP Outdoor Storage Area B

Sample and Analysis Plan

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CWC-WRAP Outdoor Storage Area B

Sample and Analysis Plan

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Terms

ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Services
CWC	Central Waste Complex
CWC-WRAP	Central Waste Complex Operating-Waste Receiving and Processing Unit Group
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DQA	data quality assessment
DQI	data quality indicator
EB	equipment blank
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FTB	full trip blank
FXR	field transfer blank
HASQARD	*Hanford Analytical Services Quality Assurance Requirements Documents*
HEIS	Hanford Environmental Information System
MDA	minimum detectable activity
POC	point of contact
QA	quality assurance
QAPjP	quality assurance project plan
QC	quality control
QSAS	Quality Systems for Analytical Services
RCRA	*Resource Conservation and Recovery Act of 1976*
RPD	relative percent difference
SAF	sampling authorization form
SAP	sampling and analysis plan
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
TRUM	transuranic mixed
VOA	volatile organic analysis

VOC	volatile organic compound
VSP	Visual Sample Plan (software)

1 Introduction

1.1 Purpose

The purpose of the sampling and analysis plan (SAP) is to assist in the determination that clean closure levels have been achieved for the Central Waste Complex-Waste Receiving and Processing (CWC-WRAP) Outside Storage Area B (Area B).

Sampling and analysis of the gravel and soil will be conducted to confirm that clean closure levels have been achieved. Sampling includes grid sampling over Area B. All sampling and analysis will be performed in accordance with the sampling and quality standards established in this closure SAP. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*, and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements in SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

1.2 Statement of the Problem

The objective of the sampling described in this document is to verify that the MTCA Level B closure performance standards for soil were met demonstrating clean closure of the Area B.

1.3 Target Analytes

The target analytes were determined by reviewing waste management records for the dangerous waste stored in Area B (Table 1-1).

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Lead (D008)	7439-92-1	N-butyl alcohol (F003)	71-36-3
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Cyclohexanone (F003)	108-94-1
Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane) (F001) (F002)	76-13-1	Ethyl acetate (F003)	141-78-6
Methylene chloride (F001) (F002)	75-09-2	Ethyl benzene (F003)	100-41-4
Tetrachloroethylene (F001) (F002)	127-18-4	Ethyl ether (F003)	60-29-7
1,1,1-Trichloroethane (F001) (F002)	71-55-6	Methanol (F003)	67-56-1
Trichloroethylene (F001) (F002)	79-01-6	Methyl isobutyl ketone (F003)	108-10-1
Chlorobenzene (F002)	108-90-7	m-Xylene (F003)	108-38-3

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Ortho-dichlorobenzene (F002)	95-50-1	o-Xylene (F003)	95-47-6
1,1,2-Trichloroethane (F002)	79-00-5	p-Xylene (F003)	106-42-3
Acetone (F003)	67-64-1	Polychlorinated biphenyl (PCB)	1336-36-3

1.4 Project Schedule

The sampling and analysis schedule will be determined by the associated *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al., 1989a) Milestone M-091-00 activities. Sampling will not commence until all dangerous waste containers have been removed from Area B.

2 Quality Assurance Project Plan

The quality assurance project plan (QAPjP) establishes the quality requirements for environmental data collection, including planning, implementation, and assessment of sampling, field measurements, and laboratory analysis. This QAPjP complies with the requirements of the following:

- 10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements"
- DOE O 414.1D, *Quality Assurance*
- *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA/240/B-01/003)
- *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68)

This chapter describes the applicable quality requirements and controls. Sections 6.5 and 7.8 of *Hanford Federal Facility Agreement and Consent Order Action Plan* (Tri-Party Agreement Action Plan) (Ecology et al., 1989b) require the quality assurance (QA)/quality control (QC) and sampling and analysis activities to specify the QA requirements for treatment, storage, and disposal units, as well as for past-practice processes. Therefore, this QAPjP follows the QA elements of EPA/240/B-01/003. This QAPjP demonstrates conformance to Part B requirements of *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs* (ANSI/ASQC E4-2004).

This QAPjP is divided into the following four sections, which describe the quality requirements and controls applicable to this investigation: Project Management, Data Generation and Acquisition, Assessment and Oversight, and Data Validation and Usability.

2.1 Project Management

The following subsections address project management and ensure that the project has defined goals, that the participants understand the goals and the approaches used, and that the planned outputs are appropriately documented. Project management roles and responsibilities discussed in this section apply to the major activities covered under the SAP.

2.1.1 Project/Task Organization

The Permittee is responsible for planning, coordinating, sampling, preparation, packaging, and shipping samples to the laboratory. The project organization (regarding sampling and characterization) is described in the following subsections and shown graphically in Figure 2-1. The Project Manager maintains a list of individuals or organizations as points of contact for each functional element in Figure 2-1.

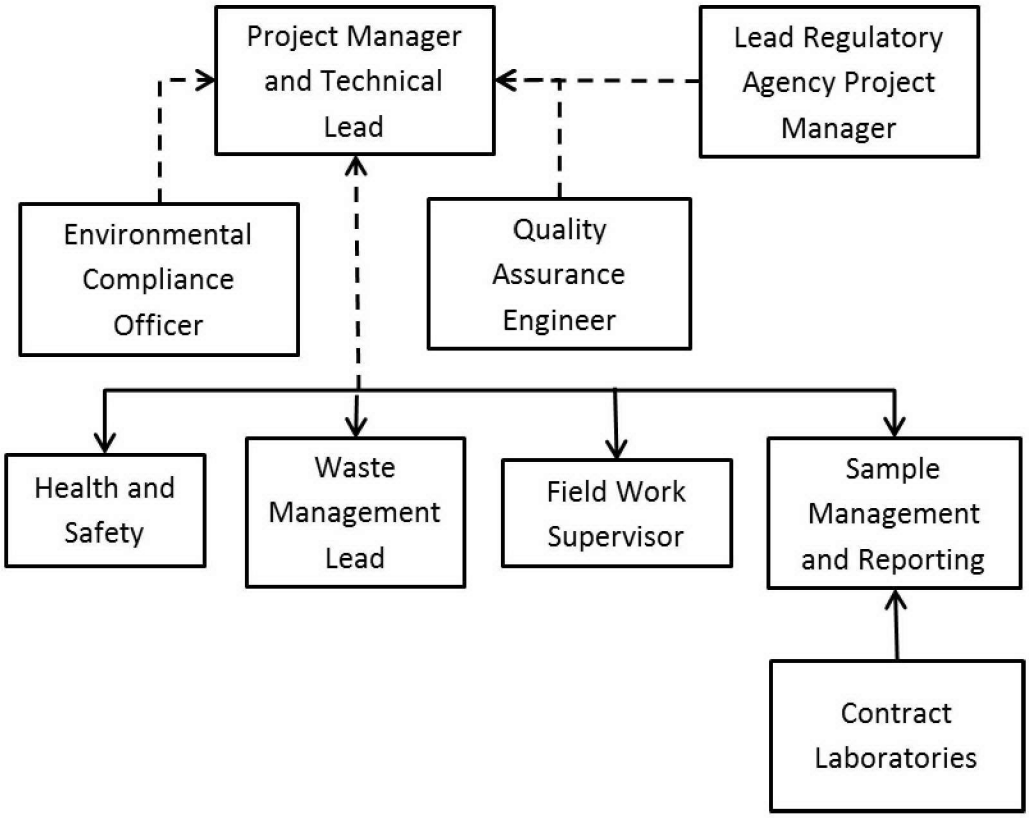

Figure 2-1. CWC Outdoor Storage Area B Closure Sampling Project Organization

The project has several key positions within the U.S. Department of Energy, Richland Operations Office (DOE-RL) organization, including the following:

- **Regulatory Project Manager:** The Washington State Department of Ecology (Ecology) has assigned project managers responsible for oversight of cleanup projects and activities. Ecology, as lead regulatory agency for the CWC Area B closure sampling project, has oversight authority for the work being performed under this SAP. Ecology will work with DOE-RL to resolve concerns over the work as described in this SAP in accordance with the Tri-Party Agreement.

- **Project Manager:** The Project Manager provides oversight for activities and coordinates with DOE-RL, EPA, Ecology, and contract management. In addition, support is provided to the project technical lead to ensure that work is performed safely and cost effectively. The Project Manager (or designee) for the CWC Area B closure sampling is responsible for direct management of sampling documents and requirements, field activities, and subcontracted tasks. The Project Manager is responsible for ensuring that project personnel are working to the current version of the SAP. The Project Manager works closely with QA, Health and Safety, and the Field Work Supervisor (FWS) to integrate these and other lead disciplines in planning and implementing the work scope. The Project Manager coordinates with DOE-RL and the primary contractor management on all sampling activities. The Project Manager supports DOE-RL in coordinating sampling activities with the regulators.

- **Environmental Compliance and Quality Assurance**. The Environmental Compliance Officer (ECO) provides technical oversight, direction, and acceptance of project and subcontracted environmental work, and develops appropriate mitigation measures with a goal of minimizing adverse environmental impacts. The ECO also reviews plans, protocols, and technical documents to ensure

that environmental requirements have been addressed; identifies environmental issues that affect operations and develops cost-effective solutions; and responds to environmental/regulatory issues or concerns raised by DOE-RL and/or regulatory agencies. The ECO also oversees project implementation for compliance with applicable internal and external environmental requirements.

The QA point of contact (POC) is matrixed to the Project Manager and is responsible for QA issues on the project. Responsibilities include overseeing implementation of the project QA requirements, reviewing project documents (including SAP and the QAPjP), and participating in QA assessments on sample collection and analysis activities, as appropriate. The QA POC must be independent of the unit generating the data.

- **Health and Safety:** The Health and Safety organization is responsible for coordinating industrial safety and health support within the project, as carried out through health and safety plans, job hazard analyses, and other pertinent safety documents required by federal regulation or by internal primary contractor work requirements. In addition, Health and Safety assists project personnel in complying with applicable health and safety standards and requirements.

- **Sample Management and Reporting:** The Permittee's sampling organization coordinates laboratory analytical work, ensuring that laboratories conform to Hanford Site internal laboratory QA requirements (or their equivalent), as approved by DOE-RL, EPA, and Ecology. The sampling organization receives the analytical data from the laboratories, performs the data entry into the Hanford Environmental Information System (HEIS) database, and arranges for data validation. The sampling organization is responsible for informing the Project Manager of any issues reported by the analytical laboratory. The sampling organization develops and oversees implementation of the letter of instruction to the analytical laboratories, oversees data validation, and works with the Project Manager to prepare a characterization report on the sampling and analysis results.

- **Contract laboratories:** The contract laboratories analyze samples in accordance with established protocols and provide necessary sample reports and explanation of results in support of data validation. The laboratories must meet site-specific QA requirements and must have an approved QA plan in place.

- **Waste Management:** Waste Management communicates policies and protocols, and ensures project compliance for storage, transportation, disposal, and waste tracking in a safe and cost-effective manner. In addition, Waste Management is responsible for identifying waste management sampling/characterization requirements to ensure regulatory compliance, interpreting the characterization data to generate waste designations and profiles, and preparing and maintaining other documents confirming compliance with waste acceptance criteria.

- **Fieldwork Supervisor:** The FWS is responsible for planning and coordinating field sampling resources. The FWS ensures that samplers are appropriately trained and available. Additional related responsibilities include ensuring that the sampling design is understood and can be performed as specified by directing training, mock-ups, and practice sessions with field personnel.

The FWS directs the samplers. The samplers collect soil samples, including replicates/duplicates, and prepare sample blanks in accordance with the SAP, corresponding protocols, and work packages. The samplers complete field logbook entries, chain-of-custody forms, and shipping paperwork, and ensure delivery of the samples to the analytical laboratory.

2.1.2 Quality Objectives and Criteria

The QA objective of this plan is to develop implementation guidance providing data of known and appropriate quality. Data quality indicators (DQIs) describe data quality by evaluation against identified data needs and the work activities identified in this SAP. The applicable QC guidelines, quantitative target limits, and levels of effort for assessing data quality are dictated by the intended use of the data and the nature of the analytical method. The principal DQIs are precision, bias or accuracy, representativeness, comparability, completeness, and sensitivity. These DQIs are defined for the purposes of this document in Table 2-1. The DQIs will be evaluated during the data quality assessment (DQA) process (Section 2.4.5).

Quality objectives and project-specific measurement requirements are presented in Table 2-2. In consultation with the laboratory, the Project Manager, the sampling organization, and/or others as appropriate, identify appropriate analytical methods.

2.1.3 Special Training/Certification

A graded approach is used to ensure that workers receive a level of training that is commensurate with responsibilities and compliant with applicable DOE orders and government regulations. The FWS, in coordination with line management, will ensure that special training requirements for field personnel are met.

Typical training requirements or qualifications have been instituted by the Permittee to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided and includes the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements.
- Requirement that samplers be qualified in the type of sampling being performed in the field

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work

- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittee's training organization maintains the training records system.

2.1.4 Documents and Records

The Project Manager is responsible for ensuring the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to the DOE and lead regulatory agency.

The FWS is responsible for ensuring that the field instructions are maintained and aligned with any revisions or approved changes to the SAP. The FWS will ensure that deviations from the SAP or problems encountered in the field are documented appropriately (e.g., in the field logbook or on nonconformance report forms) in accordance with internal corrective action protocols.

The Project Manager, FWS, or designee is responsible for communicating field corrective action requirements and ensuring that immediate corrective actions are applied to field activities.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook and only authorized persons may make entries in logbooks. Logbooks will be signed by the FWS, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Precision	The measure of the degree of reproducibility of measurements under prescribed similar conditions. May be expressed as a percentage of the mean of the measurements, such as relative range, relative percent difference, or relative standard deviation (coefficient of variation).	Use the same analytical instrument to make repeated analyses on the same sample. Use the same method to make repeated measurements of the same sample within a single laboratory. Split a sample in the field and submit both for sample handling, preservation and storage, and analytical measurements. Collect, process, and analyze collocated samples for information on sample acquisition, handling, shipping, storage, preparation, and analytical processes and measurements.	Field precision: At randomly selected locations, duplicate samples will be taken one per 20 samples per media. Laboratory precision; analysis of laboratory duplicate or matrix spike duplicate.	If duplicate data do not meet objective: • Evaluate apparent cause (e.g., sample heterogeneity). • Request reanalysis or remeasurement • Qualify the data before use
Accuracy	A measure of the overall agreement of a measurement to an accepted reference or true value. Sample accuracy is expressed as the percent recovery of a spiked sample.	Analyze a reference material or reanalyze a sample to which a material of known concentration or amount of pollutant has been added (a spiked sample).	Laboratory accuracy Determination based on matrix spikes and matrix spike duplicates.	If recovery does not meet objective: • Qualify the data before use • Request re-analysis or remeasurement

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Representa-tiveness	A qualitative term to express "the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition." (ANSI/ASQC S2-1995)	Evaluate whether measurements are made and physical samples collected in such a manner that the resulting data appropriately reflect the environment or condition being measured or studied.	Samples will be collected as described in the sampling design. Judgment sampling ensures areas most likely to be contaminated, based on current information, will be evaluated. Random sampling is based on ensuring all members of the group are equally likely to be chosen and allows probability statements to be made about the quality of estimates derived from the data.	If results are not representative of the system sampled: • Identify the reason for the not being representative • Reject the data, or, if data are otherwise usable, qualify the data for limited use and define the portion of the system that the data represent • Redefine sampling and measurement requirements and protocols • Resample and reanalyze

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Comparability	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: • Identify appropriate changes to data collection and/or analysis methods • Identify quantifiable bias, if applicable. • Qualify the data as appropriate • Resample and/or reanalyze if needed. • Revise sampling/analysis protocols to ensure future comparability

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Completeness	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: • Identify appropriate changes to data collection and/or analysis methods • Identify quantifiable bias, if applicable. • Qualify the data as appropriate • Resample and/or reanalyze if needed. • Revise sampling/analysis protocols to ensure future comparability
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest.	Determine the minimum concentration or attribute to be measured by a method (method detection limit), by an instrument (instrument detection limit), or by a laboratory (quantitation limit). The practical quantitation limit is the lowest level, which can be routinely quantified and reported by a laboratory.	Ensure sensitivity, as measured detection limits, is appropriate for the action levels.	If sensitivity does not meet objective: • Request reanalysis or remeasurement. • Qualify/reject the data before use.

DQI = data quality indicators
QA = quality assurance

Table 2-2. Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d]	Accuracy Req't (Percent Recovery)[b]	Precision Req't (RPD)[b]
			Carcinogen	Non-carcinogen			
Performance Requirements for Laboratory Measurements (Nonradiological)							
7439-91-1	Lead	SW-846 Method 6010 or 200.8	N/A	250	5.0	±30	≤30
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2400000	0.01	N/A[c]	≤20
75-09-2	Methylene chloride	SW-846 Method 8260	133	4,800	0.005	N/A[c]	N/A[c]
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1,600	0.005	N/A[c]	N/A[c]
79-00-5	1,1,2-trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol (I-Butanol)	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]

Table 2-2. Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d]	Accuracy Req't (Percent Recovery)[b]	Precision Req't (RPD)[b]
			Carcinogen	Non-carcinogen			
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK) (4-Methyl-2-Pentanone)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	N/A[c]
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
1336-36-3	Polychlorinated biphenyls	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the MTCA cleanup regulation (WAC 173-340-740, -747, -and -7490 through -7494). These numeric clean-up levels will be calculated according to MTCA Method B (unrestricted use standards)

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the Required Detection Limit and the Practical Quantification Limit are identical.

CAS = Chemical Abstract Services

MTCA = *Model Toxics Control Act*

N/A = not applicable

1

The laboratory is responsible for maintaining, and having available upon request, the following:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

2.2 Data Generation and Acquisition

The following subsections present the requirements for sampling methods and identification, sample handling and custody, analytical methods, measurement and analysis, data collection or generation, data handling, and field and laboratory QC. The requirements for instrument calibration and maintenance, supply inspections, and data management are also addressed. The sampling design is presented in the field sampling plan (Section 3) of this SAP.

The FWS is responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities under this SAP. The field team lead must document all deviations from procedures or other problems pertaining to sample collection, chain-of-custody, sample analytes, sample transport, or noncompliant monitoring. As appropriate, such deviations or problems will be documented in the field logbook or in nonconformance report forms in accordance with internal corrective action procedures. The FWS or Project Manager is responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to field activities.

2.2.1 Sampling Process Design

The sampling design uses a systematic and grid sampling. Judgmental sampling will be taken of any *Resource Conservation and Recovery Act of 1976 (*RCRA)-regulated, transuranic mixed (TRUM), or *Toxic Substances Control Act of 1976* polychlorinated biphenyl (TSCA-PCB) waste-related staining. Additional sampling process design details are provided in Section 3.

2.2.2 Analytical Methods

Analytical methods and parameters are provided in Table 2-2. These analytical methods are controlled in accordance with the laboratory's QA plan and the requirements of this QAPjP. Laboratory operations and analytical services shall comply with Volume 4 of HASQARD (DOE/RL-96-68, Laboratory Technical Requirements) and any specific criteria identified in Table 2-2. Criteria in Table 2-2 take precedence over similar criteria in HASQARD. In consultation with the laboratory, the Project Manager and/or others as appropriate, changes to analytical methods can be approved as long as the method is based upon a nationally recognized standard (e.g., EPA, American Society for Testing and Materials [ASTM]) method, the new method achieves project data needs as well or better than the replaced method, and the new method is required due to the nature of the sample. Oversight of offsite analytical laboratories to qualify them for performing Hanford Site analytical work is performed as necessary.

If the laboratory uses a nonstandard or unapproved method, then the laboratory must provide method validation data to confirm that the method is adequate for the intended use of the data. This includes information such as determination of detection limits, quantitation limits, typical recoveries, and

analytical precision and bias. Deviations from the analytical methods noted in Table 2-2 must be approved in consultation with the Project Manager.

Issues that may affect analytical results are to be resolved in coordination with the Project Manager.

2.2.3 Quality Control

The QC procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table 2-3.

Table 2-3. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Field QC		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed If only disposable equipment is used, an equipment blank is not required. Otherwise, one per 20 samples per media [a]	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples [b])	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory QC[h]		
Method Blanks	1 per batch[h]	Laboratory Contamination
Lab Duplicates	[c]	Laboratory Reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield

Table 2-3. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate Laboratory Accuracy
Performance Evaluation Programs[d]	Annual	Evaluate Laboratory Accuracy
Double-Blind Standards	Quarterly[e]	Evaluate Laboratory Accuracy
Audit/Assessment	Annually[f] or Every 3 years[g]	Evaluate overall laboratory performance and operations

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.
b. Soil grab samples are exempted from duplicate sampling.
c. As defined in the laboratory contract or QA plan and/or analysis procedures.
d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.
e. Soil matrix double-blind standards are submitted by request of Analytical Services.
f DOE QSAS requires annual audit of commercial laboratories.
g. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.
h. Batching across projects is allowing for similar matrices.
QA = Quality assurance.
QC = Quality control.
QSAS= Quality Systems for Analytical Services
VOC = Volatile organic compound.

2.2.3.1 Field Quality Control Samples

Field QC samples will be collected to evaluate the potential for cross-contamination and to provide information pertinent to field sampling variability and laboratory performance to help ensure reliable data are obtained. Field QC samples include field duplicates, split samples, and three types of field blanks (full trip, field transfer, and equipment blanks). Field blanks are typically prepared using high-purity reagent water. Silica sand should be used, instead of reagent water, when required by the SAP. The QC samples and the required frequency for collection are described in this subsection. Particular care will be exercised to avoid the following common ways in which cross-contamination or background contamination may compromise samples:

- Improperly storing or transporting sampling equipment and sample containers
- Contaminating the equipment or sample bottles by setting the equipment/sample bottle on or near potential contamination sources (e.g. uncovered ground)
- Handling bottles or equipment with dirty hands or gloves
- Improperly decontaminating equipment before sampling or between sampling events

This number of QC samples is conservatively established based on site procedures that call for approximately one set of QC samples per 20 samples.

- **Full-trip blanks (FTB):** FTBs are prepared by the sampling team prior to traveling to the sampling site. The preserved bottle set is either for volatile organic analysis (VOA) only or identical to the set that will be collected in the field. It is filled with high purity reagent water or silica sand, as appropriate to the primary sample media. The bottles are sealed and transported, unopened, to the field in the same storage containers used for samples collected the same day. The FTBs are typically analyzed for the same constituents as the samples from the associated sampling event. FTBs are used to evaluate potential contamination of the samples attributable to the sample bottles, preservative, handling, storage, and transportation.

- **Field transfer blank (FXR):** FXRs are preserved VOA sample bottles filled at the sample collection site with high purity reagent water or silica sand (as appropriate to the primary sample media) that has been transported to the field. The samples are prepared during sampling to evaluate potential contamination attributable to field conditions. After collection, FXR sample bottles are sealed and placed in the same storage containers with the samples collected the same day for the associated sampling event. The FXR samples will be analyzed for volatile organic compounds (VOCs) only.

- **Equipment blank (EB):** EBs consist of high purity reagent water or silica sand passed through or poured over the decontaminated sampling equipment identical to the sample set that will be collected and placed in sample containers, as identified on the project sampling authorization form (SAF). The EB sample bottles are placed in the same storage containers with the samples from the associated sampling event. The EB samples will be analyzed for the same constituents as the samples from the associated sampling event. The EBs will be used to evaluate the effectiveness of the decontamination process.

  Equipment blanks are collected from reusable sampling devices on a 1-in-20 basis and are not required for disposable sampling equipment.

  For the field blanks (i.e., FTB, FXR, and EB), results greater than two times the method detection limit or minimum detectable activity (MDA) are identified as suspect contamination. However, for common laboratory contaminants such as acetone, methylene chloride, 2-butanone, toluene, and phthalate esters, the limit is five times the method detection limit.

- **Field duplicates:** Field duplicates (DUP) are independent samples collected as close as possible to the same time and same location as the parent sample and are intended to be identical. DUPs are collected at a frequency of one in 20 samples. Soil grab samples are exempt from DUPs. DUPs are two separate samples collected from the same source, placed in separate sample containers, and analyzed independently. The DUPs should be collected from an area expected to have some contamination so valid comparisons between the samples can be made (i.e., some constituents will be greater than detection limit).

  DUPs must agree within 20 percent, as measured by the RPD, to be acceptable. Only those DUPs with at least one result greater than five times the MTCA Level B limit are evaluated. DUP results not satisfying evaluation criteria will be qualified and flagged in HEIS, as appropriate.

  Soil DUPs will be collected and homogenized before dividing into two separate samples in the field. VOA soil duplicates will be sampled as collocated samples (described below). DUPs are stored and transported together and will be analyzed for the same constituents. The DUPs are used to determine precision for both sampling and laboratory measurements. Evaluation of the results can provide an indication of intra-laboratory variability. Large relative percent differences (RPDs) can be an indication of potential laboratory performance problems and should be investigated.

Collocated samples are two samples collected as close as possible to the same time and location and are not homogenized. This sampling protocol is used when homogenizing samples for split or duplicate samples could affect the quality of data (i.e. VOA analysis).

- **Field split samples:**. Field split samples (SPLIT) are two samples collected as close as possible to the same time and same location and are intended to be identical. VOA soil splits will be sampled as collocated samples, as described previously. SPLITs are stored in separate containers and analyzed by different laboratories for the same or similar analytes. SPLITs are inter-laboratory comparison samples used to evaluate comparability between laboratories. Large RPDs can be an indication of potential laboratory performance problems and should be investigated.

2.2.3.2 Laboratory Quality Control Samples

The laboratory QC samples (e.g., method blanks and laboratory control sample/blank spike) are defined for the three-digit EPA methods (EPA/600/4-79/20, *Methods for Chemical Analysis of Water and Wastes*) and for the four-digit EPA methods (SW-846) and will be run at the frequency specified in the respective reference, unless superseded by agreement.

The QC checks outside of control limits will be reflected in the narrative of the analytical report and during the DQA process, if performed.

For chemical analyses, the control limits for laboratory duplicate samples, matrix spike samples, matrix spike duplicate samples, surrogate recoveries, and laboratory control samples are typically derived from historical data at the laboratories in accordance with SW-846. Typical control limits are within 25 percent of the expected values, although the limits may vary considerably depending upon the method and analyte.

2.2.4 Equipment

Equipment used for collection, measurement, and testing should meet applicable standards (e.g., ASTM) or will have been evaluated as acceptable and valid in accordance with the procedures, requirements, and specifications. The FWS, field technical representative, or equivalent will ensure that the data generated from instructions using a software system are backed up and/or downloaded on a regular basis. Software configuration will be acceptance tested prior to use in the field.

Measurement and testing equipment used in the field or in the laboratory that directly affect the quality of analytical data will be subject to preventive maintenance measures to minimize measurement system downtime. Laboratories and onsite measurement organizations must maintain and calibrate their equipment. Maintenance requirements (e.g., documentation of routine maintenance) will be included in the individual laboratory and onsite organization's QA plan or operating procedures, as appropriate. Maintenance of laboratory instruments will be performed in a manner consistent with the three-digit EPA methods (EPA/600/4-79/020) and four-digit EPA methods (SW-846), or with auditable DOE Hanford Site and contractual requirements. Consumables, supplies, and reagents will be reviewed per SW-846 requirements and will be appropriate for their use.

2.2.5 Inspection of Consumable Supplies

Consumables, supplies, and reagents will be reviewed in accordance with the current requirements of SW-846, or other EPA method being used, or by an approved site analytical procedure. Potential contamination is monitored by field QC samples and laboratory blanks. The lot number from the manufacturer certified, pre-cleaned sample containers will be recorded in the sampler's logbook.

2.2.6 Data Management

Data resulting from the implementation of the SAP will be stored in the HEIS database. Reports and supporting analytical data packages will be subject to final technical review by qualified reviewers before submittal to the regulatory agencies or before inclusion in reports or technical memoranda.

2.2.7 Field Documentation Management

Field documentation shall be maintained in the form of chain-of-custody/sample analysis request forms and logbook entries. Other documentation is described in Section 2.1.4. Approved work control packages and procedures will be used to document field activities, including nonradiological measurements, when this SAP is implemented. Field activities will be recorded in the field logbook.

2.3 Assessment and Oversight

The elements in assessment and oversight address the activities for assessing the effectiveness of project implementation and associated QA and QC activities. The purpose of assessment is to ensure that the QAPjP is implemented as prescribed.

2.3.1 Assessments and Response Actions

Contractor management, Regulatory Compliance, QA, and/or Health and Safety organizations may conduct surveillances and assessments to verify compliance with the requirements outlined in this SAP, project work packages, the project quality management plan, procedures, and regulatory requirements. The project manager will determine whether a DQA will be performed for the activities identified in this SAP. The DQA process, if performed, is discussed in Section 2.4. The results of the DQA will be provided to the project manager. No other planned assessments have been identified.

If circumstances arise in the field dictating the need for additional assessment activities, then additional assessments would be performed. Deficiencies identified by these assessments will be reported in accordance with existing programmatic requirements. The project's line management chain coordinates the corrective actions/deficiencies in accordance with the contractor QA program, the corrective action management program, and associated procedures implementing these programs. When appropriate, corrective actions will be taken by the Project Manager.

2.3.2 Reports to Management

Management will be made aware of deficiencies identified by self-assessments, corrective actions from ECOs, and findings from QA assessments and surveillances.

2.4 Data Review, Verification, and Validation, and Usability Requirements

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified (Section 2.4.1). A total of 5 percent of the data will be validated (Section 2.4.4). A DQA may be performed, if requested, on the final data (Section 2.4.5). At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

2.4.1 Verification and Validation Methods

Validation activities will be based on EPA functional guidelines. Data validation may be performed by the Permittee and/or by a party independent of both the data collector and the data user. Data validation qualifiers must be compatible with the HEIS database.

When outliers or questionable results are identified, the data associated with these outliers and questionable data will be evaluated and additional data validation will be performed. The additional data validation will consist of selecting up to an additional 5 percent of the statistical outliers and/or questionable data. The additional validation will begin with Level C and may increase to Levels D and E, as needed, to ensure that data are usable. Level C validation is a review of the QC data, while Levels D and E include review of calibration data and calculations of representative samples from the data set. Data validation results will be documented in data validation reports. An example of questionable data is a positive detection greater than the practical quantitation limit or reporting limit in soil from a site that should not have exhibited contamination. Similarly, results below background would not be expected and could trigger a validation inquiry. The determination of data usability will be conducted and documented in a DQA report.

Data validation results will be documented in data validation reports, which will be included in the project file.

2.4.2 Data Verification and Usability Methods

Review of field paperwork, analytical data packages, and electronic files from the laboratory information management system will be performed. Sampling documents include the soil sampling record, chain-of-custody forms, field logbook pages, and other paperwork associated with sampling and shipping. These documents are reviewed for completeness, approvals, and legibility. Analytical and QC data from the laboratories are verified to be complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data is processed, resolution of those issues will be initiated.

2.4.3 Resolution of Analytical System Errors

Errors reported by the laboratories are reported and a sample disposition record is initiated in accordance with Permittee procedures. This process is used to document analytical errors and to establish resolution with the Project Manager. In addition, the Permittee QA Engineer receives reports providing summaries and statistics of the analytical errors.

2.4.4 Data Validation

The format and requirements for data validation activities are based upon the most current version of *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01 [OSWER 9240.1-48]) and *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011 [OSWER 9240.1-51]). Performance of data validation activities, typically by a party independent of the data collector, the data generator, and the data user is arranged. Third party data validation reports are reviewed for completeness and contractual compliance and also by Project QA personnel. A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

2.4.5 Data Quality Assessment

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the DQA process in *Data Quality Assessment: A Reviewer's Guide* (EPA/240/B-06/002), and *Data Quality Assessment: Statistical Methods for Practitioners* (EPA/240/B-06/003).

3 Field Sampling Plan

The purpose of the field sampling plan (FSP) is to provide a discussion of the project sampling and analytical requirements. This includes defining the number and location of samples, sampling methods, and analyses that will be performed, overall sampling objectives, and a discussion of waste management.

3.1 Site Background and Objectives

Site background information is contained in Section 1. The target analytes are presented in Table 1-1. The objective of the FSP is to identify project sampling and analysis activities clearly. The FSP uses the sampling design identified during the systematic planning process and identifies sampling locations, the total number of samples to be collected and the analyses to be performed.

3.2 Sampling Design

The sampling design is a systematic and grid sampling approach using a triangular grid pattern. In addition, judgmental sampling will be performed for any waste-related staining identified in the visual inspection performed as part of closure activities and addressed in the closure plan. The following bullets describe systematic and grid sampling, and judgmental sampling methods.

- **Systematic and Grid Sampling:** In systematic and grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and then the remaining sampling locations are defined so the locations are at regular intervals over an area (grid) or time (systematic). Systematic and grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters, and it is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

- **Judgmental Sampling:** In judgmental sampling, the selection of sampling units (i.e., the number and location and/or timing of collecting samples) is based on knowledge of the feature or condition under investigation and on professional judgment. Judgmental sampling is distinguished from probability-based sampling in that inferences are based on professional judgment, not statistical scientific theory. Therefore, conclusions about the target population are limited and depend entirely on the validity and accuracy of professional judgment. Probabilistic statements about parameters are not possible.

3.3 Sample Location and Frequency

Table 3-1 provides the sample locations, frequencies, and sampling methods to be used. Grab samples will be collect directly into containers at the node sample locations indicated by the Visual Sample Plan (VSP) software and shown in Figure 3-1. Attachment C of the CWC-WRAP Outdoor Storage Area B Closure Plan provides supporting documentation for the VSP software.

3.4 Sampling Methods

To ensure sample and data usability, sampling associated with this SAP will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling. The Project Manager and contractor management are responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities.

Table 3-1. Sample Locations, Frequencies, and Sampling Methods

Sampling Objectives	Sample Matrix	Sample Locations	Number of Samples	Number of QA Samples	Sampling Methods
Decision unit	Soil	Surface samples taken at 0 to 15.2 cm (0 to 6 in.) bgs. See VSP software map (Figure 3-1) for exact locations.	20	One each of the following samples: full trip blank, field transfer blank, equipment rinsate blank, and field duplicate.	Grab

bgs = below ground surface
QA = quality assurance

Grab sample matrix will consist of gravel and soil collected in pre-cleaned sample containers taken at a depth of 0 to 15.2 cm (0 to 6 in.) below ground surface. For the purpose of this SAP, ground surface is defined as the exposed surface layer once loose gravel has been moved aside. To gather the most representative sample, loose gravel will be moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil is sampled, the sampled media will be screened to remove material larger than approximately 2 mm (0.08 in) in diameter. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table 3-2 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form.

Field sampling shall comply with HASQARD requirements (DOE/RL-96-68), Volumes 1 and 2.

Sample preservation, container, and holding time requirements are specified in Table 3-2 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form. This monitoring plan defines a “sample” as a filled sample bottle for starting the clock for holding-time restrictions.

3.4.1 Decontamination of Sampling Equipment

To prevent potential contamination of the samples, care should be taken to use decontaminated equipment for each sampling activity.

3.5 Sample Handling

A sampling and data tracking database (e.g., HEIS) is used to track the samples from the point of collection through the laboratory analysis process. Samplers should note any anomaly with a sample (e.g., sample appears unusual) and inform the Project Manager.

Laboratory analytical results are entered and maintained in the HEIS database. HEIS sample numbers are issued to the sampling organization for the project. Each sample is identified and labeled with a unique HEIS sample number.

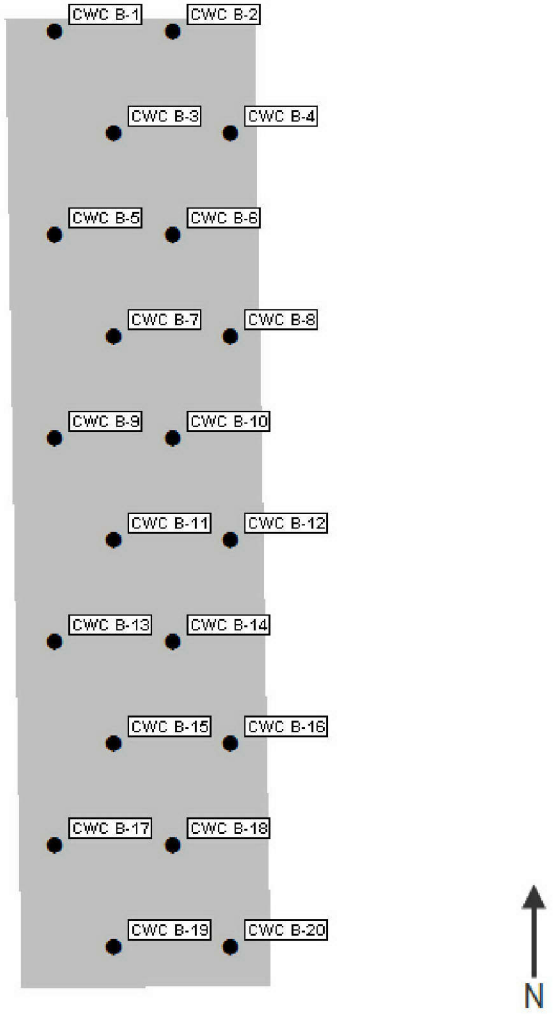

Figure 3-1. CWC Outdoor Storage Area B Sampling Locations

Table 3-2. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 8082	Polychlorinated biphenyl	None	1 year	aG	250 g
EPA 8260	Volatile organic analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile organic compound	Cool ~4°C	14/40 days	aG	250 g
EPA 200.8	Metals by ICP/MS	None	6 months	G/P	10 g

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days

aG = amber glass
G = glass
ICP/MS = inductively coupled plasma/mass spectrometry
P = plastic

3.5.1 Packaging

Level I EPA pre-cleaned sample containers will be used for soil samples collected for chemical analysis. Container sizes may vary depending on laboratory-specific volumes/requirements for meeting analytical detection limits. Preliminary container types and volumes are identified in Table 3-2.

3.5.2 Container Labeling

The sample locations, depths, and corresponding HEIS numbers are documented in the sampler's field logbook. Except for VOA samples, a custody seal (i.e., evidence tape) will be affixed to the lid of each sample container and or sample collection package in such a way as to indicate potential tampering. The custody seal will be inscribed with the sampler's initials and date. Custody tape is not applied directly to VOA sample containers based on the potential for affecting analyte results and/or fouling of laboratory equipment. Custody seals and any other required labels/documentation can be fixed to the exterior of a plastic bag holding the VOA vials in such a manner that prevents potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water-resistant labels:

- Sampling Authorization Form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)
- Chain-of-custody identification number

In addition to the information above, sample records must include the following:

- Sample location
- Matrix (water, soil, etc.)

3.5.3 Sample Custody

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure the maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained. A chain-of-custody record is initiated in the field at the time of sampling and will accompany each set of samples shipped to any laboratory.

Shipping requirements will determine how sample shipping containers are prepared for shipment. The analyses requested for each sample will be indicated on the accompanying chain-of-custody form. Each time the responsibility changes for the custody of the sample, the new and previous custodians will sign the record and note the date and time.

The following information is required on a completed chain-of-custody form:

- Project name
- Signature of sampler
- Unique sample number
- Date and time of collection
- Matrix
- Preservatives
- Signatures of individuals involved in sample transfer
- Requested analyses (or reference thereto)

3.5.4 Sample Transportation

All packaging and transportation instructions will be in compliance with the applicable transportation regulations, DOE requirements, and contactor requirements. Regulations for classifying, describing, packaging, marking, labeling, and transporting hazardous materials, hazardous substances, and hazardous waste mandated by the U.S. Department of Transportation as described in 49 CFR 171 "General Information, Regulations, and Definitions," through Part 177, "Carriage By Public Highway". Carrier specific requirements should also be considered when preparing sample shipments conveyed by air freight providers.

Samples containing hazardous constituents shall be considered hazardous material in transportation and transported according to DOT 49 CFR, "Transportation, " "Shippers – General Requirements for Shipments and Packagings," are exceeded. Samples shall be screened, or relevant historical data shall be used, to determine if these values are exceeded. When screening or historical data indicate that samples are radioactive, they shall be properly classified, describes, packaged, marked, labeled, and transported according to DOT requirements.

3.5.5 Corrective Actions and Deviations for Sampling Activities

The project manager, field work supervisor, or designee must document deviations from procedures or other issues pertaining to sample collection, chain-of-custody, target analytes, sample transport, or noncompliance. Examples of deviations include samples not collected because of field conditions, changes in sample locations because of physical obstructions, or additions of sample depths.

As appropriate, such deviations or problems will be documented in the field logbook or on nonconformance report forms in accordance with internal corrective action procedures. The Project Manager, FWS, or designee will be responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to sampling activities.

Changes in sample locations not affecting the data needs will require notification and approval of the Project Manager. Changes to sample locations affecting the data needs will require concurrence from DOE-RL and the lead regulatory agency. Changes to the SAP will be documented as noted in Section 2.1.4.

3.6 Documentation of field activities

Logbooks or data forms are required for field activities. Requirements for the logbook are provided in Section 2.1.4. Data forms may be used to collect field information; however, the data forms must follow the same requirements as those for logbooks. The data forms must be referenced in the logbooks. A summary of information to be recorded in logbooks is as follows:

- Purpose of activity
- Day, date, time, and weather conditions
- Names, titles, and organizations of personnel present
- Deviations from the QAPjP or procedures
- All site activities, including field tests
- Materials quality documentation (e.g., certifications)
- Details of samples collected (e.g., preparation, splits, duplicates, matrix spikes, and blanks)
- Location and types of samples
- Chain-of-custody details and variances relating to chain-of-custody
- Field measurements
- Field calibrations and surveys, and equipment identification numbers, as applicable;
- Equipment decontaminated, number of decontaminations, and variations to any decontamination procedures
- Equipment failures or breakdowns, and descriptions of any corrective actions
- Telephone calls relating to field activities

4 Management of Waste

All waste generated during sampling activities will be managed in accordance with applicable regulations.

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5 Health and Safety

Field operations will be performed in accordance with health and safety requirements and appropriate project requirements. The project's site-specific health and safety plan will be followed. Work control documents will be prepared to control site operations further. Safety documentation will include an activity hazard analysis.

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6 References

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Distribution

	MS	Quantity
U.S. Department of Energy, Richland Operations Office		
Work Package Manager		
DOE Public Reading Room	H2-53	1
CH2M HILL Plateau Remediation Company		
Document Lead		
Publications Technical Library	H3-21	1
Washington Closure Hanford, LLC		
POC		
Administrative Record	H6-08	1
Document Clearance	H6-08	1

1

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Attachment B

RCRA Records Review and Facility Visual Inspection Supporting Documentation

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CWC, Outdoor Container Storage Area B

Purpose:

A visual inspection walkdown of the CWC outdoor container storage area "B" was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that were and are stored at this location. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on August 14, 2013, by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

An "L" shaped stain (excluding herbicides) was observed at the northeast corner of the outdoor storage area "B" (see attached photos). Stain appears to be rust. Also observed were small pieces of tumbleweeds scattered throughout the area.

Housekeeping will be performed on the area prior to closure and the debris material will be removed.

Signature/Date:

Brett M. Barnes: Brett M Barnes 9/3/13

Strickling, Lana R

From:	Barnes, Brett M
Sent:	Tuesday, September 03, 2013 1:27 PM
To:	Horn, Sarah R; Strickling, Lana R
Cc:	Engelmann, Richard H; Dixon, Brian J; Ruck, Fred A III; Seaver, Jennie R
Subject:	REVISED CWC OUTDOOR CONTAINER STORAGE AREA "B" CLOSURE INSPECTION REPORT
Attachments:	SPDQ0638013090313011.pdf

All, please ignore my previous closure inspection reports...I had to correct some editorial comments.

Attached is the closure inspection report for the CWC Outdoor Container Storage Area "B." The photographs that are attached to this report are directly below, in descending order. Should you have any questions, please call me on my cell phone, 521-3053.

Brett M. Barnes
Environmental Compliance Officer

1

MAX GROSS WT: 53524 KG
118,000 LBS.
TARE WT: 4990 KG
LID WT: 2495 KG
5500 LBS
USA DOT 7A TYPE A
CONTAINER TECHNOLOGIES IND. L.L.C.
163 HELENWOODDETOUR RD. SUITE 1
HELENWOOD, TN 37755
08 14 2013 10 37

CWC Daily Operating Log Book Review
Outdoor Waste Container Storage Area B

Date of Log Book Review: 8/12/13

Reviewer's Name: Joel Williams

Daily Operating Log Book Document No/Log Book Timeframe (Month/Year to Month/Year):

LOGBOOK NUMBER	DATES
HNF-N-450-84	12-06-2006 through 07-09-2007
HNF-N-450-85	07-10-2007 through 02-06-2008
HNF-N-450-91	02-07-2008 through 08-26-2008
HNF-N-450-94	08-27-2008 through 04-16-2009
HNF-N-450-95	04-20-2009 through 11-17-2009
HNF-N-450-100	11-02-2009 through 06-23-2010
HNF-N-450-103	06-24-2010 through 01-16-2011
HNF-N-450-107	01-19-2011 through 08-11-2011
HNF-N-450-109	08-15-2011 through 03-06-2012
HNF-N-450-110	03-07-2012 through 07-16-2012
HNF-N-450-113	07-07-2012 through 12-01-2012
HNF-N-450-111	12-02-2012 through 05-01-3013
HNF-N-450-112	05-02-2013 through 08-12-2013

Items of Concern Noted (Circle) YES ☐ NO ☑
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concern:
Attach copies of log book pages noting concern.

Log Book Page# Referencing Spill:

Dates of Corrective Actions:
Attach copies of log book pages noting corrective actions.

Log Book Page#
Referencing Corrective Action:

Reviewer's Signature and Date: Tara Stickding for Joel Williams per telecon 9/5/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

CWC Daily Operating Log Book Review
Outdoor Waste Container Storage Area B

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted,

check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

CWC Outdoor Waste Container Storage Area B
Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form: Weekly RCRA Inspection Checklist for CWC

Date of Weekly Waste Inspection Review: Finalized 9/5/13

Reviewer's Name: Lana Strickling

A review of the summary sheets completed by Linda Carr, which covered both CWC Outdoor Storage Areas A and B, was performed. Weekly RCRA Inspection checklists could not be located for the following time period: Mid September 2008 – Mid December 2008.

Waste Management Units: CWC Outside Waste Container Storage Area B

Time Frame of Weekly Inspections: 1/5/06 – 6/26/13

Items of Concern Noted: YES ___ NO _X__
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concern: No items of concern were noted for CWC Outside Waste Container Storage Area B.

Attach copies of Weekly Inspection sheets noting concern.

Dates of Corrective Actions: _____ _____ _____ _____
Attach copies of Weekly Inspection sheets noting concern.

Reviewer's Signature and Date: Lana Strickling 9/6/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

CWC Outdoor Waste Container Storage Area B
Weekly Dangerous Waste Inspection Checklist Review

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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Attachment C

Visual Sampling Plan Software Supporting Documentation

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

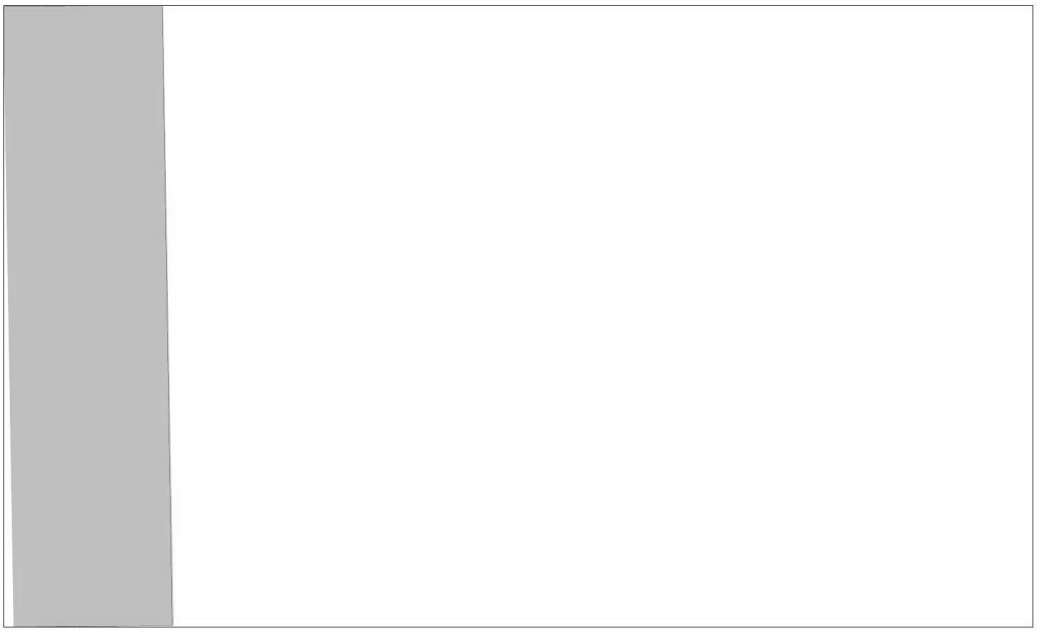
SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	0.00 ft^2
Size of grid / Area of grid cell [d]	0.000161539 feet / 2.25988e-008 ft^2
Grid pattern	Triangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.

[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.

[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.

[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.



Area: CWC Area B					
X Coord	**Y Coord**	**Label**	**Value**	**Type**	**Historical**
119.641956	46.553651	CWC B-19		Systematic	
119.642118	46.553651	CWC B-20		Systematic	
119.641876	46.553791	CWC B-17		Systematic	
119.642037	46.553791	CWC B-18		Systematic	
119.641956	46.553930	CWC B-15		Systematic	
119.642118	46.553930	CWC B-16		Systematic	
119.641876	46.554070	CWC B-13		Systematic	
119.642037	46.554070	CWC B-14		Systematic	
119.641956	46.554210	CWC B-11		Systematic	
119.642118	46.554210	CWC B-12		Systematic	
119.641876	46.554350	CWC B-9		Systematic	
119.642037	46.554350	CWC B-10		Systematic	
119.641956	46.554490	CWC B-7		Systematic	
119.642118	46.554490	CWC B-8		Systematic	
119.641876	46.554630	CWC B-5		Systematic	
119.642037	46.554630	CWC B-6		Systematic	
119.641956	46.554770	CWC B-3		Systematic	
119.642118	46.554770	CWC B-4		Systematic	
119.641876	46.554910	CWC B-1		Systematic	
119.642037	46.554910	CWC B-2		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold.

The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

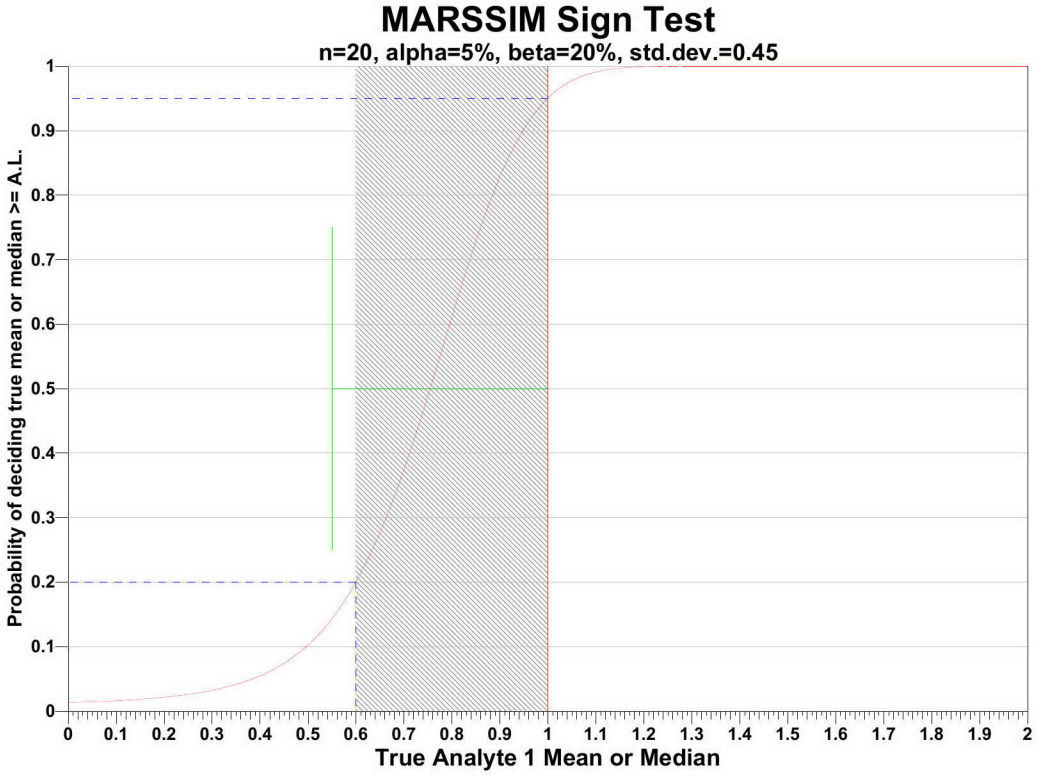
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions

The assumptions associated with the formulas for computing the number of samples are:

1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis

The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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H3 – CWC-WRAP
H3.C. Appendix C – CWC-WRAP 2401W Waste Storage Building

C1 Introduction

This Appendix discusses closure activities for the Central Waste Complex-Waste Receiving and Processing (CWC-WRAP) Operating Unit Group (OUG) 2401W Waste Storage Building dangerous waste management unit (2401W Building) (Figure C-1). This dangerous waste management unit (DWMU) is located on the south end of the CWC to the south of the 2402 series buildings. The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the Environmental Protection Agency (EPA) to close this DWMU. The closure will be performed in accordance with the included schedule. This closure plan complies with Washington Administrative Code (WAC) 173-303-610(2) through WAC 173-303-610(6) and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

C1.1 Unit Description

The 2401W Building (Figure C-1) is a pre-engineered steel structure. It is approximately 15 m (16 yd) wide by 24 m (26 yd) long by 6 m (7 yd) high (to the eave), with a total waste management area of 371 m^2 (444 yd^2). The foundation is integrated into a perimeter concrete curb, 15.2 cm (6 in.) above grade. Ramps are placed across the curb for loading and unloading operations. The floors were coated with an epoxy resin floor surfacing system that was compatible with the stored waste.

The 2401W Building does not currently store dangerous, mixed, or *Toxic Substances Control Act of 1976* polychlorinated biphenyl (TSCA-PCB) waste. The 2401W Building primarily serves as equipment and material storage for support the CWC-WRAP OUG activities. Future storage and treatment of dangerous, mixed, and TSCA-PCB waste is not authorized within the 2401W Building DWMU, and will not be requested after *Resource Conservation and Recovery Act of 1976* (RCRA) closure is complete.

C1.1.1 Maximum Waste Inventory

The maximum inventory of dangerous, mixed, or TSCA-PCB waste stored in the 2401W Building over its lifetime included 318 containers with a total volume of 203 m^3 (266 yd^3). Dangerous waste was introduced into 2401W Building in May 1989. The 2401W Building also stored 163 TSCA-PCB waste containers with a total volume of 89 m^3 (117 yd^3) and dangerous, mixed, and TSCA-PCB waste in <90-day accumulation areas. Details on the dangerous, mixed, and TSCA-PCB waste containers are presented in Section C3.3 of this closure plan.

Closure performance standards for the 2401W Building will be based on requirements found in WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," which require closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity

Figure C-1. CWC 2401W Waste Storage Building and Outside Storage Areas

C2 Closure Performance Standard

These performance standards are addressed in the Sections C2.1 and C3.12 of this closure plan.

C2.1 .Clean Closure Levels

The 2401W Building will be clean closed. In accordance with WAC 173-303-610(2)(b)(ii), the clean closure standard for structures is a visually verifiable standard, which is the absence of obvious stains or residues that would indicate potential dangerous waste contamination. Surfaces must be free of indications of potential dangerous waste, except for residual waste stains consisting of light shadows, slight streaks, or minor discoloration. The standard will be verified by the performance and documentation of visual inspections. In addition, decontamination of the flooring area will be conducted in accordance with WAC 173-303-610(b)(ii). Rinsate will be analyzed and the results will be compared to the Universal Treatment Standards (UTS) in WAC 173-303-140(2)(a) to verify that levels of target analytes are below regulatory levels.

C3 Closure Activities

As a storage unit, clean closure determination for 2401W Building is based on a review of the operational history, operating records (including any releases), and a visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, 2401W Building is concluded to be in a safe configuration and will be clean closed under RCRA. Subsequently, sampling will be conducted via a sampling and analysis plan (SAP) (Attachment A) to verify that clean closure numeric levels have been achieved.

Closure activities required to achieve and verify clean closure are as follows:

- Remove all dangerous, mixed, and TSCA-PCB waste inventory. (Complete. See Section C3.2)
- Review waste container storage, operating, and inspection records. (Complete. See Section C3.3)
- Perform a visual inspection of the floor surface
- Perform decontamination of the floor
- Perform sampling and analysis on decontamination rinsate to confirm clean closure standards

C3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) CWC-WRAP, Addendum G, *Personnel Training,* and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided, including the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements
- Requirement that samplers be qualified in the type of sampling being performed in the field

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

C3.2 Removal of Wastes and Waste Residues

No dangerous, mixed, or TSCA-PCB waste is currently stored at the 2401W Building. The last dangerous waste was removed in November 2010 from the <90-day storage area, and dangerous, mixed, or TSCA-PCB waste is no longer being accepted at this area. After RCRA closure activities are complete,

the 2401W Building will not be used for dangerous, mixed, or TSCA-PCB waste storage. However, the building will be used for equipment and materials storage.

C3.3 CWC Outside Storage 2401W Building Records Review and Visual Inspection

To support the development of this closure plan and the associated SAP, a review of the 2401W Building RCRA operating records was completed (Table C-1). The records review included the following RCRA operating record documents: facility operating logbooks (which contain the facility spill log), waste management records, and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, and TSCA-PCB waste storage. The RCRA operating record for the 2401W Building DWMU, including the facility operating logbooks and weekly inspection sheets, indicates there were no documented spills or releases.

In 1999, closure of the 2401W Building was considered. The following activities of the closure process for the 2401W Building were completed: records were reviewed and sampling for radiological contamination as an indicator of dangerous waste contamination was completed. There was no sign of radiological contamination with the resulting conclusion that there was also no dangerous waste contamination. The records review performed for this current closure plan focused on the period of dangerous waste storage that occurred after the previous closure sampling occurred in 1999. Supporting documentation for the prior closure efforts is included in Attachment C of this closure plan.

While it is known that dangerous waste was stored in a <90-Day storage area in 2401W in 2010, inspection records for this time are not available and could not be reviewed.

Waste management records for the dangerous waste containers previously stored in the 2401W Building were reviewed to determine the target analytes to be included in the closure plan SAP. Currently, there is no dangerous, mixed, or TSCA-PCB waste stored in the 2401W Building. Container data are presented in Table C-2.

A visual inspection was performed of the visible floor surface in the 2401W Building on August 14, 2013, to identify any dangerous waste related staining. No waste related staining was identified during the visual inspection. Once necessary equipment and materials have been removed to allow visual access to all floor surfaces, an additional visual inspection will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment B and include the 2401W Daily Operating Logbook Review sheet, the 2401W Weekly Dangerous Waste Inspection Checklist Review sheet, the CWC 2401W Building visual inspection sheet, and any additional supporting information.

C3.4 Unit Components, Parts, and Ancillary Equipment

The 2401W Building does not have any component, parts, or ancillary equipment.

C3.5 Inspection of Units Before Decontamination

Once closure activities begin, all equipment and material will be removed from the 2401W Building. A visual inspection of the coated floor surface will be conducted to identify any dangerous waste-related staining. General housekeeping will take place to remove all material prior to performing the closure decontamination.

Table C-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Inspection Checklist Central Waste Complex Facilities	Weekly Inspection	CWC-2401W Building	07/1999	12/2000	No
Operating Log Central Waste Complex	Logbook	CWC-2401W	06/01/1999	08/11/1999	No
Daily Operating Logbook	Logbook	CWC-2401W Building	08/12/1999	12/28/2000	No
Daily Operating Logbook	Logbook	CWC-2401W Building	12/06/2006	08/12/2013	No

Table C-2. Mixed Waste Container Data

Container Quantity	Facility ID	Waste Package Type	Total Volume (m^2)	Waste Type	Beginning Storage Date	Ending Storage Date	Assigned Waste Codes
318	2401W	Various	203.4	DW/MW	05/12/1989	12/18/2000	D001, D002, D003, D005, D006, D007, D008, D009, D011, D018, D019, D023, D030, D032, D033, D035, D036, D038, F001, F002, F003, F004, F005, PCB2, U169, WC01, WC02, WP01, WP02, WSC2, WT01, WT02
163	2401W	Various	88.6	TSCA-PCB	07/26/1989	12/18/2000	N/A

DW/MW = Dangerous Waste/Mixed Waste
ID = identification
N/A = not applicable
PCB = polychlorinated biphenyl
TSCA = Toxic Substances Control Act of 1976

C3.6 Decontamination

The 2401W Building coated floor will be decontaminated in accordance with alternative treatment standards outlined in Ecology's clean closure guidance to meet the definition of a clean debris surface. The rinsate will be collected and sampled in accordance with the SAP (Attachment A).

C3.7 Identifying and Managing Contaminated Environmental Media

The rinsate generated from decontamination of the floor during closure activities will be collected. The rinsate will be sampled and the analytical results will be used to verify clean closure of the 2401W Building. Once sampling has been completed, a waste determination for the rinsate will be completed in accordance with applicable environmental and waste management procedures, and the waste will be dispositioned accordingly.

C3.8 Confirming Clean Closure

The 2401W Building will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. Records verification included facility operating record/logbooks and weekly unit inspections, as outlined in Section C3.3 of this closure plan. In addition to records verification, a visual inspection of the visible areas of the floor was performed to identify any dangerous waste-related staining of the storage area flooring. The visual inspection was completed on August 14, 2013, and records reviews were completed and are documented in Attachment B.

All dangerous, mixed, and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous, mixed, or TSCA-PCB waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

The floor surface will be decontaminated using methods identified in Section C3.5 and the resulting rinsate will be collected and sampled in accordance with the SAP. The analytical results will be verified against the UTS in WAC 173-303-140(2)(a). Once analytical results confirm clean closure levels of target analytes, a determination will be made to leave the flooring surface of the 2401W Building in place.

C3.9 Sampling and Analysis and Constituents to Be Analyzed

C3.9.1 Sampling and Analysis Plan

All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP (Attachment A). The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable EPA guidance. Sampling and analysis activities will meet applicable requirements of SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

C3.10 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

C3.11 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 2401W Building DWMU, a certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the department by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

C3.12 Conditions That Will Be Achieved When Closure Is Complete

Upon confirmation of clean closure levels through sampling and analysis, the 2401W Building will remain in an "as-is" state, with the building remaining in place. The 2401W Building will continue to be used for equipment and material storage; therefore, removal of the building is not necessary, and the land will not be restored to its pre-operational appearance. A permit modification request will be submitted after clean closure has been confirmed to remove the 2401W Building DWMU from the sitewide permit active DWMUs.

C4 Closure Schedule and Time Frame

The confirmation sampling and analysis activities will be completed no more than 180 days after approval of the permit modification incorporating this closure plan. Should unexpected circumstances arise and an extension to the 180-day closure activity expiration date is deemed necessary, a Class 1 permit modification request will be submitted to Ecology for approval at least 30 days prior to the 180-day expiration date in accordance with WAC 173-303-610(4)(c) and WAC 173-303-830, Appendix I. The extension request would also demonstrate that all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, have been and will be taken. Closure certification will be submitted to Ecology within 60 days following completion of closure activities at the 2401W Building as outlined in Section C3.10 (Figure C-2).

C5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

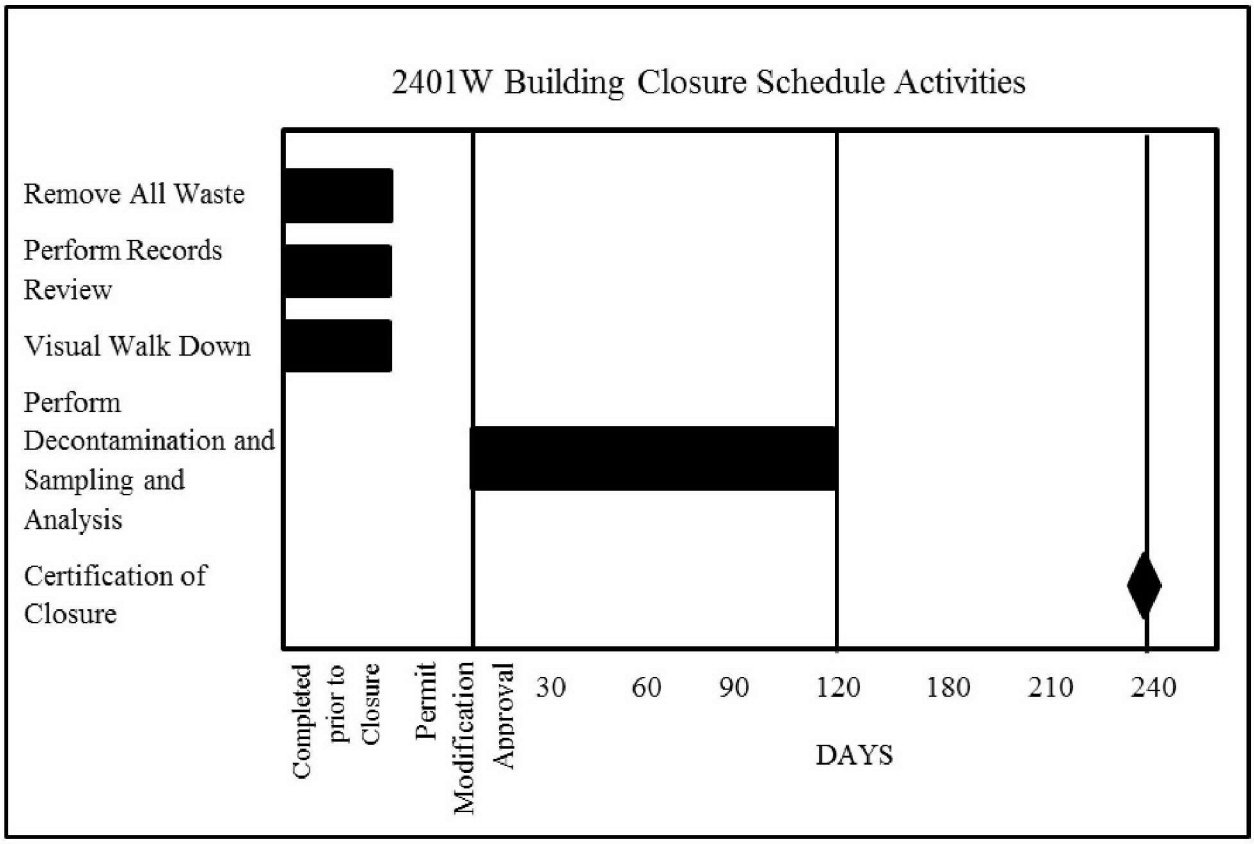

Figure C-2. CWC 2401W Building Closure Schedule Activities

Attachment A

CWC 2401W Building Sample and Analysis Plan

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CWC-WRAP 2401W Building

Sample and Analysis Plan

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Terms

ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Services
CFR	Code of Federal Regulations
CWC	Central Waste Complex
CWC-WRAP	Central Waste Complex Operating-Waste Receiving and Processing Unit Group
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DQA	data quality assessment
DQI	data quality indicator
EB	equipment blank
ECO	Environmental Compliance Officer
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FSP	field sampling plan
FTB	full trip blank
FWS	field work supervisor
FXR	field transfer blank
HASQARD	*Hanford Analytical Services Quality Assurance Requirements Documents*
HEIS	Hanford Environmental Information System
MDA	minimum detectable activity
QA	quality assurance
QAPjP	quality assurance project plan
QC	quality control
RPD	relative percent difference
SAF	sampling authorization form
SAP	sampling and analysis plan
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
VOA	volatile organic analysis
VOC	volatile organic compound

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1 Introduction

1.1 Purpose

The purpose of the sampling and analysis plan (SAP) is to assist in the determination that clean closure levels have been achieved for the Central Waste Complex-Waste Receiving and Processing (CWC-WRAP) 2401W Waste Storage Building (2401W Building).

Sampling and analysis of the containerized rinsate resulting from decontamination of the floor surface will be conducted to confirm that clean closure cleanup levels have been achieved. All sampling and analysis will be performed in accordance with the sampling and quality standards established in this closure SAP. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*, and other U.S. Environmental Protection Agency (EPA) approved methods. Sampling and analysis activities will meet applicable requirements in SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

1.2 Statement of the Problem

The objective of the sampling and analysis described in this document is to verify that the target analytes in rinsate resulting from decontamination of the 2401W Building floor during closure activities meet Universal Treatment Standards in accordance with WAC 173-303-140(2)(a), thereby demonstrating clean closure of the 2041W Building.

1.3 Target Analytes

The target analytes were determined by reviewing waste management records for the dangerous waste stored in the 2401W Building (Table 1-1).

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Barium (D005)	7440-39-3	Acetone (F003)	67-64-1
Cadmium (D006)	7440-43-9	N-butyl alcohol (F003)	71-36-3
Chromium (Hexavalent) (D007)	18540-29-9	Cyclohexanone (F003)	108-94-1
Lead (D008)	7439-92-1	Ethyl acetate (F003)	141-78-6
Mercury (D009)	7439-97-6	Ethyl benzene (F003)	100-41-4
Silver (D011)	7440-22-4	Ethyl ether (F003)	60-29-7
Benzene (D018) (F005)	71-43-1	Methanol (F003)	67-56-1
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Methyl isobutyl ketone (F003)	108-10-1
2,4-Dinitrotoluene (D030)	121-14-2	Ortho-dichlorobenzene (F002)	95-50-1

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Hexachlorobenzene (D032)	118-74-1	m-Xylene (F003)	108-38-3
Hexachlorobutadiene (D033)	87-68-3	o-Xylene (F003)	95-47-6
Methyl ethyl ketone (MEK) (D035) (F005)	78-93-3	p-Xylene (F003)	106-42-3
Benzene, nitro (D036) (F004) (U169)	98-95-3	*m*-cresol (F004)	108-39-4
Pyridine (D038) (F005)	110-86-1	*o*-cresol (F004)	95-48-7
Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane) (F001) (F002)	76-13-1	*p*-cresol (F004)	106-44-5
Methylene chloride (F001) (F002)	75-09-2	Carbon disulfide (F005)	75-15-0
Tetrachloroethylene (F001) (F002)	127-18-4	2-Ethoxyethanol (F005)	110-80-5
1,1,1-Trichloroethane (F001) (F002)	71-55-6	Isobutanol (F005)	78-83-1
Trichloroethylene (F001) (F002)	79-01-6	2-Nitropropane (F005)	79-46-9
Chlorobenzene (F002)	108-90-7	Pyridine (F005)	110-86-1
1,1,2-Trichloroethane (F002)	79-00-5	Toluene (F005)	108-88-3
		Polychlorinated biphenyl (PCB)	1336-36-3

1.4 Project Schedule

The sampling and analysis will follow the schedule outlined in the 2401W Building closure plan.

2 Quality Assurance Project Plan

The quality assurance project plan (QAPjP) establishes the quality requirements for environmental data collection, including planning, implementation, and assessment of sampling, field measurements, and laboratory analysis. This QAPjP complies with the requirements of the following:

- 10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements"
- DOE O 414.1D, *Quality Assurance*
- *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA/240/B-01/003)
- *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68)

This chapter describes the applicable quality requirements and controls. Sections 6.5 and 7.8 of *Hanford Federal Facility Agreement and Consent Order Action Plan* (Tri-Party Agreement Action Plan) (Ecology et al., 1989b) require the quality assurance (QA)/quality control (QC) and sampling and analysis activities to specify the QA requirements for treatment, storage, and disposal units, as well as for past-practice processes. Therefore, this QAPjP follows the QA elements of EPA/240/B-01/003. This QAPjP demonstrates conformance to Part B requirements of *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs* (ANSI/ASQC E4-2004).

This QAPjP is divided into the following four sections, which describe the quality requirements and controls applicable to this investigation: Project Management, Data Generation and Acquisition, Assessment and Oversight, and Data Validation and Usability.

2.1 Project Management

The following subsections address project management and ensure that the project has defined goals, that the participants understand the goals and the approaches used, and that the planned outputs are appropriately documented. Project management roles and responsibilities discussed in this section apply to the major activities covered under the SAP.

2.1.1 Project/Task Organization

The Permittee or its approved subcontractor is responsible for planning, coordinating, sampling, preparation, packaging, and shipping samples to the laboratory. The project organization (regarding sampling and characterization) is described below and is shown graphically in Figure 2-1. The Project Manager maintains a list of individuals or organizations as points of contact for each functional element in Figure 2-1.

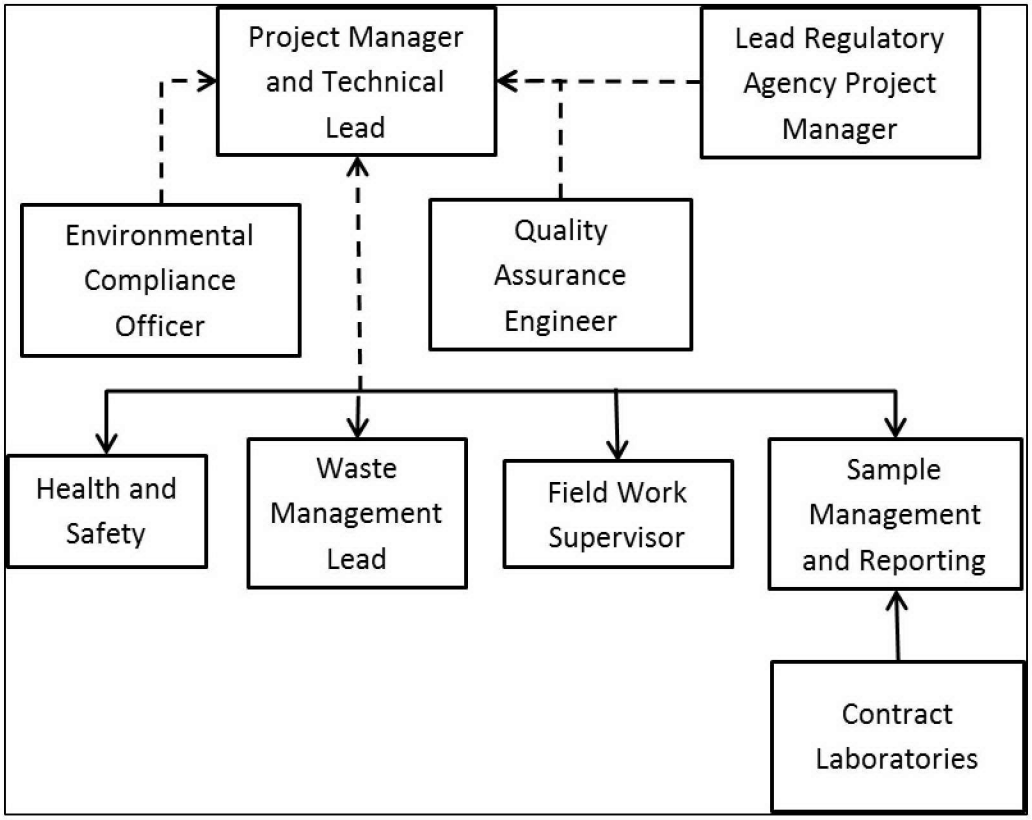

Figure 2-1. CWC 2401W Building Closure Sampling Project Organization

The project has several key positions within the U.S. Department of Energy, Richland Operations Office (DOE-RL) organization, including the following:

- **Regulatory Project Manager:** The Washington State Department of Ecology (Ecology) has assigned project managers responsible for oversight of cleanup projects and activities. Ecology, as lead regulatory agency for the CWC 2401W Building closure sampling project, has oversight authority for the work being performed under this SAP. Ecology will work with DOE-RL to resolve concerns over the work as described in this SAP in accordance with the Tri-Party Agreement.

- **Project Manager:** The Project Manager provides oversight for activities and coordinates with DOE-RL, EPA, Ecology, and contract management. In addition, support is provided to the project technical lead to ensure that work is performed safely and cost effectively. The Project Manager (or designee) for the CWC 2401W Building closure sampling is responsible for direct management of sampling documents and requirements, field activities, and subcontracted tasks. The Project Manager is responsible for ensuring that the project personnel are working to the current version of the SAP. The Project Manager works closely with QA, Health and Safety, and the Field Work Supervisor (FWS) to integrate these and other lead disciplines in planning and implementing the work scope. The Project Manager also coordinates with DOE-RL and the primary contractor management on all sampling activities. The Project Manager supports DOE-RL in coordinating sampling activities with the regulators.

- **Environmental Compliance and Quality Assurance**. The Environmental Compliance Officer (ECO) provides technical oversight, direction, and acceptance of project and subcontracted environmental work, and develops appropriate mitigation measures with a goal of minimizing adverse

environmental impacts. The ECO also reviews plans, protocols, and technical documents to ensure that environmental requirements have been addressed; identifies environmental issues that affect operations and develops cost-effective solutions; and responds to environmental/regulatory issues or concerns raised by DOE-RL and/or regulatory agencies. The ECO also oversees project implementation for compliance with applicable internal and external environmental requirements.

The QA point of contact (POC) is matrixed to the Project Manager and is responsible for QA issues on the project. Responsibilities include overseeing implementation of the project QA requirements, reviewing project documents (including SAP and the QAPjP), and participating in QA assessments on sample collection and analysis activities, as appropriate. The QA POC must be independent of the unit generating the data.

- **Health and Safety:** The Health and Safety organization's responsibility for coordinating industrial safety and health support within the project, as carried out through health and safety plans, job hazard analyses, and other pertinent safety documents required by federal regulation or by internal primary contractor work requirements. In addition, Health and Safety assists project personnel in complying with applicable health and safety standards and requirements.

- **Sample Management and Reporting:** The Permittee's sampling organization coordinates laboratory analytical work, ensuring that laboratories conform to Hanford Site internal laboratory QA requirements (or their equivalent), as approved by DOE-RL, EPA, and Ecology. The sampling organization receives the analytical data from the laboratories, performs the data entry into the Hanford Environmental Information System (HEIS) database, and arranges for data validation. The sampling organization is responsible for informing the Project Manager of any issues reported by the analytical laboratory. The sampling organization develops and oversees implementation of the letter of instruction to the analytical laboratories, oversees data validation, and works with the Project Manager to prepare a characterization report on the sampling and analysis results.

- **Contract laboratories:** The contract laboratories analyze samples in accordance with established protocols and provide necessary sample reports and explanation of results in support of data validation. The laboratories must meet site-specific QA requirements and must have an approved QA plan in place.

- **Waste Management:** Waste Management communicates policies and protocols, and ensures project compliance for storage, transportation, disposal, and waste tracking in a safe and cost-effective manner. In addition, Waste Management is responsible for identifying waste management sampling/characterization requirements to ensure regulatory compliance, interpreting the characterization data to generate waste designations and profiles, and preparing and maintaining other documents confirming compliance with waste acceptance criteria.

- **Fieldwork Supervisor:** The FWS is responsible for planning and coordinating field sampling resources. The FWS ensures that samplers are appropriately trained and available. Additional related responsibilities include ensuring that the sampling design is understood and can be performed as specified by directing training, mock-ups, and practice sessions with field personnel.

The FWS directs the samplers. The samplers collect rinsate samples, including replicates/duplicates, and prepare sample blanks in accordance with the SAP, corresponding protocols, and work packages. The samplers complete field logbook entries, chain-of-custody forms, and shipping paperwork, and ensure delivery of the samples to the analytical laboratory.

2.1.2 Quality Objectives and Criteria

The QA objective of this plan is to develop implementation guidance providing data of known and appropriate quality. Data quality indicators (DQIs) describe data quality by evaluation against identified data needs and the work activities identified in this SAP. The applicable QC guidelines, quantitative target limits, and levels of effort for assessing data quality are dictated by the intended use of the data and the nature of the analytical method. The principal DQIs are precision, bias or accuracy, representativeness, comparability, completeness, and sensitivity. These DQIs are defined for the purposes of this document in Table 2-1. The DQIs will be evaluated during the data quality assessment (DQA) process (Section 2.4.5).

Quality objectives and project-specific measurement requirements are presented in Table 2-2. In consultation with the laboratory, the Project Manager, the sampling organization, and/or others as appropriate, identify appropriate analytical methods.

2.1.3 Special Training/Certification

A graded approach is used to ensure that workers receive a level of training that is commensurate with responsibilities and compliant with applicable DOE orders and government regulations. The FWS, in coordination with line management, will ensure that special training requirements for field personnel are met.

Typical training requirements or qualifications have been instituted by the Permittee to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided, including the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements
- Requirement that samplers be qualified in the type of sampling being performed in the field

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work

- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittee's training organization maintains the training records system.

2.1.4 Documents and Records

The Project Manager is responsible for ensuring the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to the DOE and lead regulatory agency.

The FWS is responsible for ensuring that the field instructions are maintained and aligned with any revisions or approved changes to the SAP. The FWS will ensure that deviations from the SAP or problems encountered in the field are documented appropriately (e.g., in the field logbook or on nonconformance report forms) in accordance with internal corrective action protocols.

The Project Manager, FWS, or designee is responsible for communicating field corrective action requirements and ensuring that immediate corrective actions are applied to field activities.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook and only authorized persons may make entries in logbooks. Logbooks will be signed by the FWS, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Precision	The measure of the degree of reproducibility of measurements under prescribed similar conditions. May be expressed as a percentage of the mean of the measurements, such as relative range, relative percent difference, or relative standard deviation (coefficient of variation).	Use the same analytical instrument to make repeated analyses on the same sample. Use the same method to make repeated measurements of the same sample within a single laboratory. Split a sample in the field and submit both for sample handling, preservation and storage, and analytical measurements. Collect, process, and analyze collocated samples for information on sample acquisition, handling, shipping, storage, preparation, and analytical processes and measurements.	Field precision: At randomly selected locations, duplicate samples will be taken one per 20 samples per media. Laboratory precision; analysis of laboratory duplicate or matrix spike duplicate.	If duplicate data do not meet objective: • Evaluate apparent cause (e.g., sample heterogeneity). • Request reanalysis or remeasurement • Qualify the data before use
Accuracy	A measure of the overall agreement of a measurement to an accepted reference or true value. Sample accuracy is expressed as the percent recovery of a spiked sample.	Analyze a reference material or reanalyze a sample to which a material of known concentration or amount of pollutant has been added (a spiked sample).	Laboratory accuracy Determination based on matrix spikes and matrix spike duplicates.	If recovery does not meet objective: • Qualify the data before use • Request re-analysis or remeasurement

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Representa-tiveness	A qualitative term to express "the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition." (ANSI/ASQC S2-1995)	Evaluate whether measurements are made and physical samples collected in such a manner that the resulting data appropriately reflect the environment or condition being measured or studied.	Samples will be collected as described in the sampling design. Judgment sampling ensures areas most likely to be contaminated, based on current information, will be evaluated. Random sampling is based on ensuring all members of the group are equally likely to be chosen and allows probability statements to be made about the quality of estimates derived from the data.	If results are not representative of the system sampled: • Identify the reason for the not being representative • Reject the data, or, if data are otherwise usable, qualify the data for limited use and define the portion of the system that the data represent • Redefine sampling and measurement requirements and protocols • Resample and reanalyze

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Comparability	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: • Identify appropriate changes to data collection and/or analysis methods • Identify quantifiable bias, if applicable. • Qualify the data as appropriate • Resample and/or reanalyze if needed. • Revise sampling/analysis protocols to ensure future comparability

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Completeness	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: • Identify appropriate changes to data collection and/or analysis methods • Identify quantifiable bias, if applicable. • Qualify the data as appropriate • Resample and/or reanalyze if needed. • Revise sampling/analysis protocols to ensure future comparability
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest.	Determine the minimum concentration or attribute to be measured by a method (method detection limit), by an instrument (instrument detection limit), or by a laboratory (quantitation limit). The practical quantitation limit is the lowest level, which can be routinely quantified and reported by a laboratory.	Ensure sensitivity, as measured detection limits, is appropriate for the action levels.	If sensitivity does not meet objective: • Request reanalysis or remeasurement. • Qualify/reject the data before use.

DQI = data quality indicators
QA = quality assurance

Table 2-2. Water Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a]	Practical Quantitation Limit (µg/L)[e]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
Performance Requirements for Laboratory Measurements (Nonradiological)						
7440-39-3	Barium	SW-846 Method 6010 or 200.8	21 mg/L TCLP	5.0	±20	≤20
7440-43-9	Cadmium	SW-846 Method 6010 or 200.8	0.11 mg/L TCLP	2.0	±20	≤20
18540-29-9	Chromium (Hexavalent)[f]	SW-846 Method 6010 or 200.8	0.60 mg/L TCLP	2.0	±20	≤20
7439-91-1	Lead	SW-846 Method 6020 or 200.8	0.75 mg/L TCLP	2.0	±20	≤20
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	0.2 mg/L TCLP	0.5	±20	≤20
7440-22-4	Silver	SW-846 Method 6020 or 200.8	0.14 mg/L TCLP	2.0	±20	≤20
71-43-2	Benzene	SW-846 Method 8260	10 mg/L	5.0	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	6.0 mg/L	5.0	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	140 mg/L	10	N/A[c]	≤20
87-68-3	Hexachlorobutadiene	SW-846 Method 8270	5.6 mg/L	10	N/A[c]	≤20
78-93-3	Methyl ethyl ketone (MEK) (2-butanone)	SW-846 Method 8260	36 mg/L	10	N/A[c]	≤20
110-86-1	Pyridine	SW-846 Method 8260	16 mg/L	5	N/A[c]	≤20
118-74-1	Hexachlorobenzene	SW-846 Method 8270	10 mg/L	10	N/A[c]	≤20
71-55-6	1,1,1-trichloroethane	SW-846 Method 8260	6 mg/L	5.0	N/A[c]	≤20
76-13-1	Chlorinated fluorocarbons	SW-846 Method 8260	30 mg/L	10	N/A[c]	≤20

Table 2-2. Water Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a]	Practical Quantitation Limit (µg/L)[e]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
75-09-2	Methylene chloride	SW-846 Method 8260	30 mg/L	5	N/A[c]	≤20
67-64-1	Acetone	SW-846 Method 8260	160 mg/L	20	N/A[c]	≤20
71-36-3	n-butyl alcohol	SW-846 Method 8260	2.6 mg/L	100	N/A[c]	≤20
108-94-1	Cyclohexanone	SW-846 Method 8270	0.75 mg/L TCLP	5	N/A[c]	≤20
141-78-6	Ethyl acetate	SW-846 Method 8015	33 mg/L	5000	N/A[c]	≤20
100-41-4	Ethyl benzene	SW-846 Method 8260	10 mg/L	4	N/A[c]	≤20
60-29-7	Ethyl ether	SW-846 Method 8015	160 mg/L	5000	N/A[c]	≤20
67-56-1	Methanol	SW-846 Method 8015	0.75 mg/L TCLP	1000	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone	SW-846 Method 8260	33 mg/L	10	N/A[c]	≤20
127-18-4	Tetrachloroethylene	SW-846 Method 8260	6 mg/L	5	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	6 mg/L	1	N/A[c]	≤20
108-38-3	m-Xylene	SW-846 Method 8260	30 mg/L[d]	5	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	30 mg/L[d]	5	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	30 mg/L[d]	5	N/A[c]	≤20
1336-36-3	Polychlorinated biphenyls	SW-846 Method 8082	10 mg/L	0.5	N/A[c]	≤20
95-48-7	o-Cresol	SW-846 Method 8270	5.6 mg/L	33	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8260	14 mg/L	10	N/A[c]	≤20
108-88-3	Toluene	SW-846 Method 8260	10 mg/L	5	N/A[c]	≤20
79-46-9	2-nitropropane	SW-846 Method 8260	na	10	N/A[c]	≤20
75-15-0	Carbon disulfide	SW-846 Method 8260	4.8 mg/L TCLP	5	N/A[c]	≤20

Table 2-2. Water Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a]	Practical Quantitation Limit (µg/L)[e]	Accuracy Requirement (Percent Recovery)[b]	Precision Requirement (RPD)[b]
78-83-1	Isobutanol	SW-846 Method 8260	170 mg/L	500	N/A[c]	≤20
110-80-5	2-ethoxyethanol	SW-846 Method 8260	na	750	N/A[c]	≤20
108-90-7	Chlorobenzene	SW-846 Method 8260	6 mg/L	2,000,000	N/A[c]	≤20
79-00-5	1,1,2-trichloroethane	SW-846 Method 8260	6 mg/L	5	N/A[c]	≤20
75-69-4	Trichlorofluoromethane	SW-846 Method 8260	30 mg/L	10	N/A[c]	≤20
76-13-1	1,1,2-trichloro-1,2,2-trifluoroethane	SW-846 Method 8260	30 mg/L	10	N/A[c]	≤20
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8260	6 mg/L	10	N/A[c]	≤20

a. Closure performance standards are the universal treatment standards for nonwastewater found in WAC 173-303-140(2)(a)

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. The 30 mg/L action level is based on the sum of the Xylene isomers.

e. For these analytical performance requirements, the Required Detection Limit and the Practical Quantification Limit are identical.

f. WAC 173-303-140(2)(a) does not provide universal treatment standards specific to hexavalent chromium. Standards provided are for chromium (CAS 7440-47-3).

CAS = Chemical Abstract Services

N/A = not applicable

na = information not available

TCLP = toxic characteristic leaching procedure

The laboratory is responsible for maintaining, and having available upon request, the following:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

2.2 Data Generation and Acquisition

The following subsections present the requirements for sampling methods and identification, sample handling and custody, analytical methods, measurement and analysis, data collection or generation, data handling, and field and laboratory QC. The requirements for instrument calibration and maintenance, supply inspections, and data management are also addressed. The sampling design is presented in the field sampling plan (Section 3) of this SAP.

The FWS is responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities under this SAP. The field team lead must document all deviations from procedures or other problems pertaining to sample collection, chain-of-custody, sample analytes, sample transport, or noncompliant monitoring. As appropriate, such deviations or problems will be documented in the field logbook or in nonconformance report forms in accordance with internal corrective action procedures. The FWS or Project Manager is responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to field activities.

2.2.1 Sampling Process Design

The sampling design consists of grab sampling of the collected rinsate. Additional sampling process design details are provided in Section 3.

2.2.2 Analytical Methods

Analytical methods and parameters are provided in Table 2-2. These analytical methods are controlled in accordance with the laboratory's QA plan and the requirements of this QAPjP. Laboratory operations and analytical services shall comply with Volume 4 of HASQARD (DOE/RL-96-68, Laboratory Technical Requirements) and any specific criteria identified in Table 2-2. Criteria in Table 2-2 take precedence over similar criteria in HASQARD. In consultation with the laboratory, the Project Manager, and/or others as appropriate, changes to analytical methods can be approved as long as the method is based upon a nationally recognized standard (e.g., EPA, American Society for Testing and Materials [ASTM]) method, the new method achieves project data needs as well or better than the replaced method, and the new method is required due to the nature of the sample. Oversight of offsite analytical laboratories to qualify them for performing Hanford Site analytical work is performed as necessary.

If the laboratory uses a nonstandard or unapproved method, then the laboratory must provide method validation data to confirm that the method is adequate for the intended use of the data. This includes information such as determination of detection limits, quantitation limits, typical recoveries, and analytical precision and bias. Deviations from the analytical methods noted in Table 2-2 must be approved in consultation with the Project Manager.

Issues that may affect analytical results are to be resolved in coordination with the Project Manager.

2.2.3 Quality Control

The QC procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table 2-3.

Table 2-3. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Field QC		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed If only disposable equipment is used, an equipment blank is not required. Otherwise, one per 20 samples per media[a,]	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[g], 20 samples maximum of each media sampled	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory QC[g]		
Method Blanks	1 per batch[g]	Laboratory Contamination
Lab Duplicates	[b]	Laboratory Reproducibility and precision
Matrix Spikes	[b]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[b]	Laboratory reproducibility, accuracy, and precision
Surrogates	[b]	Recovery/yield
Tracers	[b]	Recovery/yield

Table 2-3. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Laboratory Control Samples	1 per batch[g]	Evaluate Laboratory Accuracy
Performance Evaluation Programs[c]	Annual	Evaluate Laboratory Accuracy
Double-Blind Standards	Quarterly[d]	Evaluate Laboratory Accuracy
Audit/Assessment	Annually[e] or Every 3 years[f]	Evaluate overall laboratory performance and operations

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.
b. As defined in the laboratory contract or QA plan and/or analysis procedures.
c. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.
d. Water matrix double-blind standards are submitted quarterly.
e. DOE QSAS requires annual audit of commercial laboratories.
f. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.
g. Batching across projects is allowing for similar matrices.
QA = Quality assurance.
QC = Quality control.

2.2.3.1 Field Quality Control Samples

Field QC samples will be collected to evaluate the potential for cross-contamination and to provide information pertinent to field sampling variability and laboratory performance to help ensure reliable data are obtained. Field QC samples include field duplicates, split samples, and three types of field blanks (full trip, field transfer, and equipment blanks). Field blanks are typically prepared using high-purity reagent water. Silica sand should be used, instead of reagent water, when required by the SAP. The QC samples and the required frequency for collection are described in this subsection. Particular care will be exercised to avoid the following common ways in which cross-contamination or background contamination may compromise samples:

- Improperly storing or transporting sampling equipment and sample containers
- Contaminating the equipment or sample bottles by setting the equipment/sample bottle on or near potential contamination sources (e.g., uncovered ground)
- Handling bottles or equipment with dirty hands or gloves
- Improperly decontaminating equipment before sampling or between sampling events

This number of QC samples is conservatively established based on site procedures that call for approximately one set of QC samples per 20 samples.

- **Full-trip blank (FTB):** FTBs are prepared by the sampling team prior to traveling to the sampling site. The preserved bottle set is either for volatile organic analysis (VOA) only or identical to the set that will be collected in the field. It is filled with high purity reagent water or silica sand, as

appropriate to the primary sample media. The bottles are sealed and transported, unopened, to the field in the same storage containers used for samples collected the same day. The FTBs are typically analyzed for the same constituents as the samples from the associated sampling event. FTBs are used to evaluate potential contamination of the samples attributable to the sample bottles, preservative, handling, storage, and transportation.

- **Field transfer blank (FXR):** FXRs are preserved VOA sample bottles filled at the sample collection site with high purity reagent water or silica sand (as appropriate to the primary sample media) that has been transported to the field. The samples are prepared during sampling to evaluate potential contamination attributable to field conditions. After collection, FXR sample bottles are sealed and placed in the same storage containers with the samples collected the same day for the associated sampling event. The FXR samples will be analyzed for volatile organic compounds (VOCs) only.

- **Equipment blank (EB):** EBs consist of high purity reagent water or silica sand passed through or poured over the decontaminated sampling equipment identical to the sample set that will be collected and placed in sample containers, as identified on the project sampling authorization form (SAF). The EB sample bottles are placed in the same storage containers with the samples from the associated sampling event. The EB samples will be analyzed for the same constituents as the samples from the associated sampling event. The EBs will be used to evaluate the effectiveness of the decontamination process.

Equipment blanks are collected from reusable sampling devices on a 1-in-20 basis and are not required for disposable sampling equipment.

For the field blanks (i.e., FTB, FXR, and EB), results greater than two times the method detection limit or minimum detectable activity (MDA) are identified as suspect contamination. However, for common laboratory contaminants such as acetone, methylene chloride, 2-butanone, toluene, and phthalate esters, the limit is five times the method detection limit. For radiological analytical data, blank results are flagged if they are greater than two times the total MDA.

- **Field duplicates:** Field duplicates (DUP) are independent samples collected as close as possible to the same time and same location as the parent sample and are intended to be identical. DUPs are collected at a frequency of one in 20 samples. DUPs are two separate samples collected from the same source, placed in separate sample containers, and analyzed independently. The DUPs should be collected from an area expected to have some contamination so valid comparisons between the samples can be made (i.e., some constituents will be greater than detection limit).

DUPs must agree within 20 percent, as measured by the RPD, to be acceptable. Only those DUPs with at least one result greater than five times the UTS limit are evaluated. DUP results not satisfying evaluation criteria will be qualified and flagged in HEIS, as appropriate.

DUPs are stored and transported together and will be analyzed for the same constituents. The DUPs are used to determine precision for both sampling and laboratory measurements. Evaluation of the results can provide an indication of intra-laboratory variability. Large relative percent differences (RPDs) can be an indication of potential laboratory performance problems and should be investigated.

Collocated samples are two samples collected as close as possible to the same time and location and are not homogenized. This sampling protocol is used when homogenizing samples for split or duplicate samples could affect the quality of data (i.e., VOA analysis).

- **Field split samples:**. Field split samples (SPLIT) are two samples collected as close as possible to the same time and same location and are intended to be identical. VOA splits will be sampled as

collocated samples, as described previously. SPLITs are stored in separate containers and analyzed by different laboratories for the same or similar analytes. SPLITs are inter-laboratory comparison samples used to evaluate comparability between laboratories. Large RPDs can be an indication of potential laboratory performance problems and should be investigated.

2.2.3.2 *Laboratory Quality Control Samples*

The laboratory QC samples (e.g., method blanks and laboratory control sample/blank spike) are defined for the three-digit EPA methods (EPA/600/4-79/20, *Methods for Chemical Analysis of Water and Wastes*) and for the four-digit EPA methods (SW-846) and will be run at the frequency specified in the respective reference, unless superseded by agreement.

The QC checks outside of control limits will be reflected in the narrative of the analytical report and during the Data Quality Assessment (DQA) process, if performed.

For chemical analyses, the control limits for laboratory duplicate samples, matrix spike samples, matrix spike duplicate samples, surrogate recoveries, and laboratory control samples are typically derived from historical data at the laboratories in accordance with SW-846. Typical control limits are within 25 percent of the expected values, although the limits may vary considerably depending upon the method and analyte.

2.2.4 Equipment

Equipment used for collection, measurement, and testing should meet applicable standards (e.g., ASTM) or will have been evaluated as acceptable and valid in accordance with the procedures, requirements, and specifications. The FWS, field technical representative, or equivalent will ensure that the data generated from instructions using a software system are backed up and/or downloaded on a regular basis. Software configuration will be acceptance tested prior to use in the field.

Measurement and testing equipment used in the field or in the laboratory that directly affect the quality of analytical data will be subject to preventive maintenance measures to minimize measurement system downtime. Laboratories and onsite measurement organizations must maintain and calibrate their equipment. Maintenance requirements (e.g., documentation of routine maintenance) will be included in the individual laboratory and onsite organization's QA plan or operating procedures, as appropriate. Maintenance of laboratory instruments will be performed in a manner consistent with the three-digit EPA methods (EPA/600/4-79/020) and four-digit EPA methods (SW-846), or with auditable DOE Hanford Site and contractual requirements. Consumables, supplies, and reagents will be reviewed per SW-846 requirements and will be appropriate for their use.

2.2.5 Inspection of Consumable Supplies

Consumables, supplies, and reagents will be reviewed in accordance with the current requirements of SW-846, or other EPA method being used, or by an approved site analytical procedure. Potential contamination is monitored by field QC samples and laboratory blanks. The lot number from the manufacturer certified, pre-cleaned sample containers will be recorded in the sampler's logbook.

2.2.6 Data Management

Data resulting from the implementation of the SAP will be stored in the HEIS database. Reports and supporting analytical data packages will be subject to final technical review by qualified reviewers before submittal to the regulatory agencies or before inclusion in reports or technical memoranda.

2.2.7 Field Documentation Management

Field documentation shall be maintained in the form of chain-of-custody/sample analysis request forms and logbook entries. Other documentation is described in Section 2.1.3. Approved work control packages and procedures will be used to document field activities, including nonradiological measurements, when this SAP is implemented. Field activities will be recorded in the field logbook.

2.3 Assessment and Oversight

The elements in assessment and oversight address the activities for assessing the effectiveness of project implementation and associated QA and QC activities. The purpose of assessment is to ensure that the QAPjP is implemented as prescribed.

2.3.1 Assessments and Response Actions

Contractor management, Regulatory Compliance, QA, and/or Health and Safety organizations may conduct surveillances and assessments to verify compliance with the requirements outlined in this SAP, project work packages, the project quality management plan, procedures, and regulatory requirements. The Project Manager will determine whether a DQA will be performed for the activities identified in this SAP. The DQA process, if performed, is discussed in Section 2.4. The results of the DQA will be provided to the Project Manager. No other planned assessments have been identified.

If circumstances arise in the field dictating the need for additional assessment activities, then additional assessments would be performed. Deficiencies identified by these assessments will be reported in accordance with existing programmatic requirements. The project's line management chain coordinates the corrective actions/deficiencies in accordance with the contractor QA program, the corrective action management program, and associated procedures implementing these programs. When appropriate, corrective actions will be taken by the Project Manager.

2.3.2 Reports to Management

Management will be made aware of deficiencies identified by self-assessments, corrective actions from ECOs, and findings from QA assessments and surveillances.

2.4 Data Review, Verification, and Validation, and Usability Requirements

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified (Section 2.4.1). A total of 5 percent of the data will be validated (Section 2.4.3). A DQA may be performed, if requested, on the final data (Section 2.4.4). At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

2.4.1 Verification and Validation Methods

Validation activities will be based on EPA functional guidelines. Data validation may be performed by the Permittee and/or by a party independent of both the data collector and the data user. Data validation qualifiers must be compatible with the HEIS database.

When outliers or questionable results are identified, the data associated with these outliers and questionable data will be evaluated and additional data validation will be performed. The additional data validation will consist of selecting up to an additional 5 percent of the statistical outliers and/or questionable data. The additional validation will begin with Level C and may increase to Levels D and E, as needed, to ensure that data are usable. Level C validation is a review of the QC data, while Levels D and E include review of calibration data and calculations of representative samples from the data set.

Data validation results will be documented in data validation reports. An example of questionable data is a positive detection greater than the practical quantitation limit or reporting limit in soil from a site that should not have exhibited contamination. Similarly, results below background would not be expected and could trigger a validation inquiry. The determination of data usability will be conducted and documented in a DQA report.

Data validation results will be documented in data validation reports, which will be included in the project file.

2.4.2 Data Verification and Usability Methods

Review of field paperwork, analytical data packages, and electronic files from the laboratory information management system will be performed. Sampling documents include the soil sampling record, chain-of-custody forms, field logbook pages, and other paperwork associated with sampling and shipping. These documents are reviewed for completeness, approvals, and legibility. Analytical and QC data from the laboratories are verified to be complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determines if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data is processed, resolution of those issues will be initiated.

2.4.3 Resolution of Analytical System Errors

Errors reported by the laboratories are reported and a sample disposition record is initiated in accordance with Permittee procedures. This process is used to document analytical errors and to establish resolution with the Project Manager. In addition, the Permittee QA Engineer receives reports providing summaries and statistics of the analytical errors.

2.4.4 Data Validation

The format and requirements for data validation activities are based upon the most current version of *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01 [OSWER 9240.1-48]) and *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011 [OSWER 9240.1-51]). Performance of data validation activities, typically by a party independent of the data collector, the data generator, and the data user is arranged. Third party data validation reports are reviewed for completeness and contractual compliance and also by Project QA personnel. A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

2.4.5 Data Quality Assessment

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the DQA process in *Data Quality Assessment: A Reviewer's Guide* (EPA/240/B-06/002), and *Data Quality Assessment: Statistical Methods for Practitioners* (EPA/240/B-06/003).

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3 Field Sampling Plan

The field sampling plan (FSP) provides a discussion of the project sampling and analytical requirements. This includes defining the number and location of samples, sampling methods, and analyses that will be performed, overall sampling objectives, and a discussion of waste management.

3.1 Site Background and Objectives

Site background information is contained in Section 1. The target analytes are presented in Table 1-1. The objective of the field sampling plan is to identify project sampling and analysis activities clearly. The field sampling plan uses the sampling design identified during the systematic planning process and identifies sampling locations, the total number of samples to be collected and the analyses to be performed.

3.2 Sampling Design

The sampling design consists of liquid grab samples taken from the rinsate collected during the decontamination performed as part of the closure verification activities described in the 2401W Building closure plan.

3.3 Sample Location and Frequency

Table 3-1 provides the sample locations, frequencies, and sampling methods to be used. Grab samples of the rinsate will be collected using a composite liquid waste sampler, liquid grab sampler, or similar device.

3.4 Sampling Methods

To ensure sample and data usability, sampling associated with this SAP will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling. The Project Manager and contractor management are responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities.

Grab sample matrix will consist of containerized rinsate liquid collected in pre-cleaned sample containers. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Field sampling shall comply with HASQARD requirements (DOE/RL-96-68), Volumes 1 and 2.

Sample preservation, container, and holding time requirements are specified in Table 3-2 for liquid samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form. This monitoring plan defines a "sample" as a filled sample bottle for starting the clock for holding-time restrictions.

Table 3-1. Sample Locations, Frequencies, and Sampling Methods

Sampling Objectives	Sample Matrix	Sample Locations	Number of Samples	Number of QA Samples	Sampling Methods	Sampling Frequency
Decision unit	Liquid	Grab samples	One sample per container of rinsate	One each of the following samples: full trip blank, field transfer blank, equipment rinsate blank, and field duplicate.	Samples will be taken using a composite liquid waste sampler, liquid grab sampler, or similar device.	Each container will be sampled one time.

QA = quality assurance

Table 3-2. Sample Preservation, Container, and Holding Time for Liquid Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	HNO_3 to pH<2	6 months	G/P	500 mL
EPA 7470	Mercury	HNO_3 to pH<2	28 days	G	500 mL
EPA 8015	Volatile organic analytes	None	14/40 days	G	3 x 40 mL
EPA 8082	Polychlorinated biphenyl	None	None	aG	1000 mL
EPA 8260	Volatile organic analytes	HCl or H_2SO_4 to pH<2	14 days	aG	3 × 40 mL
EPA 8270	Semivolatile organic compound	Cool ~4°C	7/40 days	aG	1000 mL
EPA 200.8	Metals by ICP/MS	HNO_3 to pH<2	6 months	G/P	500 mL

Notes:

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

14/40 days = 14 days from sample collection to extraction; 40 days from extraction to analysis

aG = amber glass
G = glass
ICP/MS = inductively coupled plasma/mass spectrometry
P = plastic

3.4.1 Decontamination of Sampling Equipment

To prevent potential contamination of the samples, care should be taken to use decontaminated equipment for each sampling activity.

3.5 Sample Handling

A sampling and data tracking database (e.g., HEIS) is used to track the samples from the point of collection through the laboratory analysis process. Samplers should note any anomaly with a sample (e.g., sample appears unusual) and inform the Project Manager.

Laboratory analytical results are entered and maintained in the HEIS database. HEIS sample numbers are issued to the sampling organization for the project. Each sample is identified and labeled with a unique HEIS sample number.

3.5.1 Packaging

Level I EPA pre-cleaned sample containers will be used for liquid samples collected for chemical analysis. Container sizes may vary depending on laboratory-specific volumes/requirements for meeting analytical detection limits. Preliminary container types and volumes are identified in Table 3-2.

3.5.2 Container Labeling

The sample locations, depths, and corresponding HEIS numbers are documented in the sampler's field logbook. Except for VOA samples, a custody seal (i.e., evidence tape) will be affixed to the lid of each sample container and or sample collection package in such a way as to indicate potential tampering. The custody seal will be inscribed with the sampler's initials and date. Custody tape is not applied directly to VOA sample containers based on the potential for affecting analyte results and/or fouling of laboratory

equipment. Custody seals and any other required labels/documentation can be fixed to the exterior of a plastic bag holding the VOA vials in such a manner that prevents potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water-resistant labels:

- Sampling Authorization Form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)
- Chain-of-custody identification number

In addition to the above information, sample records must include the following:

- Sample location
- Matrix (water, soil, etc.)

3.5.3 Sample Custody

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure the maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained. A chain-of-custody record is initiated in the field at the time of sampling and will accompany each set of samples shipped to any laboratory.

Shipping requirements will determine how sample shipping containers are prepared for shipment. The analyses requested for each sample will be indicated on the accompanying chain-of-custody form. Each time the responsibility changes for the custody of the sample, the new and previous custodians will sign the record and note the date and time.

The following information is required on a completed chain-of-custody form:

- Project name
- Signature of sampler
- Unique sample number
- Date and time of collection
- Matrix
- Preservatives
- Signatures of individuals involved in sample transfer
- Requested analyses (or reference thereto)

3.5.4 Sample Transportation

All packaging and transportation instructions will be in compliance with the applicable transportation regulations, DOE requirements, and contactor requirements. Regulations for classifying, describing, packaging, marking, labeling, and transporting hazardous materials, hazardous substances, and hazardous waste mandated by the U.S. Department of Transportation as described in 49 CFR 171 "General Information, Regulations, and Definitions," through Part 177, "Carriage By Public Highway." Carrier

specific requirements should also be considered when preparing sample shipments conveyed by air freight providers.

Samples containing hazardous constituents shall be considered hazardous material in transportation and transported according to DOT 49 CFR, "Transportation," "Shippers – General Requirements for Shipments and Packagings," are exceeded. Samples shall be screened, or relevant historical data shall be used, to determine if these values are exceeded. When screening or historical data indicate that samples are radioactive, they shall be properly classified, describes, packaged, marked, labeled, and transported according to DOT requirements.

3.5.5 Corrective Actions and Deviations for Sampling Activities

The Project Manager, FWS, or designee must document deviations from procedures or other issues pertaining to sample collection, chain-of-custody, target analytes, sample transport, or noncompliance. Examples of deviations include samples not collected because of field conditions, changes in sample locations because of physical obstructions, or additions of sample depths.

As appropriate, such deviations or problems will be documented in the field logbook or on nonconformance report forms in accordance with internal corrective action procedures. The Project Manager, FWS, or designee will be responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to sampling activities.

Changes in sample locations not affecting the data needs will require notification and approval of the Project Manager. Changes to sample locations affecting the data needs will require concurrence from DOE-RL and the lead regulatory agency. Changes to the SAP will be documented as noted in Section 2.1.3.

3.6 Documentation of field activities

Logbooks or data forms are required for field activities. Requirements for the logbook are provided in Section 2.1.4. Data forms may be used to collect field information; however, the data forms must follow the same requirements as those for logbooks. The data forms must be referenced in the logbooks. A summary of information to be recorded in logbooks is as follows:

- Purpose of activity
- Day, date, time, and weather conditions
- Names, titles, and organizations of personnel present
- Deviations from the QAPjP or procedures
- All site activities, including field tests
- Materials quality documentation (e.g., certifications)
- Details of samples collected (e.g., preparation, splits, duplicates, matrix spikes, and blanks)
- Location and types of samples
- Chain-of-custody details and variances relating to chain-of-custody
- Field measurements
- Field calibrations and surveys, and equipment identification numbers, as applicable;
- Equipment decontaminated, number of decontaminations, and variations to any decontamination procedures
- Equipment failures or breakdowns, and descriptions of any corrective actions

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4 Management of Waste

All waste generated during sampling activities will be managed in accordance with applicable regulations.

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5 Health and Safety

Field operations will be performed in accordance with health and safety requirements and appropriate project requirements. The project's site-specific health and safety plan will be followed. Work control documents will be prepared to control site operations further. Safety documentation will include an activity hazard analysis.

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6 References

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Distribution

	MS	Quantity
U.S. Department of Energy, Richland Operations Office		
Work Package Manager		
DOE Public Reading Room	H2-53	1
CH2M HILL Plateau Remediation Company		
Document Lead		
Publications Technical Library	H3-21	1
Washington Closure Hanford, LLC		
POC		
Administrative Record	H6-08	1
Document Clearance	H6-08	1

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Attachment B

RCRA Records Review and Facility Visual Inspection Supporting Documentation

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CWC, 2401-W BUILDING

Purpose:

A visual inspection walkdown of the CWC 2401-W Building to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous that were and are stored at this location. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., concrete floor), and to denote any remaining waste related items.

The inspection was performed on August 14, 2013, by Brett M. Barnes, Environmental Compliance Officer (CHPRC).

Results:

No staining of any kind was identified on the storage area surface.

Housekeeping will be performed on the area prior to closure and the debris material will be removed.

Signature/Date:

Brett M. Barnes: Brett M Barnes 8/14/2013

2401W Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Inspection Checklist Central Waste Complex Facilities
Date of Review:	8/22/13 - 8/26/13
Reviewer's Name:	Lana Strickling
Waste Management Unit:	2401W
Time Frame of Weekly Inspections:	7/99 - 12/00
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of log book pages noting concern.	
Dates of Corrective Actions: Attach copies of log book pages noting concern.	
Reviewer's Signature and Date:	Lana Strickling 9/3/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

2401W Daily Operating Log Book Review

Date of Log Book Review:	8/26/13
Reviewer's Name:	Brett Barnes
Daily Operating Log Book Document No:	Operating Log Central Waste Complex (no logbook number)
Log Book Timeframe (Month/Year to Month/Year):	6/1/99 – 8/11/99
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☑

Items of Concern:
Attach copies of log book pages noting concern.

Log Book Page# Referencing Spill:

Dates of Corrective Actions:
Attach copies of log book pages noting corrective actions.

Log Book Page#
Referencing Corrective Action:

Reviewer's Signature and Date: Brett M Barnes 9/4/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

2401W Daily Operating Log Book Review

Date of Log Book Review:	8/28/13 – 9/3/13
Reviewer's Name:	Jeff Bramson
Daily Operating Log Book Document No:	See Page 2
Log Book Timeframe (Month/Year to Month/Year):	8/12/99 – 12/28/2000
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☑
Items of Concern: Attach copies of log book pages noting concern.	
Log Book Page# Referencing Spill:	
Dates of Corrective Actions: Attach copies of log book pages noting corrective actions.	
Log Book Page# Referencing Corrective Action:	
Reviewer's Signature and Date:	3 Sep 2013

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

2401W Daily Operating Log Book Review

Logbook Number	Start Date	End Date
0001	8/12/99	10/14/99
0005	10/18/99	1/6/00
0002	1/10/00	3/2/00
0003	3/2/00	5/10/00
0001	5/11/00	7/14/00
0002	7/17/00	9/12/00
HNF-N-450-67	9/13/00	11/2/00
HNF-N-450-68	11/3/00	12/28/00

CWC Daily Operating Log Book Review
2401-W

Date of Log Book Review: 8/12/13

Reviewer's Name: Joel Williams

Daily Operating Log Book Document No/Log Book Timeframe (Month/Year to Month/Year):

LOGBOOK NUMBER	DATES
HNF-N-450-84	12-06-2006 through 07-09-2007
HNF-N-450-85	07-10-2007 through 02-06-2008
HNF-N-450-91	02-07-2008 through 08-26-2008
HNF-N-450-94	08-27-2008 through 04-16-2009
HNF-N-450-95	04-20-2009 through 11-17-2009
HNF-N-450-100	11-02-2009 through 06-23-2010
HNF-N-450-103	06-24-2010 through 01-16-2011
HNF-N-450-107	01-19-2011 through 08-11-2011
HNF-N-450-109	08-15-2011 through 03-06-2012
HNF-N-450-110	03-07-2012 through 07-16-2012
HNF-N-450-113	07-07-2012 through 12-01-2012
HNF-N-450-111	12-02-2012 through 05-01-3013
HNF-N-450-112	05-02-2013 through 08-12-2013

Items of Concern Noted (Circle) YES ☐ NO ☑

If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concern:
Attach copies of log book pages noting concern.

Log Book Page# Referencing Spill:

Dates of Corrective Actions:
Attach copies of log book pages noting corrective actions.

Log Book Page#
Referencing Corrective Action:

Reviewer's Signature and Date: Lana Stickling for Joel Williams per telecom.

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted,

CWC Daily Operating Log Book Review
2401-W

check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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Attachment C

2401-W Waste Storage Building Closure Plan (DOE/RL-99-46, July 1999)

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DOE/RL-99-46

0051917

UC-630

2401-W Waste Storage Building Closure Plan

Date Published
July 1999

United States
Department of Energy
Richland, Washington

Approved for Public Release

RELEASE AUTHORIZATION

Document Number:	DOE/RL-99-46, Rev. 0
Document Title:	2401-W Waste Storage Building Closure Plan

This document, reviewed in accordance with DOE Order 241.1, "Scientific and Technical Information Management," and DOE G 241.1-1, "Guide to the Management of Scientific and Technical Information," does not contain classified or sensitive unclassified information and is:

APPROVED FOR PUBLIC RELEASE

Christine Willingham — 7/14/99

C. Willingham — Date

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A-6001-400.2 (09/94)

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B RADIATION SURVEY AND VISUAL INSPECTION CHECKLIST ..... APP B-i

C PRELIMINARY PROFESSIONAL ENGINEER CLOSURE STATEMENT ..... APP C-i

FIGURE

Figure 1. 2401-W Waste Storage Building. 4

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GLOSSARY

2401-W	2401-W Waste Storage Building
CWC	Central Waste Complex
DOE-RL	U.S. Department of Energy,-Richland Operations Office
Ecology	Washington State Department of Ecology
PCB	polychlorinated biphenyl
RCRA	*Resource Conservation and Recovery Act of 1976*
RMIS	Records Management Information System
TSD	treatment, storage, and/or disposal
WAC	Washington Administrative Code

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DOE/RL-99-46, Rev. 0
07/99

2401-W WASTE STORAGE BUILDING CLOSURE PLAN

This plan describes the performance standards met and closure activities conducted to achieve clean closure of the 2401-W Waste Storage Building (2401-W) (Figure 1). In August 1998, after the last waste container was removed from 2401-W, the U.S. Department of Energy, Richland Operations Office (DOE-RL) notified Washington State Department of Ecology (Ecology) in writing that the 2401-W would no longer receive waste and would be closed as a *Resource Conservation and Recovery Act* (RCRA) *of 1976* treatment, storage, and/or disposal (TSD) unit (98-EAP-475). Pursuant to this notification, closure activities were conducted, as described in this plan, in accordance with Washington Administrative Code (WAC) 173-303-610 and completed on February 9, 1999. Ecology witnessed the closure activities. Consistent with clean closure, no postclosure activities will be necessary. Because 2401-W is a portion of the Central Waste Complex (CWC), these closure activities become the basis for removing this building from the CWC TSD unit boundary.

The 2401-W is a pre-engineered steel building with a sealed concrete floor and a 15.2-centimeter concrete curb around the perimeter of the floor. This building operated from April 1988 until August 1998 storing non-liquid containerized mixed waste. All waste storage occurred indoors. No potential existed for 2401-W operations to have impacted soil. A review of operating records and interviews with cognizant operations personnel indicated that no waste spills occurred in this building (Appendix A). After all waste containers were removed, a radiation survey of the 2401-W floor for radiological release of the building was performed December 17, 1998, which identified no radiological contamination (Appendix B).

1.0 CLOSURE PERFORMANCE STANDARD

Closure of 2401-W was conducted to meet the closure performance standards of WAC 173-303-610(2). 2401-W was considered clean after the entire building floor was verified to be free of dangerous waste contamination by meeting a visual performance standard. The visual performance standard was: no obvious visual signs of potential dangerous waste contamination, except for waste staining consisting of light shadows, slight streaks, or minor discoloration. Achievement of this standard was verified by visual inspections. Any floor area not meeting this standard would have required removal of the indication, a radiation survey, and re-inspection of the removal area.

Because only mixed waste was stored in 2401-W, the presence of radionuclides was considered an indicator parameter for the presence of the dangerous component of the mixed waste. Locations not meeting the visual performance standard, along with floor areas randomly selected during visual inspections, also were required to meet a radiological performance standard. The radiological performance standard, where applied, was: no measurable amount of radiological contamination above background levels. Radiological background was established as described in Appendix B. Achievement of this standard was verified by radiation surveys (Appendix B). Any location that exceeded radiological background would have required removal of the indication, visual inspection, and resurvey.

2.0 CLOSURE ACTIVITIES

This section identifies the closure activities performed to verify 2401-W clean closure conditions. If the record review (Section 2.2) had identified waste spills or if visual or radiological indications had been identified during inspections and surveys (Section 2.3), the floor would have been decontaminated to

remove the indications and the removal area re-inspected and resurveyed. However, because no visual or radiological indications were identified (Appendix B), no decontamination or further activities (e.g., soil or structure sampling) were considered necessary to verify clean closure.

2.1 Closure Activities

By the time of closure, all waste containers had been removed from the 2401-W and no waste handling equipment remained in the building. Closure activities performed to verify 2401-W clean closure conditions consisted of the following:

- Reviewed documents and interviewed personnel to determine spill history (Appendix A)
- Visually inspected building floor
- Performed radiation survey of randomly selected floor locations
- Documented visual inspections and radiation surveys on an inspection checklist (Appendix B)
- Obtained preliminary professional engineer's (PE) statement that closure activities were completed in accordance with this closure plan (Appendix C).

After the closure plan is approved by Ecology, closure certification will be submitted to Ecology in accordance with WAC 173-303-610(6) and the CWC TSD unit boundary will be modified to exclude 2401-W.

2.2 Search of 2401-W Operating Records for Spill History

2401-W operating records were reviewed to identify whether mixed waste spills had occurred. The records included operations logbooks, RCRA weekly inspection records, and 'offnormal' event reports. Former and current cognizant operations personnel also were interviewed. Sufficient operating records and reports exist and cognizant personnel were available to establish a complete history of 2401-W operations. The operating history indicated that no mixed waste spills occurred in 2401-W (Appendix A).

2.3 Visual Inspection and Radiation Surveys

Visual inspection of the 2401-W floor and loading ramp was performed February 9, 1999. The inspections were documented on the radiation survey and visual inspection checklist (Appendix B). No visual indications of potential dangerous waste contamination were identified that required removal or a follow-up radiation survey. During the inspections, one floor area located in grid D-1 was cleaned with damp rags to remove dirt that potentially could have masked a visual or radiological indication (Appendix B). No visual or radiological indication was identified by the visual inspection and radiation survey of the cleaned area.

A radiation survey of randomly selected areas of the floor, the loading ramp, and of the dirt removal area was performed at the time of the visual inspections (Appendix B). The 'direct survey' and 'large area wipe' were the radiation survey methods used and were performed as described in Appendix B. No surveyed area showed measurable radiological levels above background levels.

3.0 CERTIFICATION OF CLOSURE

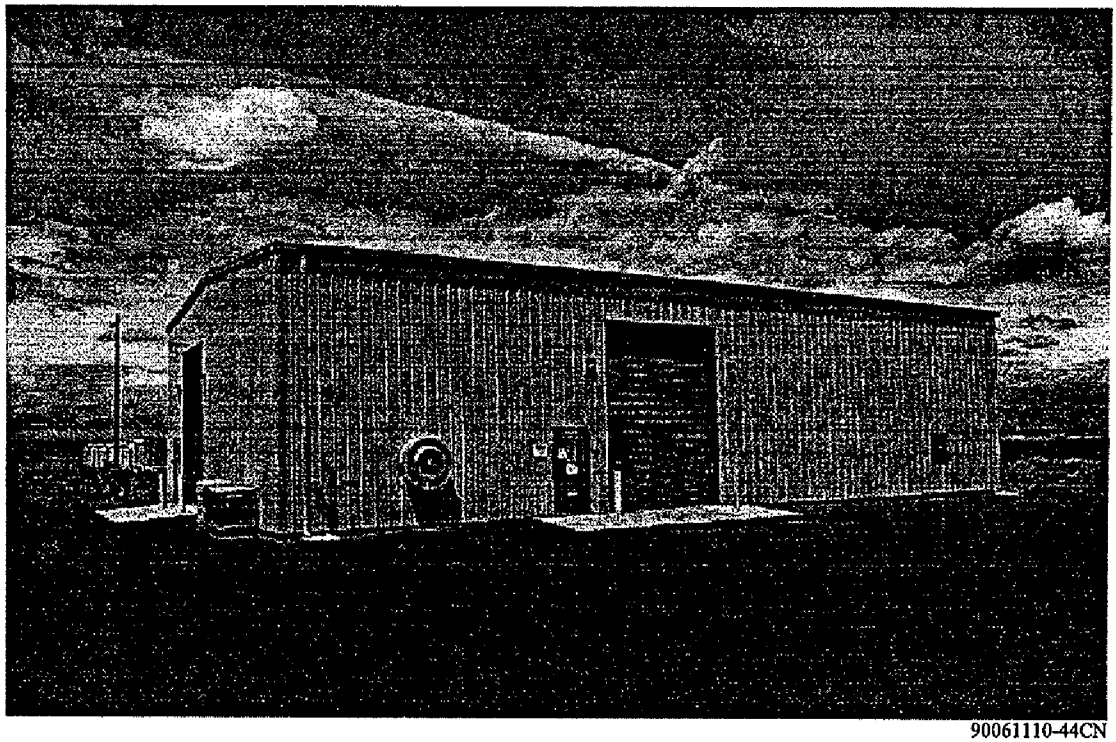
After completing closure activities, a preliminary PE statement (Appendix C) that the activities were performed in accordance with technical specifications of the closure plan was prepared and provided to Ecology (99-EAP-202). After approval of this closure plan by Ecology, final 2401-W closure certification will be prepared in accordance with WAC 173-303-610(6), transmitted to Ecology, and placed in the Administrative Record.

4.0 REFERENCES

98-EAP-475, Letter to L. J. Cusack, Ecology from James E. Rasmussen, DOE-RL, "Notification of Intent to Close the 2401-W Waste Storage Building", August 28, 1998.

99-EAP-202, Letter to Moses N. Jaraysi, Ecology from J. E. Rasmussen, DOE-RL, "Closure of the 2401-W Waste Storage Building", March 29, 1999.

DOE/RL-91-17, *Hanford Facility Dangerous Waste Permit Application, Central Waste Complex*, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington.



90061110-44CN

Figure 1. 2401-W Waste Storage Building.

APPENDIX A

SEARCH OF CENTRAL WASTE COMPLEX OPERATIONS RECORDS FOR 2401-W WASTE STORAGE BUILDING SPILL HISTORY

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SEARCH OF CENTRAL WASTE COMPLEX OPERATING RECORDS FOR 2401-W WASTE STORAGE BUILDING SPILL HISTORY

For closure of CWC, or any portion of CWC, operating records are reviewed and cognizant operations personnel interviewed to obtain spill history for the portion(s) undergoing closure (DOE/RL-91-17, Rev. 1, Chapter 11.0, Section 11.1.2). Spill history is necessary to help determine the need for and extent of decontamination necessary for clean closure. Closure of 2401-W , a portion of CWC, necessitated such activities to identify dangerous waste spills (if any) to surfaces of the building. As activities required by the approved closure plan, the operating records review and personnel interviews used to establish 2401-W spill history were intended to be sufficiently diligent to allow PE certification of the activities and for use as a credible basis in establishing conclusive 2401-W spill history. Certification by a registered professional engineer (PE) will be obtained.

The records review entailed a page by page review of all available records related to 2401-W operations. The records reviewed to satisfy this requirement included operations logbooks, RCRA weekly inspection records, and a search for 'offnormal' event reports. Also as a requirement, former and current cognizant 2401-W operations personnel were interviewed. Because closure of the 2401-W represents partial closure of CWC, the results of the document review and of personnel interviews will become the basis for removal of the 2401-W from the CWC TSD unit boundary by revision of the CWC Part A, Form 3, and Part B permit applications.

Operating documents and records currently are located as follows.

- Occurrence reports are located at MO 278.
- The most current CWC operating logbook is located in MO-288.
- Weekly inspection records before 1997 were retrieved from Records Management Information System (RMIS).
- All other records were found in the CWC regulatory file located at MO 720.

Background Information

In April 1988, waste storage operations began at the 2401-W. Weekly inspection records for 2401-W show that for all or most of the first 4 months of operations (until 08/03/88) little or no waste was stored in the building. This building was designed to meet all the requirements for storage of mixed waste (DOE/RL 91-17) in metal boxes or drums. Only containers in good condition were accepted. Transuranic waste was double contained. Where incidental free liquids were known to exist, containers were required to be packed with two times the calculated quantity of absorbent required to absorb the entire quantity of free liquids

Operations logbooks document the quantity of waste received at this unit and how waste was managed. These logbooks confirm that this building managed small quantities of specialized waste. When stored, the waste containers were seldom moved and remained in good condition after waste acceptance. Consequently, there was little potential for spills from defective containers, damaged or leaking containers due to container mishandling, or container degradation from weathering. The waste typically remained as stored until all waste finally was removed in August 1998 in preparation for building closure.

Records Review and Personnel Interviews

The event fact sheets, located in MO 278, and occurrence reports relating to CWC operations were reviewed. No event fact sheets or occurrence reports were generated for the 2401-W.

The CWC daily operating logbooks represent the most comprehensive, first-hand record of operations and cover the entire period of 2401-W operations. There are no logs dedicated solely to operations of the 2401-W. Except as noted, handwritten logbooks were available for review from 1988 to present. From the beginning of operations until October 1990, daily operations for all solid waste units (CWC, 224-T Transuranic Waste Storage and Assay Facility, 616 Nonradioactive Dangerous Waste Storage Facility, and Low-Level Burial Grounds) were consolidated into handwritten logbooks identified as sequentially numbered daily operating records (DOR). From February 1991 to the present, a separate logbook has been kept for each unit. The practice of uniquely numbering each operating logbook was discontinued in October 1996.

Handwritten logbooks were not available for review for October 1990 until February 1991, which was the transition period to the new, unit-specific logbooks. During this period, the DORs consisted of typewritten reports summarizing operators' handwritten pocket notebooks. These reports were generated daily and were an authoritative representation of normal daily occurrences and of significant events (e.g., waste shipments and process upsets, such as spills). Typewritten reports were available for the period of operations for which the daily handwritten logs were not available.

The following logbooks and reports were reviewed for evidence of spills. Although mention is made in logbooks of cleanup of rainwater and snowmelt that entered under the building's rollup doors, no mention is made of dangerous waste spills or container breaches that could have lead to spills.

- Logbook - SW-DOR-00003 (10/88 – 9/89)
- Logbook - SW-DOR-00004 (9/89 – 10/90)
- Report - SW-DOR-00005 (9/90 – 9/90, September only)
- Report - SW-DOR-00006 (10/90 – 9/91, Part 1 of 3)
- Logbook - SW-CWC-00001 (2/91-2/93)
- Logbook - SW-CWC-00002 (2/93-8/93)
- Logbook - SW-CWC-00003 (9/93-1/94)
- Logbook - SW-CWC-00004 (1/94-5/94)
- Logbook - SW-CWC-00005 (5/94-9/95)
- Logbook - SW-CWC-00006 (10/95-10/96)
- Logbook (10/96-6/97)
- Logbook (6/97–8/97)
- Logbook (8/97-4/98)
- Logbook (4/98-12/98)
- Logbook (12/98-present).

Weekly RCRA Inspections. Weekly inspections of 2401-W surfaces and of stored containers were documented on checklists. Checklist inspection parameters included unit cleanliness, storage surface integrity, container integrity, and indication of spills. The checklists were complete for the period of operations. Weekly inspection checklists do not indicate any leaking, damaged, or breached waste containers or evidence of spills on containment surfaces near containers. However, the inspection for September 7, 1988 identified that a "small amount" of oil had been spilled to the floor from a forklift by

the east door but had been cleaned up immediately. The following weekly inspection records were reviewed for evidence of spills.

- June 1988 through December 1997 (retrieved from RMIS):
  - SW-2401-W-1989
  - SW-2401-W-1990
  - SW-2401-W-1991
  - SW-2401-W-1992
  - SW-2401-W-1993
  - SW-2401-W-1994
  - SW-2401-W-1995
  - SW-2401-W-1996.

- Weekly Inspection checklists for January 1997 to present (CWC regulatory file):
  - No log number (1/97 – 3/97)
  - No log number (4/97 – 6/97)
  - No log number (7/97 – 9/97)
  - No log number (10/97 – 12/97)
  - No log number (1/98 – 3/98)
  - No log number (4/98-6/98)
  - No log number (7/98-9/98)
  - No log number (9/98-present).

Operations Personnel Interviews. Cognizant current and former CWC operators and operations managers were interviewed for direct or indirect knowledge of waste spills or container breaches in the 2401-W. Management and hands-on operators for the entire period of 2401-W operations were interviewed. All personnel interviewed were asked the following question: "Are you aware of any waste spills, leaks, or waste container breaches in the 2401-W Building?"

Operations managers interviewed.

- The CWC Operations manager from 1987 to November 1990 and again from June 1997 to the present, was interviewed in person October 28, 1998. He responded that during his tenure as operations manger, no spills or container breaches occurred in the 2401-W Building.

- The CWC Operations manager from November 1990 to March 1993 was interviewed in person October 28, 1998. He responded that during his tenure as operations manager, no spills or container breaches occurred in the 2401-W Building.

- The CWC Operations supervisor from March 1993 to June 1997 responded electronically to the potential for leaks at 2401-W on December 10, 1998. She stated that during her tenure as operations manager, no spills or container breaches occurred in the 2401-W Building.

Cognizant operators.

- A CWC Nuclear Process Operator (NPO) from 1988 to the present was interviewed in person October 29, 1998. He stated there had not been any spills or container breaches since the beginning of 2401-W operations.

- A CWC NPO from before 1988 to the present was interviewed October 28, 1998 by telephone. He indicated that no spills or container breaches occurred since the beginning of 2401-W operations.

- A CWC NPO from before 1988 to the present was interviewed December 10, 1998 by telephone. He indicated that that no spills or container breaches occurred since the beginning of 2401-W operations.

Results of Records Review and Personnel Interviews

The operating records review and personnel interviews used to establish 2401-W spill history were sufficiently diligent to allow PE certification of these closure activities and for use as a credible basis in establishing conclusive 2401-W spill history.

Sufficient operating records and reports exist, and cognizant personnel were available for interview, to establish that an authoritative and complete record of 2401-W operations exists.

Operating records and reports and personnel interviews identify no spills to 2401-W surfaces. No occurrence reports were written to document releases to the 2401-W. No mention is made in daily operations logs or in weekly inspection reports of waste spills to 2401-W floors. All personnel interviewed indicated that to their direct or indirect knowledge, no waste leaks or container breaches occurred that could have contaminated 2401-W surfaces. Further, stringent waste acceptance criteria for containers, the relatively small quantity of waste managed at this unit, the minimal level of container handling once waste was stored, and the fact that degradation of containers by weathering was not a factor, greatly minimized the potential for spills.

From the records, reports, and interviews documented herein, it reasonably can be concluded that no dangerous waste spills occurred to the floors of the 2401-W.

APPENDIX B

RADIATION SURVEY AND VISUAL INSPECTION CHECKLIST

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RADIATION SURVEY AND VISUAL INSPECTION CHECKLIST FOR CENTRAL WASTE COMPLEX CLOSURE ACTIVITIES

Instructions for completing this checklist are on pages 3 and 4.

1. **Structure undergoing closure:** 2401-W Storage Building (Floor Plan, page 5)

2. **Components/materials being inspected:** Epoxy-coated concrete floor

3. **Structure spill history:**

   (1) The document reviews and personnel interviews required for determining spill history are complete.

   Chris R. Haas / CR Haas for BM Barnes 2-8-99
   Signature / Printed name / Date

   (2) Spill(s) are identified on building floor plan. NA [NA per step 3(1) if no documented spills]
   ___ / ___ (Initial/date)

4. **Assigned visual inspectors and radiation survey personnel:**

   (1) Visual inspector(s):

Name	Signature	Initials
M L Hatfield	M L Hatfield	mLH
D.E. Pearhin Jr	[signature]	DEP
D.R. Pryfel	[signature]	DRP

   Assigning manager: [signature] 2/9/99
   Signature / Date

   (2) Radiation survey personnel:

Name	Signature	Initials
Rhonda Stapper	Rhonda Stapper	RS
Roger Holcombe	R.A. Holcombe	RH
Emily Millikin	Emily Millikin	EM

   Assigning manager: JL Miller EQ Millikin for 2/9/99
   Signature / Date

5. **Initial Radiation Survey**

   (1) Initial radiation survey(s) completed. (Initial/date) RS 12-9-99

   (2) Radiological performance standard met for all surveyed locations. (Yes or No) Yes (Initial/date) RS 12-9-99. If No, do step 7.

   (3) Radiation survey comments (if any): Survey of Random Cleanup areas performed. no Contamination was found.

   RS 12-9-99 (Initial/date)

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6. Initial Visual Inspection

(1) Initial visual inspection of all locations is complete. (Initial/date) DSP 12-9-99

(2) Visual performance standard met for all locations. (Yes or No) Yes
(Initial/date) DSP 12-9-99. If No, do step 7.

(3) Visual inspection comments (if any): DSP 12-9-99 None Cleaned stain in section D1 and Re surveyed area.

DSP 12-9-99 (Initial/date)

7. Decontamination and Verification N/A [NA if Steps 5(2) and 6(2) are marked Yes]

(1) Decontamination method used: _____

_____ / _____ (Initial/date)

(2) Comments on decontamination (if any): _____

_____ / _____ (Initial/date)

(3) Decontamination is complete.
_____ / _____ (Initial/date)

Note: Decontamination waste will be collected, designated, and disposed of accordingly.

(4) Verification of visual and radiological performance standards for decontaminated locations.

(a) Radiation survey complete and radiological performance standards met at all decontaminated locations. _____ / _____ (Initial/date)

(b) Visual inspection complete and visual performance standard met for all decontaminated locations. _____ / _____ (Initial/date)

8. Additional comments (if any): None

DSP 12-9-99 (Initial/date)

9. The checklist is complete. DSP 12-9-99 (Initial/date)

Note: Forward the completed checklist to the CWC Environmental Compliance Officer for placement in the CWC regulatory file.

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RADIATION SURVEY AND VISUAL INSPECTION CHECKLIST FOR CENTRAL WASTE COMPLEX CLOSURE ACTIVITIES

Instructions for Completion

1. Identify the CWC structure undergoing closure.

2. Identify the portion of the structure undergoing closure and the type of material (e.g., coated concrete floor).

3. (1) An assigned inspector [step 4(1)] or other cognizant Solid Waste personnel will sign this step when document reviews and personnel interviews required by the closure plan to establish spill history for the locations identified at steps 1 and 2 are complete and documented. If no spills occurred, mark step 3(2) NA.

   (2) If this step is not marked NA, an assigned inspector will sign off that spill history documentation completed for step 3(1) has been reviewed and the location of all documented spills is shown on the gridded floor map (page 5) for inspection.

4. (1) and (2). The appropriate manager will sign off this step when visual inspection and radiation survey personnel are assigned. Inspection and survey personnel will sign and print their name and enter their initials.

5. (1) Initial radiation survey(s) are anticipated to occur at the time of the visual inspections. Inspector(s) will sign off that all randomly selected locations and all visual indications [step 6(2)] have undergone initial radiation survey as described below and all surveyed locations and the survey method used are documented on attached floor plan.

   Performing the radiation survey:

   - **Establishing radiological background.** Radiological background will be established using onsite methods and good health physics practices. The health physics technician will enter the building, turn on the instrument, set the range switch to the lowest range, and allow a 10-second warm up. For the Geiger-Mueller portable survey instrument, the maximum background is limited to 150 counts per minute. Instrument efficiency is based on the instrument being held within ¼" of the surface. For the portable alpha meter, 3 counts per minute will allow efficient operation.

   - **Radiation survey methods.** Radiation survey(s) will consist of using appropriate hand-held instrumentation and/or of smears that will be read with stationary equipment located at MO-438. Large area wipe (LAW), technical smear (TS), static measurement (SM), and scan measurement (Scan) will be used as considered necessary. LAWs entail wipedown of an area approximately 300 square centimeters by hand with a swipe media. The surface is counted with the portable instrument. A TS entails taking wipes of an area approximately 100 square centimeters with the swipe media which is counted by stationary equipment located as MO-438. SMs entail holding the probe within ¼ inch of the area to be surveyed and holding at that location for 10 to 20 seconds. Scans entail holding the probe ¼ inch from the surface and scanning a location at a travel speed of approximately 2 inches per second.

(2) The radiological performance standard is 'no measurable amounts of radiological contamination above background levels'. Any spot, area, or location that exceeds radiological background will be considered a radiological indication that will be identified on the attached floor plan. The TS method will be used to identify the extent of radiological contamination.

(3) Enter any comments regarding the radiation survey.

Note: A current radiological release for the entire 2401-W Storage Building is documented on Radiological Survey Report, Number SW 243073 (Attachment 1).

6. (1) Initial visual inspections will be considered complete and this step signed off when all locations identified in steps 1 and 2 and on the floor plan (page 5) have been inspected for achievement of the visual performance standard.

(2) The dangerous waste performance standard is 'no obvious visual signs of potential dangerous waste contamination'. Surfaces must be free of indications of dangerous waste, except for residual waste stains consisting of light shadows, slight streaks, or minor discoloration. A visual indication is any area that does not meet this standard. *Note: This visual standard is more stringent than the 40 CRF 268.45 'clean debris surface' standard for clean closure of containment structures recommended in Ecology's Guidance for Clean Closure of Dangerous Waste Facilities (Publication #94-111) that allows residual staining and some waste to remain after closure.*

(3) Enter any comments regarding the visual inspections.

7. (1) Surface(s) will be decontaminated by being washed, wiped, or scrubbed by hand using damp cloths, paper towels, or brushes and, as necessary, a nonregulated cleaner or detergent. The decontamination method and materials used will be entered.

(2) Enter any comments regarding decontamination.

(3) This step is signed off when all locations shown as requiring decontamination by steps 5(2) and 6(2) are decontaminated.

(4) (a) Sign off step after all decontaminated locations are surveyed using the TS method (unless survey personnel identify a more appropriate survey method) and the radiological performance standard described in step 5(2) is met.

(b) Sign off step when all decontaminated location(s) have been visually inspected and the visual performance standard described in step 6(2) is met.

Note: Decontamination waste will be collected, designated, and disposed of accordingly.

8. Enter any comments not previously entered.

9. This step is signed off when inspector(s) have reviewed the checklist and all steps are complete and verified, and all visual and radiological indications identified on the floor plan (page 5) are dispositioned. *Note: The completed checklist is to be forwarded to the CWC Environmental Compliance Officer for placement in the CWC regulatory file.*

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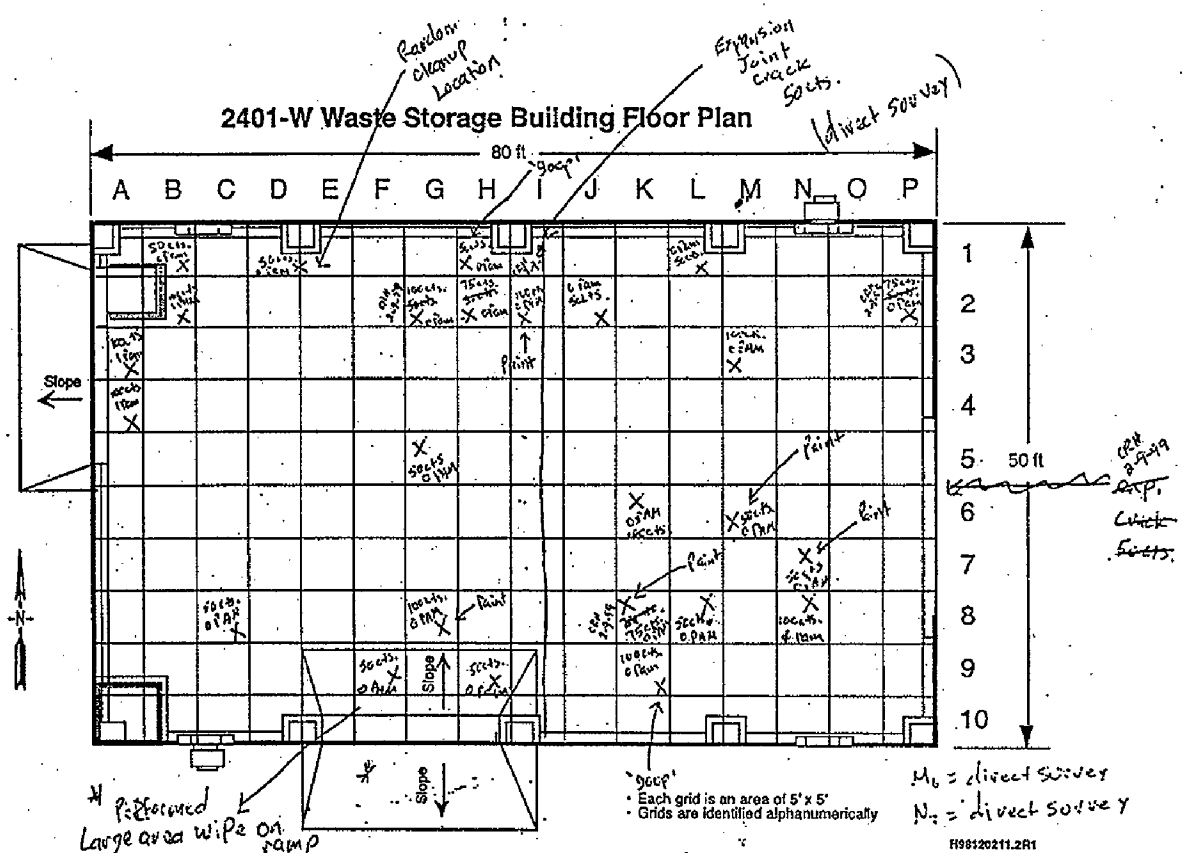
990203.1558

APP B-5



direct survey = 'scan'

B_1 = direct survey
D_1, E_1 = direct survey
H_1 = direct survey
L_1 = direct survey
P_2 = direct survey
H_2 = direct survey
J_2 = direct survey
G_2 = direct survey
B_2 = direct survey
M_2 = direct survey
G_5 = direct survey
L_8 = direct survey
N_8 = direct survey
C_8 = direct survey
K_9 = direct survey
M_6 = direct survey
N_7 = direct survey
F_9, H_9 = direct survey
A_3, A_4 = direct survey
K_8 = direct survey
G_8 = direct survey
I_2 = direct survey

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PROJECT HANFORD RADIOLOGICAL SURVEY REPORT

Survey Report No. SW 243073

Page 1 of 2

Date	Time (Start/Stop)	Area/Bldg./Room/Location	F.C.
12-17-98	1030 / 1130	200 WEST / 2401-W / 204	SW

RWP Number	Work Package/Job Control Package/JSA	Routine Surveillance Task Number	Radiological Shipping Rec. Number
SW-001	N/A	N/A	N/A

Purpose of Survey (check appropriate box(es)): ☐ Job Coverage, ☐ Required Task, ☐ Material Release, ☐ Ram Shipment

Contamination Incident: ☐ Skin, ☐ Clothing, ☐ Spill — Alarm Response: ☐ Cam, ☐ ARM, ☐ APM

☐ Exposure Incident ☒ HRA/VHRA Work Other: AREA SURVEY

Job Description: SURVEYED ENTIRE FLOOR AREA OF 2401-W BECAUSE BUILDING WAS EMPTY AND RELEASE SURVEY WAS REQUIRED. N/A N/A

DOSE RATE MEASUREMENTS Note1 F = Field (≥30 cm) C = Contact (<1 cm)

No.	Description	Dist. (cm) Note 1	WO (mR/hr)	WC (mR/hr)	CF_β	CF_γ	Neutron Dose (mrem/hr)	Shallow Dose (mrem/hr)	Deep Dose (mrem/hr)
			N/A						

CONTAMINATION (C) MEASUREMENTS

No.	Description	Direct Gross cpm/PA β γ	Direct Gross cpm/PA α	Background β γ	Background α	Total dpm/100 cm² β γ	Total dpm/100 cm² α	Removable dpm/100 cm² β γ	Removable dpm/100 cm² α
1	LARGE AREA WIPES OF	N/A							→
↓	TOTAL FLOOR (>1000 cm²)	N/A					→	<1000	<BKG
2	SPOT CHECK DIRECT FOR	N/A							→
↓	ALPHA (FLOOR AREA)	80	0	80	0	<5000	<500	N/A	N/A
3	TECHNICAL SWIPES (10)	N/A							→
↓	TAKEN ON FLOOR AREA	N/A						→	<20

AIR SAMPLE MEASUREMENTS (μ Ci/ml)

	BZ	GA	Initial	Decay		BZ	GA	Initial	Decay
α 1			N/A		α 2			N/A	
β γ 1					β γ 2				

Sample Counter Log Number or Sample ID Number: SW 12171998104 N/A

BD-6000-010 (11)

990624.1020

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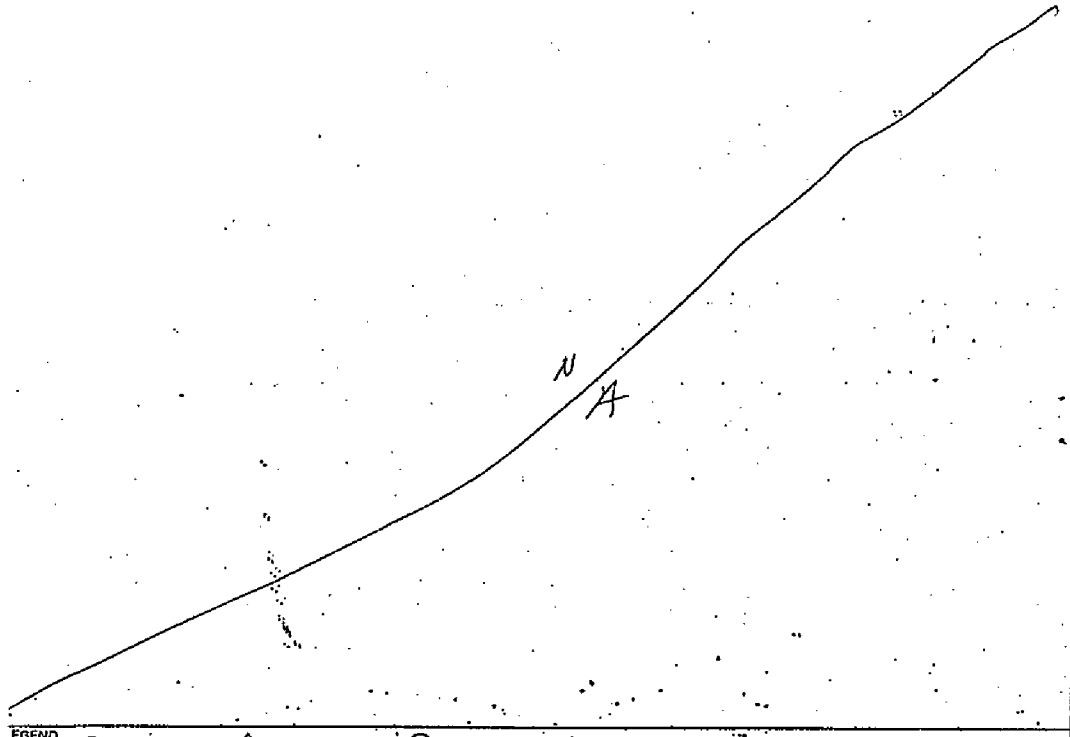
PROJECT HANFORD
RADIOLOGICAL SURVEY REPORT

Survey Report No. SW 243073

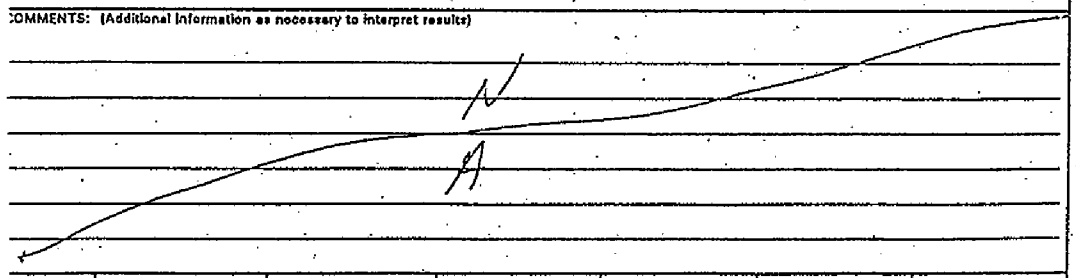
Page 2 of 2

Map/Sketch



LEGEND
Smear | Air Sample | LAW | Neutron | * Contact Reading
---------- (designation inside) ---------- Radiological Area Boundary
Dose Rates in mrem/h unless otherwise noted

COMMENTS: (Additional information as necessary to interpret results)



Instr./Probe Model	RO-38 (CP)	GM Model g-m probe	PAM	GM Model G-M Probe	PAM	SAC-4
Serial No.	N/A	EMEB5-0092	ACHN2 0314	EMEBB-0190	ACHN2 0025	ASEB3 0007
	NA	DTEB5-0520	DTHN3 0074	DTHNC-0777	DTHN3 0326	N/A
Efficiency (used)	NA	.10	.14	.10	.14	.57

12-17-98 / 12-17-98 Payroll No.: 64811 / 8075

Name (Print): R. Holcombe / R. Stamper

Signature: R Holcomba / R. Stamper

Reviewer: Date: 12/17/98 Payroll No.: 60703

Name (Print): Joel "Jane" Hutter

Signature: Joel "Jane" Hutter

BD-6000-010R (11/97)

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APPENDIX C

PRELIMINARY PROFESSIONAL ENGINEER CLOSURE STATEMENT

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07/99

Attachment 01 Page 1 of 1
CO-99-WMH-073
February 12, 1999

PRELIMINARY PROFESSIONAL ENGINEER'S STATEMENT FOR CLOSURE OF THE 2401W STORAGE BUILDING

Chapter 11 of the "Hanford Facility Dangerous Waste Permit Application" (DOE/RL-91-17 Rev 1) gives the closure requirements for the Central Waste Complex Storage Facilities (CWC). The document is in the process of approval by the Washington State Department of Ecology. Closure activities based on the current document have been completed.

Periodic site visits, phone conversations and document reviews were conducted to observe and document the closure activities. Each inspection activity was recorded on the Inspection Checklist for CWC Closure Activities. My field trip observations are recorded on Field Trip Report forms.

All requirements for closure activities stipulated by the current closure documents have been met. The periodic inspections including the final inspection revealed no discrepancies.

The final certification of closure statement will be issued upon Ecology approval of the closure document.

Ronald G. Hollenbeck 2-12-99

Ronald G. Hollenbeck, P.E.
Washington #23750
Fluor Daniel Northwest Inc.

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Addendum H1

Closure Plans

LLBG Trenches 31-34-94

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H1 - LLBG Trenches 31-34-94

H1 Introduction

Addendum H.1 discusses closure activities for the Low-Level Burial Ground (LLBG) Trenches 31-34-94 Operating Unit Group (OUG).

H1.1 Facility Contact Information

The Hanford Facility is owned by the U.S. Government and operated by the U.S. Department of Energy (DOE). The contact information is as follows:

U.S. Department of Energy, Richland Operations Office
P.O. Box 550
Richland, WA 99352
(509) 372-2400

H1.2 Facility Description

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and is managed and operated by DOE. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed at the Hanford Facility.

The LLBG Trenches 31-34-94 OUG (hereinafter referred to as LLBG Trenches 31-34-94) are comprised of the following three trenches: LLBG Trenches 31 and 34 in the 200 West Area of the Hanford Facility, and LLBG Trench 94 in the 200 East Area of the Hanford Facility. Previously, LLBG Trenches 31 and 34, and LLBG Trench 94 were managed as separate OUGs; however, due to similar missions and operational capabilities, they are now being combined into one OUG. Trench 94 is not included in this Closure Plan and is not addressed further.

H1.3 Facility History, Function, Location, and Layout

LLBG Trenches 31 and 34 are large rectangular excavations in the southwest corner of the 218-W-5 Burial Ground operated as units for disposal of treated and land disposal restriction (LDR) compliant dangerous and/or mixed waste. LLBG Trenches 31 and 34 are rectangular, and at the top are approximately 137 m (450 ft) long by 91 m (300 ft) wide, and 9 m (30 ft) in depth. LLBG Trenches 31 and 34 began receiving waste for disposal on September 15, 1999. The LLBG Trenches 31 and 34 are constructed with polyethylene liners and a leachate collection system. In addition, two waste storage pads (LLBG Trench 31 Waste Storage and Treatment Pad and LLBG Trench 34 Waste Storage and Treatment Pad) provide storage and/or treatment of waste before disposal (Figure 1).

H1.4 Products and Production Processes

LLBG Trenches 31-34-94 do not produce products and do not have production processes. Therefore, this section is not applicable.

H1.5 Dangerous Waste and Used Oil Management Units

The LLBG Trenches 31-34-94 OUG includes the following dangerous waste management units:

- LLBG Trench 31 Disposal Cell
- LLBG Trench 34 Disposal Cell
- LLBG Trench 94 Disposal Cell (not included in this Closure Plan)

- LLBG Trench 31 Waste Storage and Treatment Pad
- LLBG Trench 34 Waste Storage and Treatment Pad
- FS-1 Outdoor Container Storage Area (Closing Unit)

The LLBG Trenches 31-34-94 OUG does not have used oil management units.

Figure 1. Low-Level Burial Ground Trenches 31-34 Operating and Closing Dangerous Waste Management Units

H1 - LLBG Trenches 31-34-94
H1.A - Appendix A – FS-1 Outdoor Container Storage Area

A1 Introduction

This appendix discusses closure activities for the Low-Level Burial Ground (LLBG) Trenches 31-34-94 Operating Unit Group (OUG) FS-1 Outdoor Container Storage Area dangerous waste management unit (DWMU), hereinafter referred to as FS-1. This DWMU is located along the south side of Trench 34. The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU. The closure will be performed in accordance with the included schedule. This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

A1.1 Unit Description

FS-1 (Figure A-1 and Figure A-2) was originally designated as a waste storage area in November 2004 for the temporary storage of non-mixed low-level waste (LLW) containers from the 300 Area prior to their disposal into LLBG Trench 34. The temporary storage of LLW was completed in July 2005. From July 2005 to November 2007, no dangerous, mixed, or *Toxic Substances Control Act of 1976* (TSCA) polychlorinated biphenyl (PCB) LLW was stored in FS-1. From November 2007 through September 2008, FS-1 was used for the storage of LLW, mixed low-level waste (MLLW), and TSCA-PCB LLW containers prior to disposal into Trenches 31 and 34. A radiological survey was performed on FS-1 in March 2012 which confirmed no radiological contamination above the expected background levels.

FS-1 is a gravel covered, rectangular area approximately 14 m (15 yd) wide by 69 m (75 yd) long equaling a total storage area of 966 m^2 (1,125 yd^2). The perimeter of the storage area is defined by metal T-posts, with the corner posts holding signage designating the area as FS-1. There are no structures or equipment located at the storage area.

FS-1 does not currently store dangerous, mixed, or TSCA-PCB waste. Future dangerous waste container storage and treatment of dangerous, mixed, or TSCA-PCB waste are not authorized within the FS-1 DWMU and will not be requested after *Resource Conservation and Recovery Act of 1976* (RCRA) closure is complete.

A1.1.1 Maximum Waste Inventory

The maximum inventory of MLLW and TSCA-PCB LLW waste stored on FS-1 over its lifetime included four MLLW containers with an approximate total volume of 12 m^3 (16 yd^3) and seven TSCA-PCB LLW waste containers with an approximate total volume of 5 m^3 (171 yd^3). MLLW and TSCA-PCB LLW waste storage occurred from November 2007 through September 2008. The MLLW stored at FS-1 was either treated to meet land disposal restriction (LDR) requirements prior to being stored in this area, or the waste met the LDR requirements at the time of generation. Details on the waste containers are presented in Section A3.3 of this closure plan.

Figure A-1. FS-1 and Trenches 31 and 34

Figure A-2. FS-1 Outdoor Container Storage Area

A2 Closure Performance Standard

Closure performance standards for FS-1 will be based on requirements found in WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," which require closure of the facility in a manner that:

- Minimizes the need for further maintenance

- Controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

These performance standards are addressed in Sections A2.1 and A3.9 of this closure plan.

A2.1 Clean Closure Levels

FS-1 will be clean closed. In accordance with WAC 173-303-610(2)(b)(i), the clean closure levels for soil will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the "Model Toxics Control Act—Cleanup" (WAC 173-340), hereinafter called MTCA, cleanup regulations (WAC 173-340-700, "Overview of Cleanup Standards," through -760, "Sediment Cleanup Standards," excluding WAC 173-340-745, "Soil Cleanup Standards for Industrial Properties"). These numeric cleanup levels will be calculated according to MTCA Method B unrestricted use standards current at the time of closure.

Sampling and analysis will confirm clean closure for the FS-1 gravel and soil. Should sampling and analysis of FS-1 indicate contamination above the MTCA Method B unrestricted use standards, then the potential for groundwater contamination will be reviewed and discussed with the Washington State Department of Ecology (Ecology). Any required changes to this closure plan resulting from the discussions will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

A3 Closure Activities

As a storage unit, clean closure determination for FS-1 is based on a review of the operational history, operating records, waste management records, and a visual inspection of the area to verify that waste related staining is not present. Based on these reviews, FS-1 is concluded to be in a safe configuration and will be clean closed under RCRA. Subsequently, soil sampling and analysis activities, determined by the results of the records review and visual inspection and developed utilizing EPA/240/R-02/005, *Guidance on Choosing a Sampling Design for Environmental Data Collection* (EPA QA/G-5S), will be conducted via a sampling and analysis plan (SAP) (Section A3.8). The objective of the sampling described in this document is to confirm that the MTCA Level B closure performance standards for soil demonstrating clean closure of FS-1 were met.

Closure activities required to achieve and verify clean closure for soil are as follows:

- Remove all dangerous, mixed, and TSCA-PCB LLW waste inventory (completed; see Section A3.2).
- Review waste container storage, operating, and inspection records (completed; see Section A3.3.).
- Perform a visual inspection of gravel and visible surface soil (completed; see Section A3.3.).
- Perform soil sampling and analysis to confirm that clean closure standards are met.

A3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in

accordance with the Solid Waste Operations Complex Central Waste Complex (CWC)-Waste Retrieval and Processing (WRAP), Addendum G, *Personnel Training*, and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will include the following:

- Training will provide the knowledge and skills needed for sampling personnel to perform work safely and in accordance with quality assurance (QA) requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

A3.2 Removal of Wastes and Waste Residues

No MLLW or TSCA-PCB LLW waste is currently stored at FS-1. MLLW was removed in September 2008, and TSCA-PCB LLW was removed in January 2008. FS-1 will no longer be used for dangerous, mixed, or TSCA-PCB waste storage.

A3.3 FS-1 Outdoor Storage Area Operating Records Review and Visual Inspection

To support the development of this closure plan and the included SAP, a review of the FS-1 RCRA operating records was completed (Table A-1). The records review included the following RCRA operating record documents: facility daily operating logbooks (including spill information), waste management records, and weekly dangerous waste inspection checklists. The RCRA operating record documents that were reviewed focused on the time frame during active MLLW or TSCA-PCB LLW storage. The records review included the time period of November 2007 through September 2008. The records review, completed on July 31, 2013, indicated no documented releases of MLLW or TSCA-PCB LLW waste to FS-1.

Table A-1. RCRA Facility Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
FS-1 Daily Operating Logbook Review	Logbook	FS-1	07/10/2007	04/16/2009	No
Checklist 2 – LLBG Weekly RCRA Inspections for Trenches 31 and 34 in 218-W-5 (Trench 34)	Weekly Inspection	FS-1	01/01/2007	09/23/2008	Yes*

* The container noted as an item of concern was not a dangerous waste container. No evidence of leaking was noted. See Attachment A for details.

LLBG = low-level burial ground

RCRA = *Resource Conservation and Recovery Act of 1976*

Waste management records for MLLW and TSCA-PCB LLW containers stored in FS-1 were reviewed to determine the target analytes to be included in the closure plan SAP. The waste management records review indicated that all target analytes in MLLW and TSCA-PCB LLW previously stored in FS-1 were LDR compliant (either treated to meet LDR requirements or were below the LDR-regulated levels at the time of generation) prior to storage in FS-1 (Table A-2).

A visual inspection was completed on July 31, 2013 to identify any dangerous waste related staining in FS-1. No waste related staining was identified during the visual inspection; therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment A and include the FS-1 Daily Operating Log Book Review sheet, the LLBG Trench 34/FS-1 Weekly Dangerous Waste Inspection Checklist Review, LLBG 218-W-5, FS1 Outdoor Container Storage Area visual inspection sheet, and any additional supporting information.

Table A-2. Waste Container Data

Container ID	Facility ID	Storage Unit	Waste Package Type	Package Volume (m^2)	Waste Type	Moved In Date	Moved Out Date	Assigned Waste Code	LDR Status
MW07700211	LLBG 218W5	FS1	DOT METAL BOX	2.72	MLLW	11/29/2007	11/29/2007	D005, D006, D007, D008, D009, D011, D035, F001, F002, F003	TREATED TO MEET LDR STANDARDS
MW07700604	LLBG 218W5	FS1	DOT METAL BOX	2.72	MLLW	11/29/2007	11/29/2007	D007, D008, D009, D035, F002, F003, F005	TREATED TO MEET LDR STANDARDS
MW07700 6551	LLBG 218W5	FS1	DOT METAL BOX	6.38	MLLW	11/29/2007	11/29/2007	D007, D008, D009, D011, D026, D035, D037, F001, F002, F003, F004, F005, P029, P030, P098, P106, P120, U002, U031, U108, U123, U133, U154, U159, U162, U210, U239	TREATED TO MEET LDR STANDARDS

Table A-2. Waste Container Data

Container ID	Facility ID	Storage Unit	Waste Package Type	Package Volume (m^2)	Waste Type	Moved In Date	Moved Out Date	Assigned Waste Code	LDR Status
0020830	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	MLLW	12/10/2007	09/10/2008	WT02	LDR COMPLIANT AT THE POINT OF GENERATION
0015656	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA
0015684	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA
0015687	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA
0015717	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA
0015760	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA
0017284	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA
PNL-00-139	LLBG 218W5	FS1	DOT 55-GAL DRUM	0.21	TSCA-LLW	12/10/2007	01/14/2008	NA	NA

DOT = U.S. department of transportation
ID = identification
LDR = land disposal restriction
LLBG = low-level burial ground
LLW = low-level waste
MLLW = mixed low-level waste
NA = not applicable
TSCA = *Toxic Substances Control Act of 1976*

A3.4 Unit Components, Parts, and Ancillary Equipment

The FS-1 DWMU does not have any unit components, parts, or ancillary equipment.

A3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for FS-1.

A3.6 Decontamination

Decontamination activities are not planned for FS-1.

A3.7 Identifying and Managing Contaminated Environmental Media

The records review and visual inspection outlined in Section A3.3 did not identify any documented releases of MLLW or TSCA-PCB LLW or the presence of potentially contaminated environmental media. Environmental media removal is not anticipated.

A3.8 Confirming Clean Closure

The FS-1 will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. Records review included facility daily operating logbooks (including spill information) and weekly dangerous waste inspection checklists as outlined in Section A3.3. In addition to the records review, a visual inspection of the area was performed to identify any dangerous waste-related staining of the gravel or visible surface soil.

All MLLW and TSCA-PCB LLW waste has been previously removed, and there have been no documented spills or releases of MLLW and TSCA-PCB LLW. Post-closure escape of MLLW, TSCA-PCB LLW, and any associated constituents, leachate, contaminated run-off, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

FS-1 is adjacent to the LLBG Trench 34 DWMU. Sampling of FS-1 will be conducted to confirm that soil unrestricted use cleanup standards (MTCA B) have been achieved. Once analytical results confirm clean closure levels of target analytes, a determination will be made to leave the gravel surface of FS-1 in place.

A3.9 Sampling and Analysis and Constituents to Be Analyzed

A3.9.1 Sampling and Analysis Plan

Sampling and analysis of the FS-1 gravel and soil will be conducted to confirm that clean closure levels have been achieved. All sampling and analysis will be performed in accordance with the sampling and quality standards established in this closure SAP. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable EPA guidance. Sampling and analysis activities will meet applicable requirements of SW-846, ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

A3.9.2 Target Analytes

Waste management records for MLLW and TSCA-PCB LLW containers previously stored at FS-1 were reviewed. The waste management records identified the federal and state waste codes required for disposal of MLLW and TSCA-PCB LLW. The identified waste codes were the basis for the list of target analytes for analysis in this SAP. Table A-3 details the waste codes listed for the FS-1 waste containers and the target analyte associated with that waste code.

Table A-3. Target Analyte List

Target Analyte (Waste Code)	CAS Number	Target Analyte (Waste Code)	CAS Number
Barium (D005)	7440-39-3	Ethyl ether (F003)	60-29-7
Cadmium (D006)	7440-43-9	Methanol (F003) (U154)	67-56-1
Chromium (Hexavalent) (D007)	18540-29-9	Methyl isobutyl ketone (F003)	108-10-1
Lead (D008)	7439-92-1	Xylene (F003) (U239)	1330-20-7
Mercury (D009)	7439-97-6	o-Cresol (F004)	95-48-7
Silver (D011)	7440-22-4	Benzene, nitro (F004)	98-95-3
Cresol (D026)	N/A	Benzene (F005)	71-43-1
Methyl ethyl ketone (MEK) (D035) (F005) (U159)	78-93-3	Pyridine (F005)	110-86-1
Pentachlorophenol (D037)	87-86-5	2-nitropropane (F005)	79-46-9
Carbon tetrachloride (F001) (F002)	56-23-5	Carbon disulfide (F005)	75-15-0
Trichloroethylene (F001) (F002)	79-01-6	Isobutanol (F005)	78-83-1
1,1,1-Trichloroethane (F001) (F002)	71-55-6	2-ethoxyethanol (F005)	110-80-5
Methylene chloride (F001) (F002)	75-09-2	Toluene (F005)	108-88-3
Tetrachloroethylene (F001) (F002) (U210)	127-18-4	1-Butanol (I) (U031)	71-36-3
Chlorinated fluorocarbons (F001) (F002)	N/A	1,4-Diethyleneoxide (U108)	123-91-1
Chlorobenzene (F002)	108-90-7	Formic Acid (U123)	64-18-6
Ortho-dichlorobenzene (F002)	95-50-1	Hydrazine (R,T) (U133)[a]	302-01-2
1,1,2-trichloroethane (F002)	79-00-5	Methyl methacrylate (I,T) (U162)	80-62-6
1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Copper Cyanide (P029)[b]	544-92-3
Acetone (F003) (U002)	67-64-1	Cyanides (P030)	N/A
N-butyl alcohol (F003)	71-36-3	Potassium cyanide (P098)[b]	151-50-8
Cyclohexanone (F003)	108-94-1	Sodium cyanide (P106)[b]	143-33-9

Table A-3. Target Analyte List

Target Analyte (Waste Code)	CAS Number	Target Analyte (Waste Code)	CAS Number
Ethyl acetate (F003)	141-78-6	Vanadium oxide (P120)	1314-62-1
Ethyl benzene (F003)	100-41-4	Polychlorinated biphenyls (PCBs) (Aroclors)	N/A

a. Due to the reactive and volatile nature of hydrazine, quantitation is difficult and its presence in soil samples from waste stored in 2008 is unlikely, therefore; samples will not be analyzed for hydrazine.

b. Analyzed as total cyanide.

CAS = Chemical Abstracts Service

N/A = not applicable

A3.9.3 FS-1 SAP Schedule

Confirmation closure sampling and analysis will be performed in accordance with the closure plan schedule in Section A4.

A3.9.4 FS-1 Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

A3.9.5 Sampling Design

Sample locations will be determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The FS-1 global positioning system (GPS) latitude and longitude coordinates were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, the VSP software determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by the VSP software and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by the VSP software, and the subsequent nine sample locations were assigned by the VSP software using a rectangular grid sampling method. Supporting documentation for the VSP software sampling designations are documented in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented MLLW or TSCA-PCB LLW have been released to FS-1, and no waste related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

A3.9.6 Sampling Methods and Handling

Grab sample matrix will consist of gravel and soil collected in pre-cleaned sample containers taken at a depth of 0 to 15.24 cm (0 to 6 in.) below ground surface. For the purpose of this SAP, ground surface is defined as the exposed surface layer once loose gravel has been moved aside. To gather the most representative sample, loose gravel will be moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil are sampled, the sampled media will be screened to remove material larger than approximately 2 mm (0.08 in.) in diameter. Grab samples will be collected into containers at the chosen node sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table A-4 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form.

Table A-4. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated Biphenyl	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days
aG = amber glass
G = glass
ICP-MS = inductively coupled plasma-mass spectrometry
P = plastic

To prevent potential contamination of the samples, care will be taken to use decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling Authorization Form and form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)

In addition, sample records must include the following information:

- Analysis required
- Sample location
- Matrix (e.g., water or soil)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained.

All waste (including unexpected waste) generated by sampling activities will be managed in accordance with applicable regulations.

A3.9.7 Analytical Methods

All analyses and testing will be performed consistent with this closure plan, laboratory analytical procedures, and HASQARD (DOE/RL-96-68). The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above clean closure level but less than the PQL of the analytical method, Ecology will be notified and alternatives will be discussed to demonstrate clean closure levels.

Analytical methods and performance requirements associated with the target analytes are outlined in Table A-5.

A3.9.8 Quality Control

Quality control (QC) procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table A-6.

Table A-5. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[c] (mg/kg)	Accuracy Req't (% Recovery)[b]	Precision Req't (RPD)[b]
			Carcinogen	Non-Carcinogen			
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	N/A[c]
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
87-86-5	Pentachlorophenol	SW-846 Method 8260	8.33	2,400	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	N/A[c]
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]

Table A-5. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[c] (mg/kg)	Accuracy Req't (% Recovery)[b]	Precision Req't (RPD)[b]
			Carcinogen	Non-Carcinogen			
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4,800	0.005	N/A[c]	N/A[c]
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1,600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol (I-Butanol)	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	N/A[c]
108-10-1	Methyl isobutyl ketone (MIBK) (4-Methyl-2-Pentanone)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	N/A[c]
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]

Table A-5. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[e] (mg/kg)	Accuracy Req't (% Recovery)[b]	Precision Req't (RPD)[b]
			Carcinogen	Non-Carcinogen			
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	3,2000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
123-91-1	1,4-Diethyleneoxide (1,4-Dioxane)	SW-846 Method 8260	10	2,400	0.5	N/A[c]	N/A[c]
64-18-6	Formic Acid (U123)	Modified 9056A or Modified 300.0	N/A	160,000	NA	N/A[c]	N/A[c]
302-01-2	Hydrazine (U133)[d]	SW 846 Method 8260	0.333	N/A	NA	N/A[c]	≤20
80-62-6	Methyl methacrylate (I,T) (U162)	SW 846 Method 8260	N/A	112,000	0.010	N/A[c]	≤20
57-12-5	Cyanide	SW-846 Method 9010/9012/9013/ 9014	N/A	48	0.5	±30	≤30
1314-62-1	Vanadium oxide (vanadium pentoxide)	SW-846 Method 6010/200.8	N/A	720	NA	N/A[c]	N/A[c]
1336-36-3	Polychlorinated biphenyl	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	N/A[c]

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards;" -747, "Deriving Soil Concentrations for Groundwater Protection;" and -7490, "Terrestrial Ecological Evaluation Procedures," through -7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to MTCA Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. Due to the reactive and volatile nature of hydrazine, quantitation is difficult and its presence in soil samples from waste stored in 2008 is unlikely; therefore, samples will not be analyzed for hydrazine.

e. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

N/A = not applicable
NA = information not available

Table A-6. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Field Quality Control		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed. If only disposable equipment is used, then an equipment blank is not required. Otherwise, one per 20 samples per media[a].	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples[b]).	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory Quality Control[h]		
Method Blanks	1 per batch[h]	Laboratory contamination
Lab Duplicates	[c]	Laboratory reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate laboratory accuracy
Performance Evaluation Programs[d]	Annual	Evaluate laboratory accuracy
Double-Blind Standards	Quarterly[e]	Evaluate laboratory accuracy
Audit/Assessment	Annually[f] or every 3 years[g]	Evaluate overall laboratory performance and operations

Table A-6. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempted from duplicate sampling.

c. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE Quality Systems for Analytical Services requires annual audit of commercial laboratories.

g. DOE/RL-96-68, *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)*, does not define a frequency for assessment of onsite laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

DOE = U.S. Department of Energy

A3.9.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data are processed, resolution of those issues will be initiated.

The format and requirements for data validation activities are based upon the most current version of OSWER 9240.1-48, *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01), and OSWER 9240.1-51, *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process (EPA/240/B-06/002, *Data Quality Assessment: A Reviewer's Guide* [EPA QA/G-9R], and EPA/240/B-06/003, *Data Quality Assessment: Statistical Methods for Practitioners* [EPA QA/G-9S]).

A3.9.10 Documents and Records

The Project Manager is responsible for ensuring that the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document

control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b) to DOE and the lead regulatory agency.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook, and only authorized persons may make entries in logbooks. Logbooks will be signed by the field manager, supervisor, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The project manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following items will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- GPS data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following items:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*) will be managed in accordance with the requirements therein.

A3.9.11 Revisions to the Sampling and Analysis Plan and Constituents to Be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to this SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830, "Dangerous Waste Regulations," "Permit Changes."

A3.10 Role of the Independent Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

A3.11 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of FS-1 closure, certification that FS-1 has been closed in accordance with the specifications in this closure plan will be submitted to Ecology by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

A3.12 Conditions That Will Be Achieved When Closure Is Complete

Upon confirmation of clean closure levels through sampling and analysis, FS-1 will remain in an "as-is" state with the gravel remaining in place. The area surrounding FS-1 is an industrial setting and will continue to be used due to the active RCRA compliant landfill operations in the immediate vicinity; therefore, no removal of gravel is necessary, and the land will not be restored to its pre-operational appearance. The storage area marking will be removed once the closure activities are completed. A permit modification request will be submitted after clean closure has been confirmed to remove FS-1 from the sitewide permit active DWMUs.

After operations of the LLBG Trenches 31-34 have ceased, a RCRA compliant engineered cover will be placed over the trenches.

A4 Closure Schedule and Time Frame

Confirmation sampling and analysis activities will be completed no more than 180 days after approval of the permit modification incorporating this closure plan. Should unexpected circumstances arise and an extension to the 180-day closure activity expiration date be deemed necessary, a Class 1 permit modification request will be submitted to Ecology for approval at least 30 days prior to the 180-day expiration date in accordance with WAC 173-303-610(4)(c) and WAC 173-303-830, Appendix I. The extension request would also demonstrate that all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, have been and will be taken. Closure certification will be submitted to Ecology within 60 days following completion of closure activities at FS-1as outlined in Section A3.11 (Figure A-3).

A5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility treatment, storage, and disposal units having final status is not required per Permit Condition II.H.

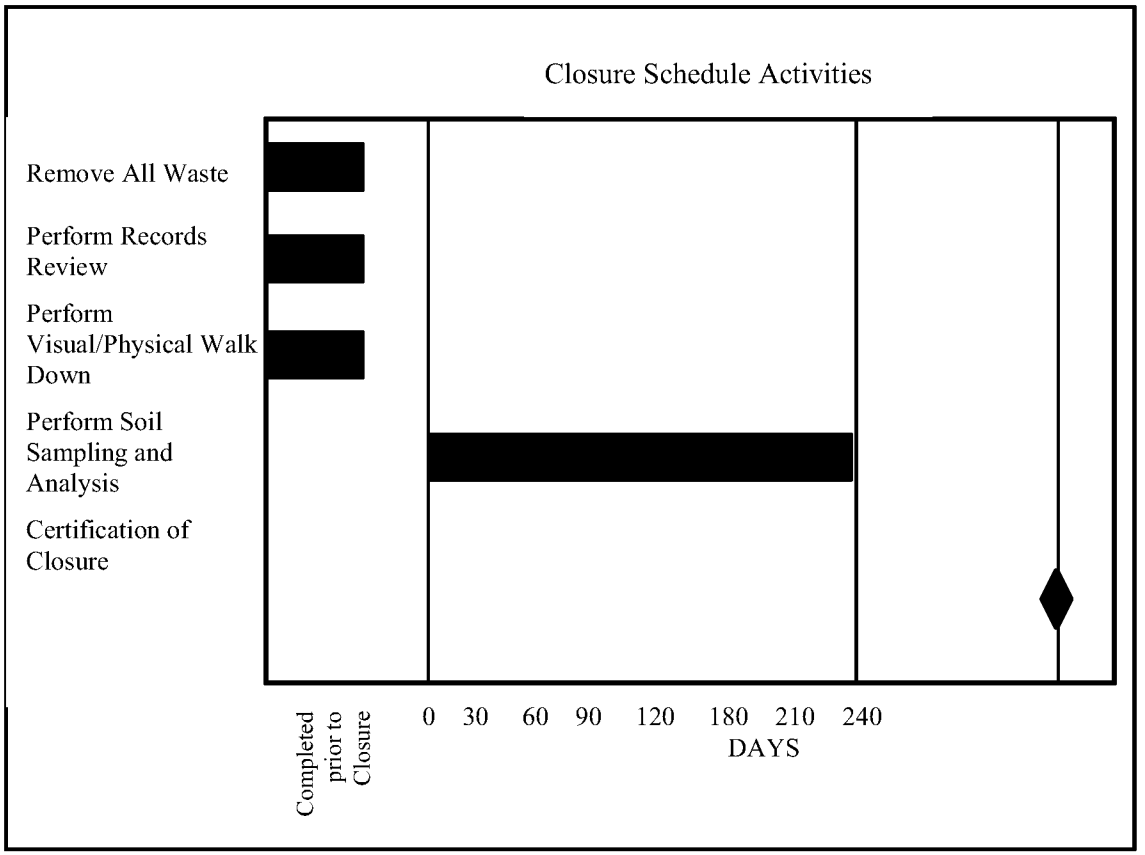

Figure A-3. FS-1 Outdoor Container Storage Area Closure Schedule Activities

Attachment A

Records Review and Visual Inspection Supporting Documentation

1

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LLBG 218-W-5, FS1 Outdoor Container Storage Area

Purpose:

A visual inspection walkdown of the 218-W-5 FS1 outdoor container storage area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous that were stored at this location during the period of November 2007 through September 2008. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on July 31, 2013 by Dean Nester, Waste Disposition Project Manager (CHPRC), and Lana Strickling, Low-Level Burial Grounds Environmental Compliance Officer (CHPRC).

Results:

No staining of any kind was identified on the storage area surface. Only a few small pieces of debris material were observed and photographed:

- Unused drum wicks – approximately 6
- Dried caulking material – approximately 4-6 small pieces
- Piece of wood - ~ 10" x 1"

Housekeeping will be performed on the area prior to closure and the debris material will be removed.

Signature/Date:

Dean Nester: 7/31/2013

Lana Strickling: Lana Strickling 7/31/13

FS-1 Daily Operating Log Book Review

Date of Log Book Review:	7/31/13
Reviewer's Name:	Lana Strickling
Daily Operating Log Book Document No: Retrieval Project Daily Operating Log Book)	HNF-N-450 85 (Solid Waste Storage & Disposal/Waste
Log Book Timeframe (Month/Year to Month/Year):	7/10/07 – 2/6/08
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☑

Items of Concern:
Attach copies of log book pages noting concern.

Log Book Page# Referencing Spill:

Dates of Corrective Actions:
Attach copies of log book pages noting corrective actions.

Log Book Page# Referencing Corrective Action:

Reviewer's Signature and Date: Lana Strickling 7/31/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

FS-1 Daily Operating Log Book Review

Date of Log Book Review:	8/12/13
Reviewer's Name:	Joel Williams
Daily Operating Log Book Document No:	HNF-N-450-91; HNF-N-450-94
Log Book Timeframe (Month/Year to Month/Year):	02/07/08 – 8/26/08; 08/27/08 – 04/16/09
Items of Concern Noted (Circle)	YES☐ NO☑

If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concern:
Attach copies of log book pages noting concern.

Log Book Page# Referencing Spill:

Dates of Corrective Actions:
Attach copies of log book pages noting corrective actions.

Log Book Page#
Referencing Corrective Action:

Reviewer's Signature and Date: Joel Williams 8-20-2013

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

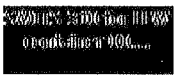
Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Strickling, Lana R

From: Tuott, Lee C
Sent: Thursday, August 01, 2013 8:02 AM
To: Horn, Sarah R; Williams, Joel F Jr; Seaver, Jennie R
Cc: Nester, Dean E; Strickling, Lana R; Dixon, Brian J; Johansen, Stephanie K; Engelmann, Richard H; Cawrse, Allan E; Ruck, Fred A III; Toebe, Wayne E; Swenson, Raymond T; Tarter, Kimberly D; Martin, Paul W - CHPRC
Subject: RE: COMPLETED REVIEW OF TRENCH 34/FS-1 RECORDS

To facilitate "closeout" for this container from a RCRA perspective (and to support future closure evaluation at Trench 31/31), I've attached the SWITS 310 report that identifies the container is a LLW (and not a dangerous waste).



Lee Tuott
WRAP & IDF Environmental Compliance Officer, CHPRC
509.376.1045 (office); 509.713.0065 (cell)
email: lee_c_tuott@rl.gov

From: Horn, Sarah R
Sent: Thursday, August 01, 2013 7:51 AM
To: Williams, Joel F Jr; Seaver, Jennie R
Cc: Nester, Dean E; Strickling, Lana R; Dixon, Brian J; Johansen, Stephanie K; Engelmann, Richard H; Cawrse, Allan E; Ruck, Fred A III; Toebe, Wayne E; Swenson, Raymond T; Tuott, Lee C; Tarter, Kimberly D; Martin, Paul W - CHPRC
Subject: RE: COMPLETED REVIEW OF TRENCH 34/FS-1 RECORDS

Jennie,
I confirmed the container number on the weekly inspection that Joel provided does not match any of the dangerous waste containers so we should be just fine.

Joel,
Thanks for getting those done so quickly!

Sarah

From: Williams, Joel F Jr
Sent: Thursday, August 01, 2013 7:39 AM
To: Seaver, Jennie R
Cc: Horn, Sarah R; Nester, Dean E; Strickling, Lana R; Dixon, Brian J; Johansen, Stephanie K; Engelmann, Richard H; Cawrse, Allan E; Ruck, Fred A III; Toebe, Wayne E; Swenson, Raymond T; Tuott, Lee C; Tarter, Kimberly D; Martin, Paul W - CHPRC
Subject: COMPLETED REVIEW OF TRENCH 34/FS-1 RECORDS

Jennie

Attached is a pdf copy of my completed and signed off review of LLBG Trench 34/FS-1 weekly inspection records from January 1, 2007 through September 23, 2008. This was the time period provided to me to review.

<< File: JFW Signed Review Records for TR 34 FS-1 7-31-2013.pdf >>
I just have one comment...I found a record during this time period (4-2-2008) that mentions that a container was found to have a pin hole. The record does not mention any leakage and does state that the container was repackaged. I have attached the record and email on this container. I realize that this does not meet the criteria of a leak for closure but I want to send this to you just in case.

<< File: LLBG Wky Insp Sheet 4-2-2008 and Email 7-31-2013.pdf >>
If you have any questions, please call me on 376-4782 or 528-7641.

Thanks for your time and patience.

Joel F. Williams Jr.
CHPRC Regulatory Inspection Lead
Environmental Protection
CH2M Hill PRC

LLBG Trench 34/FS-1 Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	SW-040-041 Inspect Low-Level Burial Grounds, Checklist 2 - LLBG Weekly RCRA Inspections for Trenches 31 and 34 in 218-W-5 (Trench 34)
Date of Review:	July 31, 2013
Reviewer's Name:	Joel F. Williams Jr.
Waste Management Unit:	Trench 34/FS-1
Time Frame of Weekly Inspections:	January 1, 2007 through September 23, 2008
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of log book pages noting concern.	
Dates of Corrective Actions: Attach copies of log book pages noting concern.	
Reviewer's Signature and Date:	Joel F. Williams 7-31-2013

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Page 1 of 1 JRS 8/5/13

SW-040-041	Inspect Low-Level Burial Grounds	H-0

Checklist 2 - LLBG Weekly RCRA Inspection for Trenches 31 & 34 in 218-W-5

Burial Ground (circle one): 218-W-5 Trench 31 (Trench 34) 1300 **Time/Date:** 4/2/08

#	Yes	No	N/A	Container Inspection Items
(1)		✓		Container integrity is not compromised by punctures, dents, penetrating scratches, loose lids, bulging, excessive corrosion or other damage/deterioration (where possible to inspect). **[TSR 5.6.12.e]**
2	✓			Containers are closed , are stored in a manner which will not rupture the containers or cause them to leak , and show no evidence of spillage or leakage, such as moisture on the sides or underneath (where possible to inspect). **[TSR 1.2]**
3	✓			Container marking/labeling is intact, unobscured, legible, and in good condition (where possible to inspect).
4	✓			Areas between and within 33 ft of waste zones are free of transient combustibles such as, paper, rags, trash, scrap wood, etc. **[TSR 5.6.7.b&c]**
5	✓			Aisle space between rows of containers appears to be at least 30 inches.
6	✓			Wind blown vegetation has been removed.
7	✓			Fire break defensible space (within 30 ft of waste containers) is clear of all ground fuels, dead rooted vegetation, and combustible materials. [TSR 5.6.7, Fire Breaks]
8	✓			Fire break defensible space (within 30 ft of waste containers) is clear of live vegetation. **[TSR 5.6.7, Fire Breaks]**
9	✓			Are trench walls and floor intact (not deteriorated, damaged or eroded)?
10	✓			Is asphalt pad intact (not deteriorated, damaged or eroded)?
11	✓			Is trench entrance ramp intact (not deteriorated, damaged or eroded)?
12	✓			Clean interim soil covers bulk waste. ***If answer is NO, Notify team lead.*** For Trench 34 Only
13	✓			Interim soil cover not eroded by wind or water. ***If answer is NO, Notify team lead.*** For Trench 34 Only
14	✓			Subsidence areas or sinkholes in interim soil cover are not observed. ***If answer is NO, Notify team lead.*** For Trench 34 Only

Comments/Observations: (1) Found possible puncture on Dram.# ~~0001248~~ 0001248, 3W30-02-308-01. Notify Teamlead and SBTA, Put Tape over the pinhole. Drum entered into ACMP. See open Item # 07-058, 07-055. Close out #07-058, weed spray is no longer needed. PRS 4/3/08 Add as new open item to LLBG RCRA open item list PRS 4/3/08

Operator (print/sign): B.S. Valerio 4/2/08 **Date/time:** 1520

Team Lead (print/sign): Brad L. Slettene **Date:** 4/3/08

Williams, Joel F Jr

From: Tarter, Kimberly D
Sent: Wednesday, July 31, 2013 9:05 AM
To: Williams, Joel F Jr
Subject: FW: 08-026

FYI

From: Matarazzo, Laci D
Sent: Wednesday, July 31, 2013 9:05 AM
To: Tarter, Kimberly D
Subject: RE: 08-026

Open Item List

Log #	R/N	C/L/S	Bldg/Item #	Tr #	Initiator	Item #	Inspected	Description/Status	Complete	Closed	Corr Action	H&SI Area
08-026	R	L	218-W-5, T34		BS Valerio		4/3/2008	Found possible puncture on Drum #0001248, SWSD-02-308-01.	X	5/22/2008	Possible puncture on Drum #0001248, SWSD-02-308-01. Notify Team Lead and SBTA, put tape over the pinhole. Drum entered into ACMP. (BS) 04/02/2008. Drum was overpacked and put into ACMP. (BS) 05/22/2008.	

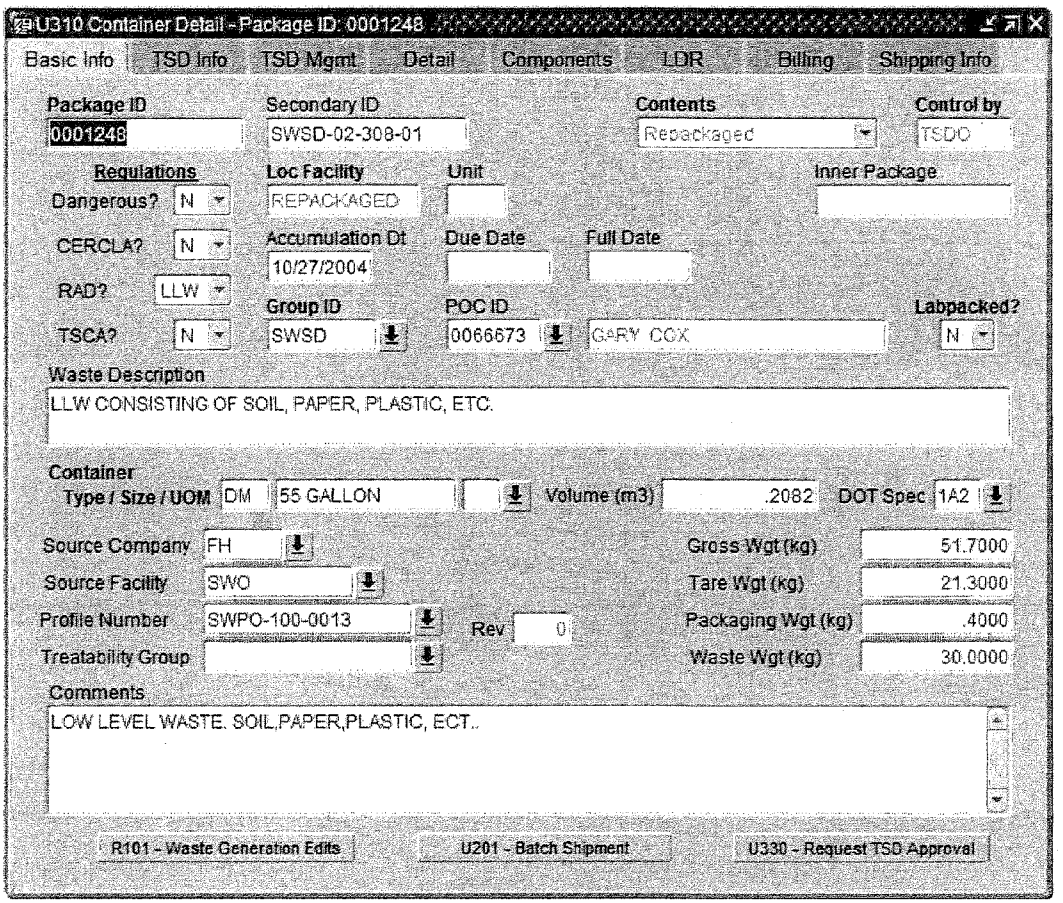
Laci

From: Tarter, Kimberly D
Sent: Wednesday, July 31, 2013 9:01 AM
To: Matarazzo, Laci D
Subject: 08-026
Importance: High

Hi Laci,
The only one I don't have is 08-026. Can you please look for this one?

Thanks,

1


U310 Container Detail - Package ID: 0001248
Basic Info
TSD Info
TSD Mgmt
Detail
Components
LDR
Billing
Shipping Info
Package ID
0001248
Secondary ID
SWSD-02-308-01
Contents
Repackaged
Control by
TSDO
Regulations
Dangerous? N
CERCLA? N
RAD? LLW
TSCA? N
Loc Facility
REPACKAGED
Unit
Inner Package
Accumulation Dt
10/27/2004
Due Date
Full Date
Group ID
SWSD
POC ID
0066673
GARY COX
Labpacked?
N
Waste Description
LLW CONSISTING OF SOIL, PAPER, PLASTIC, ETC.
Container
Type / Size / UOM
DM
55 GALLON
Volume (m3)
.2082
DOT Spec
1A2
Source Company
FH
Source Facility
SWO
Profile Number
SWPO-100-0013
Rev
0
Treatability Group
Gross Wgt (kg)
51.7000
Tare Wgt (kg)
21.3000
Packaging Wgt (kg)
.4000
Waste Wgt (kg)
30.0000
Comments
LOW LEVEL WASTE. SOIL,PAPER,PLASTIC, ECT..
R101 - Waste Generation Edits
U201 - Batch Shipment
U330 - Request TSD Approval

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Attachment B

Visual Sampling Plan Supporting Documentation

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

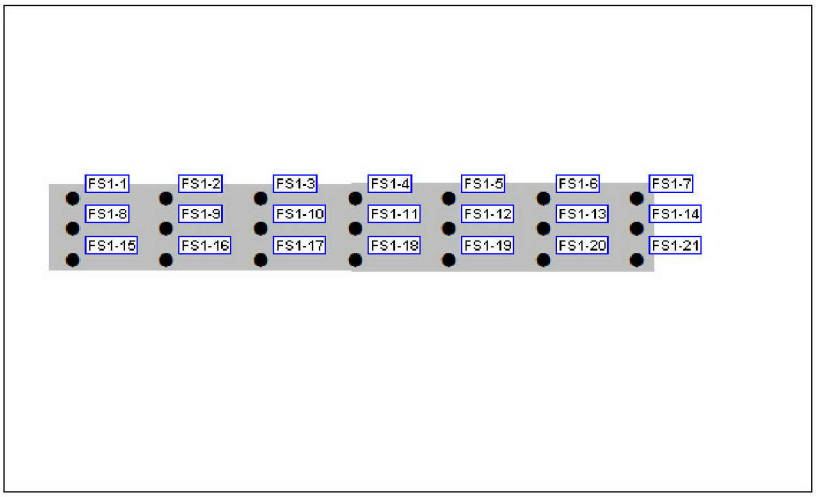
SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	21
Number of selected sample areas [b]	1
Specified sampling area [c]	0.00 ft^2
Size of grid / Area of grid cell [d]	4.10637e-005 x 0.000123191 feet / 5.05869e-009 ft^2
Grid pattern	Rectangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.

[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.

[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.

[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.



Area: FS1					
X Coord	**Y Coord**	**Label**	**Value**	**Type**	**Historical**
119.639816	46.559647	FS1-15		Systematic	
119.639939	46.559647	FS1-16		Systematic	
119.640062	46.559647	FS1-17		Systematic	
119.640185	46.559647	FS1-18		Systematic	
119.640309	46.559647	FS1-19		Systematic	
119.640432	46.559647	FS1-20		Systematic	
119.640555	46.559647	FS1-21		Systematic	
119.639816	46.559688	FS1-8		Systematic	
119.639939	46.559688	FS1-9		Systematic	
119.640062	46.559688	FS1-10		Systematic	
119.640185	46.559688	FS1-11		Systematic	
119.640309	46.559688	FS1-12		Systematic	
119.640432	46.559688	FS1-13		Systematic	
119.640555	46.559688	FS1-14		Systematic	
119.639816	46.559729	FS1-1		Systematic	
119.639939	46.559729	FS1-2		Systematic	
119.640062	46.559729	FS1-3		Systematic	
119.640185	46.559729	FS1-4		Systematic	
119.640309	46.559729	FS1-5		Systematic	
119.640432	46.559729	FS1-6		Systematic	
119.640555	46.559729	FS1-7		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The

working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

The values of these inputs that result in the calculated number of sampling locations are:

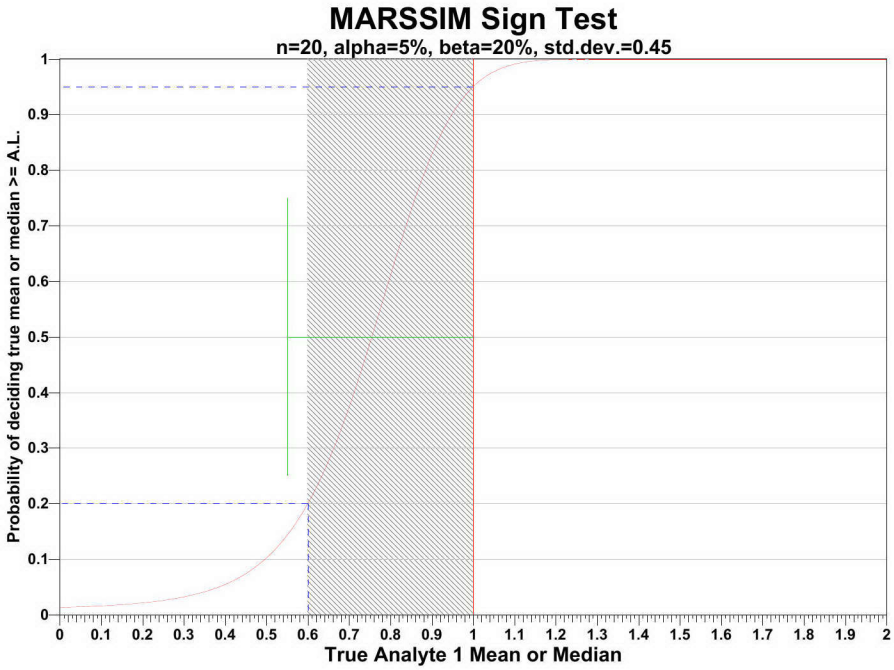
Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.

[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions

The assumptions associated with the formulas for computing the number of samples are:

1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis

The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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Addendum H2

Closure Plans

T-Plant Complex

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H2 – T-Plant Complex OUG

H2 Introduction

Addendum H.2 discusses closure activities for the T-Plant Complex Operating Unit Group (OUG).

H2.1 Facility Contact Information

The Hanford Facility is owned by the U.S. Government and operated by the U.S. Department of Energy (DOE). The contact information is as follows:

U.S. Department of Energy, Richland Operations Office
P.O. Box 550
Richland, WA 99352
(509) 372-2400

H2.2 Facility Description

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and is managed and operated by DOE. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed at the Hanford Facility.

The primary missions of the T-Plant Complex are treatment of dangerous and/or mixed waste and storage of containerized dangerous and/or mixed waste. Additional missions include characterization of Waste Retrieval Project retrieved waste, container venting, verification sampling, treatment, and repackaging of dangerous and mixed waste

Wastes that can be managed at T-Plant include low-level waste, mixed low-level waste, transuranic waste, mixed transuranic waste, hazardous/dangerous waste, and *Toxic Substances Control Act of 1976*-polychlorinated biphenyl waste. The multiple outside storage areas with different configurations provide the operational flexibility to support the various waste management activities at T-Plant.

H2.3 Facility History, Function, Location and Layout

The T-Plant Complex Operating Unit Group (T-Plant Complex) is located in Hanford's 200 West Area. The T-Plant Complex was constructed in 1943 for chemical separation of plutonium from uranium fusion and activation products, using the Bismuth-Phosphate/Lanthanum-Fluoride process. Beginning in 1957, T-Plant was used for decontamination operations. Currently, the T-Plant Complex provides container storage and treatment services for dangerous and/or mixed waste. The waste received and processed by the T-Plant Complex has been generated both on and off the Hanford Site.

H2.4 Products and Production Processes

The T-Plant Complex OUG does not produce products and does not have production processes.

H2.5 Dangerous Waste and Used Oil Management Units

The T-Plant Complex OUG includes the following operating dangerous waste management units (DWMUs):

- 214-T Building
- 221-T Canyon Deck
- 221-T Cells

- 221-T Railroad Tunnel
- 221-T Head End
- 221-T Operations Gallery Storage
- 2706-T Building
- 2706-T Asphalt Pad
- 2706-TA Building
- 2706-T Yard (including HS-030 and HS-032 Storage Modules)
- 243-T Covered Storage Pad
- 211-T Cage
- 221-T BY Storage Area

The T-Plant Complex OUG includes the following closing DWMUs:

- 271-T Cage (included in this closure plan)
- 211-T Pad (included in this closure plan)
- 221-T Sand Filter Pad (included in this closure plan)
- 221-T-R5 Waste Storage Area (included in this closure plan)
- 277-T Outdoor Storage Area (included in this closure plan)
- 2706-TB Tank System
- 221-T Railroad Cut
- 221-T Pipe Gallery Storage
- 221-T Tank System

The T-Plant Complex OUG does not have used oil management units.

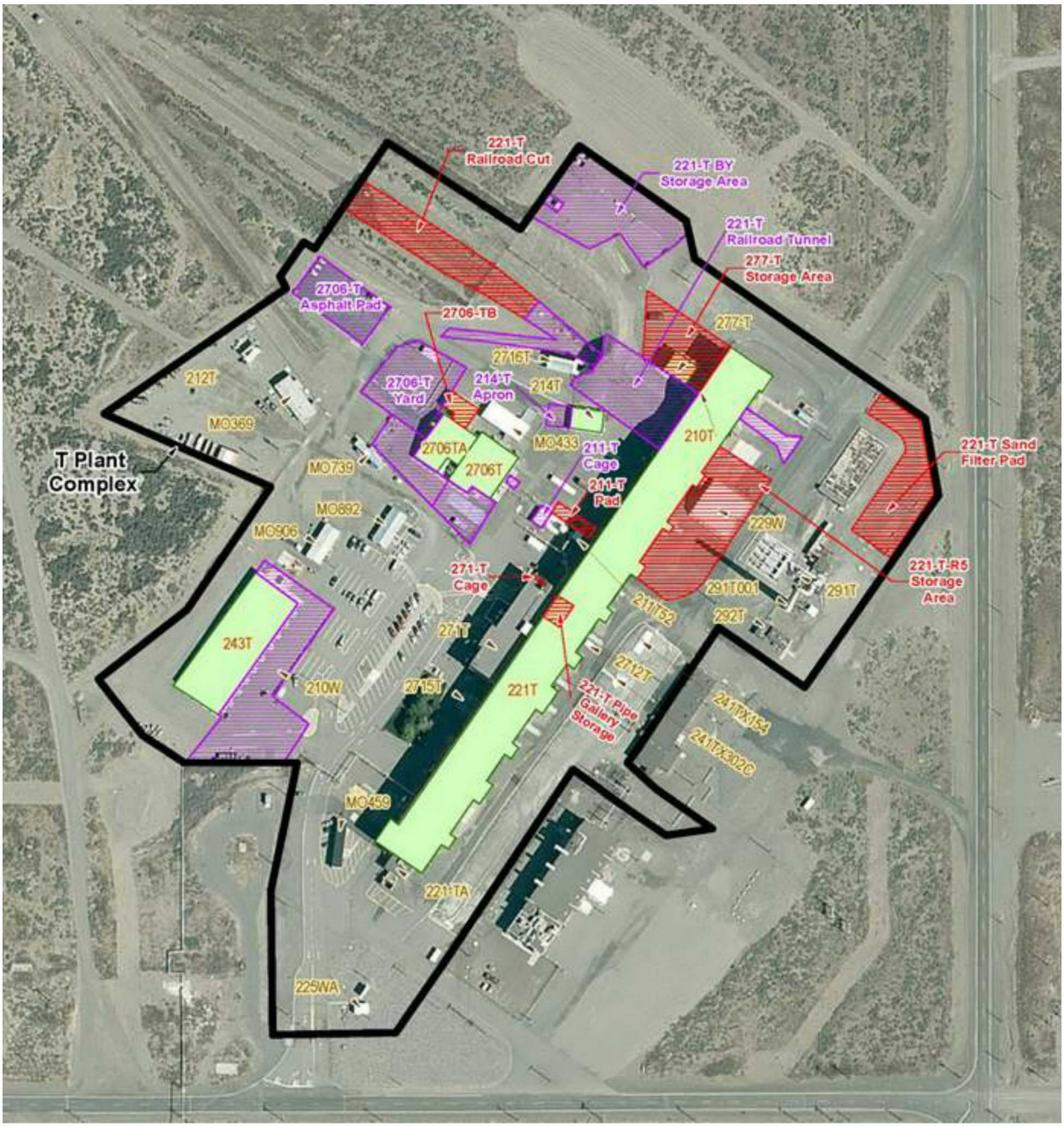

Figure 1. T-Plant Complex Operating and Closing Dangerous Waste Management Units (Date Taken 2012)

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Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.A Appendix A - 271-T Cage

A1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 271-T Cage dangerous waste management unit (DWMU), hereinafter referred to as the 271-T Cage. The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU. The closure will be performed in accordance with the included schedule. This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

A1.1 Unit Description

The 271-T Cage is adjacent to the north side of the 271-T Building. The 271-T Cage was used to manage dangerous, mixed, and *Toxic Substances Control Act of 1976* (TSCA)-polychlorinated biphenyl (PCB) waste, in a <90-day or satellite accumulation area (SAA) storage, and materials for recycle.

The 271-T Cage area is an uncoated concrete floor 5.6 m (18 ft) long by 2.7 m (9 ft) wide with a total area of 15.1 m^2 (162 ft^2). The 271-T Cage is defined on the south side by the 271-T Building and the remaining three sides by metal chain-link cage material. The 271-T Cage outdoor storage area is covered with corrugated metal roofing material (Figure A-1).

The 271-T Cage does not currently manage dangerous, mixed, or TSCA-PCB waste. Future storage of dangerous, mixed, or TSCA-PCB waste is not authorized within the 271-T Cage DWMU. The 271-T Cage is located near the 221-T Canyon facility, which is part of the Canyon Disposition Initiative (CDI) (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*, hereinafter called the Tri-Party Agreement [TPA], Section 6, *Treatment, Storage, and Disposal (TSD) Process*, and Section 8, *Facility Disposition*). The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and the CDI activities. The 271-T Cage is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during CDI activities for the T-Plant Complex.

> TPA Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

A1.1.1 Maximum Waste Inventory

No permitted RCRA-regulated waste container storage at the 271-T Cage was identified during the T-Plant operating records review. Therefore, no maximum waste inventory is presented. Weekly inspection records of <90-day storage areas and SAAs identified that 271-T Cage managed non-dangerous, dangerous, mixed, and TSCA-PCB waste.

Figure A-1. T-Plant Complex OUG 271-T Cage Outdoor Container Storage Area

A2 Closure Performance Standard

Closure performance standards for the 271-T Cage will be based on WAC 173-303-610(2), which requires closure of the facility in a manner that accomplishes the following objectives:

- Minimizes the need for further maintenance
- Controls, minimizes, or eliminates, to the extent necessary, to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

These performance standards are addressed in Sections A2.1 and A3.13 of this closure plan.

A2.1 Clean Closure Levels

The 271-T Cage will be clean closed using clean closure levels required for soil. Confirmation sampling of clean closure levels will not be performed until the T-Plant Complex CDI is initiated. In accordance with WAC 173-303-610(2)(b)(i) for soil, the clean closure levels will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the WAC 173-340, "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-700, "Overview of Cleanup Standards;" through -760, "Sediment Cleanup Standards;" excluding WAC 173-340-745, "Soil Cleanup Standards for Industrial Properties"). These numeric cleanup levels will be calculated according to the MTCA (WAC 173-340) Method B unrestricted use standards current at the time of closure.

Sampling and analysis will support clean closure levels for the 271-T Cage. Sampling and analysis of the 271-T Cage will occur in conjunction with the CDI activities for the T-Plant Complex OUG. If sampling and analysis activities indicate contamination above the MTCA (WAC 173-340) Method B unrestricted use standards, potential remediation or decontamination would be incorporated with the cleanup activities. Any required changes to this closure plan and the included sampling and analysis plan (SAP) will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

A3 Closure Activities

As a waste management unit, clean closure determination for the 271-T Cage will be based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 271-T Cage is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with the CDI activities. Final verification sampling of the clean closure will be performed during the T-Plant Complex cleanup activities consistent with the CDI activities. Sampling of the concrete pad will be conducted via a SAP (Section A3.10) to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure are as follows:

- Remove all dangerous, mixed, or TSCA-PCB waste inventory (completed; see Section A3.2.).
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage (completed; see Section A3.3.).
- Perform a visual inspection of the concrete pad surface (completed; see Section A3.3.).
- Add the 271-T Cage to the Waste Information Data System (WIDS) database (see Section A3.8.).

Extended closure activities include:

- Sampling and analysis to confirm RCRA clean closure standards in coordination with the CDI activities for the T-Plant Complex OUG.

A3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective

equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, *Personnel Training*, and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will include the following:

- Training will provide the knowledge and skills needed for sampling personnel to perform work safely and in accordance with quality assurance (QA) requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

A3.2 Removal of Wastes and Waste Residues

The 271-T Cage does not currently manage dangerous, mixed, or TSCA-PCB waste. The 271-T Cage serves as an equipment and material storage area. Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously managed in the 271-T Cage under <90-day and SAA storage. The 271-T Cage will no longer be used for dangerous, mixed, or TSCA-PCB waste management; however, the 271-T Cage will be used for equipment and materials storage. The 271-Cage is in a safe configuration and will be tracked in WIDS until verification sampling is performed under the SAP.

A3.3 271-T Cage RCRA Operating Records Review and Visual Inspection

To support the development of this closure plan and the SAP, a review of the T-Plant Complex OUG operating records was completed (Table A-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, and TSCA-PCB waste management for the T-Plant Complex OUG SWOC Outdoor Container Storage Areas addressed under the T-Plant Complex OUG SWOC Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated no releases of dangerous, mixed, or TSCA-PCB in the 271-T Cage area.

Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously managed in the 271-T Cage under <90-day or SAA storage.

A visual inspection was performed on August 15, 2013 to identify any dangerous waste related staining in the 271-T Cage. No waste related staining was identified during the visual inspection; therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment A and include the T-Plant Daily Operating Logbook Review sheet, T-Plant Operation Logbook Review sheet, T-Plant Daily Dangerous Waste Inspection Checklist Review sheet, Summary of T-Plant Weekly Dangerous Waste Inspection Checklist Review sheet, T-Plant Complex 271-T Cage Container Storage Area visual inspection sheet, and any additional supporting information.

A3.4 Unit Components, Parts, and Ancillary Equipment

The 271-T Cage will not be removed as part of the near-term closure activities. The concrete floor of the 271-T Cage is a portion of the loading dock for the 271-T Building and will remain in place along with the metal cage panels, pending the final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG. No dangerous, mixed, or TSCA-PCB waste will be managed at the 271-T Cage.

A3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 271-T Cage.

A3.6 Decontamination

Decontamination activities are not planned for the 271-T Cage.

A3.7 Identifying and Managing Contaminated Environmental Media

Should contaminated media be identified as a result of confirmation sampling, contaminated materials will be addressed under the CDI activities and managed, as appropriate. As necessary, treatment or disposal of the resulting waste will be performed at an approved treatment, storage, and disposal (TSD) facility.

A3.8 Addition of 271-T Cage to the WIDS Database

As part of the near-term closure activities, the 271-T Cage will be added to the WIDS database. Addition of the 271-T Cage to the WIDS database will help ensure that the 271-T Cage is monitored and controlled until the extended closure activities are completed and verification sampling is completed.

The addition of the 271-T Cage to the WIDS database will ensure that no unauthorized activity takes place at the 271-T Cage (i.e., waste storage).

A3.9 Confirming Clean Closure

The 271-T Cage will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. In addition to the records review, a visual inspection of the 271-T Cage was performed to identify any dangerous waste related staining of the storage area pad. Both the records review and visual inspection are detailed in Section A3.3 and documented in Attachment A.

All dangerous, mixed, and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous or mixed waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 271-T Cage. Sampling and analysis of the 271-T Cage concrete pad will occur to confirm that cleanup standards for soil have been achieved.

A3.10 Sampling and Analysis and Constituents to Be Analyzed

A3.10.1 Sampling and Analysis Plan

The final clean closure verification sampling for the 271-T Cage will occur in conjunction with the T-Plant CDI activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP and in conjunction with the CDI activities for the T-Plant Complex OUG. Sampling and analysis of the concrete pad from the 271-T Cage will be conducted to confirm that clean closure levels have been achieved. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable EPA guidance. Sampling and analysis activities will meet applicable requirements of SW-846, ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

A3.10.2 Target Analytes

Waste management records indicated that dangerous, mixed, and TSCA-PCB waste has been managed in the 271-T Cage under <90-day or SAA storage. Based on the physical proximity of other T-Plant SWOC Outdoor Container Storage Areas that have managed dangerous waste under permitted storage, and assuming similar use during support of T-Plant Canyon operations, the target analytes for evaluation during closure sampling and analysis were determined by reviewing the waste management records of the other dangerous, mixed, or TSCA-PCB waste managed in the T-Plant SWOC Outdoor Container Storage Areas. Table A-2 provides the target analyte list.

Table A-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	271-T Cage	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	271-T Cage	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	271-T Cage	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	271-T Cage	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	271-T Cage	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	271-T Cage	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	271-T Cage	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	271-T Cage	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

N/A = not applicable

Table A-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Ethyl benzene (F003)	100-41-4
Barium (D005)	7440-39-3	Ethyl ether (F003)	60-29-7
Cadmium (D006)	7440-43-9	Methanol (F003)	67-56-1
Chromium (Hexavalent) (D007)	18540-29-9	Methyl isobutyl ketone (F003)	108-10-1
Lead (D008)	7439-92-1	Xylene (F003)	1330-20-7
Mercury (D009)	7439-97-6	o-Cresol (F004)	95-48-7
Selenium (D010)	7782-49-2	Benzene, nitro (F004)	98-95-3
Silver (D011)	7440-22-4	Pyridine (F005)	110-86-1
Benzene (D018) (F005)	71-43-1	2-nitropropane (F005)	79-46-9
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Carbon disulfide (F005) (P022)	75-15-0
Chloroform (D022)	67-66-3	Isobutanol (F005)	78-83-1
2,4-Dinitrotoluene (D030)	121-14-2	2-ethoxyethanol (F005) (U359)	110-80-5
Hexachoroethane (D034)	67-72-1	Toluene (F005)	108-88-3
Methyl ethyl ketone (MEK) (D035)(F005)	78-93-3	Acetaldehyde (I) (U001)[a]	75-07-0
Pentachlorophenol (D037)	87-86-5	Acetyl chloride (C,R,T)(U006)[b]	75-36-5
Tetrachloroethylene (D039) (F001) (F002)	127-18-4	Dichloroethyl ether (U025)	111-44-4
Trichloroethylene (D040)(F001)(F002)	79-01-6	1-Butanol (I) (U031)	71-36-3
Vinyl chloride (D043)	75-01-4	1,4-Diethyleneoxide (U108)	123-91-1
1,1,1-Trichloroethane (F001) (F002) (U226)	71-55-6	Ethane, 1,1′-oxybis-(I) (U117)	60-29-7
Chlorinated fluorocarbons (F001) (F002)	N/A	Formic acid (C,T) (U123)	64-18-6
Methylene chloride (F001) (F002)	75-09-2	2-Butanone, peroxide (R,T) (U160)[b]	1338-23-4
Chlorobenzene (F002)	108-90-7	Phosphorus pentasulfide (R) (U189)[b]	1314-80-3
1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Furan, tetrahydro-(I) (U213)[b]	109-99-9

Table A-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Ortho-dichlorobenzene (F002)	95-50-1	Cyanides (soluble cyanide salts), not otherwise specified (P030)	57-12-5
1,1,2-trichloroethane (F002)	79-00-5	Acetaldehyde, chloro- (P023)[b]	107-20-0
Acetone (F003)	67-64-1	Copper cyanide (P029) (as Cyanide)	544-92-3
N-butyl alcohol (F003)	71-36-3	Potassium cyanide (as Cyanide) (P098)	151-50-8
Cyclohexanone (F003)	108-94-1	Sodium cyanide (as Cyanide) (P106)	143-33-9
Ethyl acetate (F003)	141-78-6	Vanadium oxide V2O5 (P120)	1314-62-1
		Polychlorinated biphenyls (PCBs) (Aroclors)	1336-36-3

a. Acetaldehyde is analyzed as a gas, not as a solid. Acetaldehyde will not be analyzed.

b. There are no previous records of analysis for this on the Hanford Site. The CAS number is not listed in the EPA Cleanup Levels and Risk Calculations tables.

CAS = Chemical Abstracts Service

EPA = U.S. Environmental Protection Agency

A3.10.3 271-T Cage SAP Schedule

Confirmation closure sampling and analysis will be performed during the extended closure activities in conjunction with the T-Plant Complex OUG cleanup under the CDI activities.

A3.10.4 271-T Cage Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

A3.10.5 Sampling Design

Concrete chip or core samples will be taken at predetermined sample locations. Sample locations were determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The 271-T Cage global positioning system latitudinal and longitudinal coordinates were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, the VSP software determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by the VSP software and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by the VSP software, and the subsequent nineteen sample locations were assigned by the VSP software using a triangular grid sampling method. Supporting documentation for the VSP software sampling designations are documented in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented dangerous, mixed or TSCA-PCB waste has been released to 271-T Cage, and no waste related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

A3.10.6 Sampling Methods and Handling

The sample matrix will consist of concrete collected in pre-cleaned sample containers taken at a depth of no more than 2.54 cm (1 in.) below the surface of the concrete, unless staining or discoloration indicates contamination below that depth. Concrete chip or core samples will be collected into containers at the chosen sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table A-3 for concrete samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form.

To prevent potential contamination of the samples, care will be taken to use decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary, depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling authorization form and form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)

In addition, sample records must include the following information:

- Sample location
- Matrix (e.g., water or soil)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained.

All waste generated by sampling activities will be managed in accordance with applicable regulations.

A3.10.7 Analytical Methods

All analyses and testing will be performed consistent with laboratory agreements, laboratory analytical procedures, and HASQARD (DOE/RL-96-68). The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above the clean closure level but less than the PQL of the analytical method, the Washington State Department of Ecology will be notified, and alternatives will be discussed to demonstrate clean closure levels.

Table A-4 outlines analytical methods and performance requirements associated with the target analytes.

A3.10.8 Quality Control

Quality control (QC) procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table A-5.

Table A-3. Sample Preservation, Container, and Holding Time for Concrete Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl (PCB)	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Table A-3. Sample Preservation, Container, and Holding Time for Concrete Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days

aG = amber glass

G = glass

EPA = U.S. Environmental Protection Agency

ICP-MS = inductively coupled plasma-mass spectrometry

P = plastic

1

Table A-4. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
67-72-1	Hexachloroethane	SW-846 Method 8270	25	56	0.005	N/A[c]	N/A[c]
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
87-86-5	Pentachlorophenol	SW-846 Method 8260	8.33	2,400	0.33	N/A[c]	N/A[c]

Table A-4. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
75-01-4	Vinyl chloride	SW-846 Method 8260	66.7	240	0.01	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-Trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol	SW-846 Method 8260	N/A	8000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20

Table A-4. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	32,000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl) ether)	SW-846 Method 8270	0.909	N/A	0.33	N/A[c]	N/A[c]
71-36-3	1-Butanol	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
123-91-1	1,4-Diethyleneoxide (1,4-Dioxane)	SW-846 Method 8260	10	2,400	0.5	N/A[c]	N/A[c]
60-29-7	Diethyl ether Ethane, 1,1'-oxybis-(I)	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
64-18-6	Formic Acid (U123)	Modified 9056A or Modified 300.0	N/A	160,000	NA	N/A[c]	N/A[c]
57-12-5	Cyanide	SW-846 Method 9010/9012/9013/9014	N/A	48	0.5	±30	≤30
1314-62-1	Vanadium oxide (vanadium pentoxide)	SW-846 Method 6010/200.8	N/A	720	NA	N/A[c]	N/A[c]

Table A-4. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
1336-36-3	Polychlorinated biphenyl (PCB)	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure Performance Standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards;" -747, "Deriving Soil Concentrations for Groundwater Protection;" and -7490, "Terrestrial Ecological Evaluation Procedures," through -7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to MTCA (WAC 173-340) Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

CAS = Chemical Abstracts Service

N/A = not applicable

NA = information not available

RPD = relative percent difference

Table A-5. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Field Quality Control		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed. If only disposable equipment is used, then an equipment blank is not required. Otherwise, one per 20 samples per media[a].	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples[b]).	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory Quality Control[h]		
Method Blanks	1 per batch[h]	Laboratory contamination
Lab Duplicates	[c]	Laboratory reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate laboratory accuracy
Performance Evaluation Programs[d]	Annual	Evaluate laboratory accuracy
Double-Blind Standards	Quarterly[e]	Evaluate laboratory accuracy
Audit/Assessment	Annually[f] or every 3 years[g]	Evaluate overall laboratory performance and operations

Table A-5. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempt from duplicate sampling.

c. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE Quality Systems for Analytical Services requires annual audit of commercial laboratories.

g. *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68) does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

DOE = U.S. Department of Energy

A3.10.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data are processed, resolution of those issues will be initiated.

The format and requirements for data validation activities are based upon the most current version of OSWER 9240.1-48, *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01), and OSWER 9240.1-51, *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process (EPA/240/B-06/002, *Data Quality*

Assessment: A Reviewer's Guide [EPA QA/G-9R], and EPA/240/B-06/003, *Data Quality Assessment: Statistical Methods for Practitioners* [EPA QA/G-9S]).

A3.10.10 Documents and Records

The Project Manager is responsible for ensuring that the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to DOE and the lead regulatory agency.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook, and only authorized persons may make entries in logbooks. Logbooks will be signed by the field work supervisor, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following items will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following items:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the TPA (Ecology et al., 1989) will be managed in accordance with the requirements therein.

A3.10.11 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit

modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830, "Dangerous Waste Regulations," "Permit Changes."

A3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

A3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 271-T Cage DWMU, certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the department by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

A3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 271-T Cage will remain in an "as-is" state with the concrete flooring and metal chain-link cage material remaining in place. The 271-T Cage will continue to be used for equipment and material storage in support of the T-Plant Canyon activities. The 271-T Cage will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 271-T Cage DWMU from the sitewide permit active DWMUs.

A4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 271-T Cage to the WIDS database will be completed within 180 days of approval of the closure plan. This DWMU is located near the T-Plant Canyon building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA (Ecology et al., 1989) identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, Coordination of Closure and Corrective Action or Other Cleanup Activities) allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 271-T Cage to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities, in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure A-2).

A5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

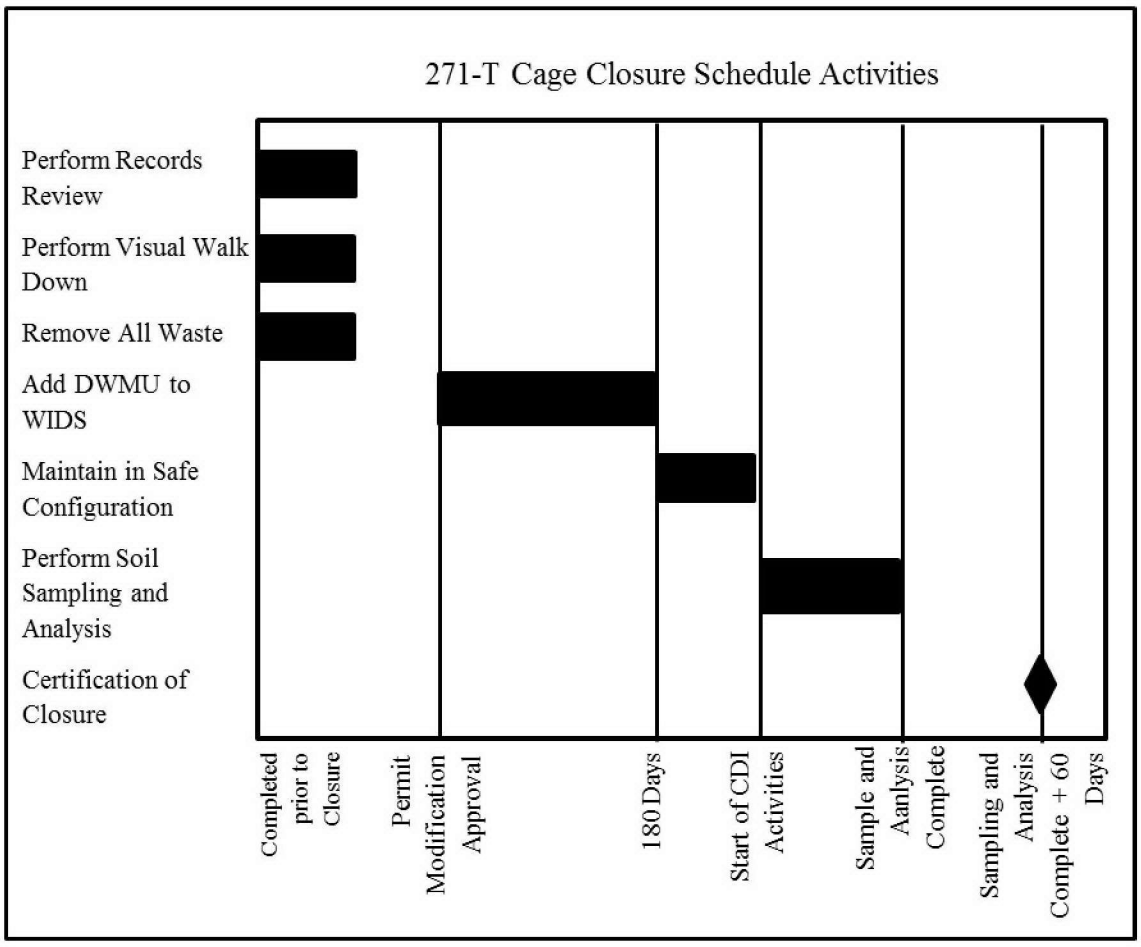

Figure A-2. 271-T Cage Closure Schedule Activities

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Attachment A

T-Plant 271-T Cage RCRA Records Review and Visual Inspection Supporting Documentation

1

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T Plant Complex 271-T Cage Container Storage Area

Purpose:

A visual inspection walkdown of the T Plant Complex outdoor 271-T Cage container storage area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on August 15, 2013 by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

No staining of any kind was identified on the concrete storage area surface. Area was thoroughly photographed.

Housekeeping, if determined necessary, will be performed on the area prior to closure.

Signature/Date:

Brett M. Barnes: Brett M Barnes 9/3/13

T-Plant Daily Operating Log Book Review

Waste Management Units:	271-T Cage, 211-T Pad, 222-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Date of Log Book Review:	8/15/13 – 8/26/13
Reviewer's Names:	Joel Williams, Brett Barnes, Brian Dixon, Jeff Bramson, Joe Archuleta, Patrick Baynes, Don Craig, Lana Strickling
Daily Operating Log Book Document No:	See attached.
Log Book Timeframe (Month/Year to Month/Year):	1/2/85 – 6/22/10
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES____ NO__X__
Items of Concern: Attach copies of log book pages noting concern.	_____ _____ _____ _____
Log Book Page# Referencing Spill:	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of log book pages noting corrective actions.	_____ _____ _____ _____
Log Book Page# Referencing Corrective Action:	_____ _____ _____ _____
Reviewer's Signature and Date:	Lana Strickling 9/6/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	01/02/87	12/31/85	135357
	01/02/86	12/31/86	135357
	01/02/87	12/31/87	135357
	01/04/88	12/30/88	135357
Operations Log	01/03/89	12/29/89	149634
Operations Log	01/02/90	01/02/91	149634
Operations Log	01/02/91	01/16/91	149634
	01/16/91	06/04/91	141785
	06/06/91	10/23/91	141785
	10/24/91	03/12/92	141785
	03/13/92	07/13/92	141785
	07/14/92	10/16/92	141785
	10/17/92	01/21/93	141785
	01/21/93	02/05/93	141785
	01/23/93	03/14/93	141785
	03/15/93	04/20/93	141785
	04/21/93	05/21/93	141785
	05/27/93	07/01/93	141785
	07/06/93	08/12/93	141785
	08/12/93	09/17/93	141785
	09/17/93	10/22/93	141785
	10/22/93	11/24/93	141785
	11/29/93	01/07/94	141785
	01/07/94	02/09/94	141785
	02/10/94	03/11/94	141785
	03/14/94	04/11/94	141785
	04/12/94	05/10/94	141785
	05/10/94	06/10/94	141785
	06/13/94	07/21/94	141785
	07/13/94	08/12/94	141785
	08/12/94	09/14/94	141785
	09/14/94	10/10/94	141785
BOX 3	10/03/94	12/12/94	131414
	10/10/94	11/09/94	141785
	11/09/94	12/07/94	141785
	12/07/94	01/05/95	141785
BOX 3	12/13/94	02/24/95	131414
	01/05/95	02/02/95	141785
	02/02/95	02/28/95	141785
	02/28/95	03/30/95	141785
	03/30/95	04/26/95	141785
	04/26/95	05/31/95	141785
	05/31/95	06/29/95	131414
	07/14/95	09/19/95	131414
	07/30/95	08/22/95	131414
	08/22/95	09/12/95	131414

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	09/13/95	10/04/95	131414
	09/20/95	11/10/95	131414
	10/04/95	10/24/95	131414
	10/24/95	11/09/95	131414
	11/10/95	01/08/96	131414
	11/10/95	11/30/95	131414
	11/30/95	12/15/95	131414
	12/15/95	01/08/96	131414
	01/09/96	02/23/96	131414
	01/18/96	01/24/96	131414
	01/24/96	02/21/96	131414
	02/21/96	03/18/96	131414
	02/23/96	04/08/96	131414
	03/18/96	04/09/96	131414
	04/09/96	05/23/96	131414
	04/09/96	05/02/96	131414
	05/02/96	05/31/96	131414
	05/24/96	07/30/96	131414
	05/31/96	06/28/96	131414
	06/28/96	07/29/96	131414
	06/30/95	07/31/95	131414
	07/30/96	08/22/96	131414
	07/31/96	09/17/96	131414
	08/22/96	09/17/96	131414
	09/19/96	11/14/96	131414
	09/17/96	10/14/96	131414
	10/14/96	11/05/96	131414
	11/05/96	12/02/96	131414
	11/15/96	01/09/97	131414
	12/02/96	12/30/96	131414
	12/30/96	01/24/97	131414
BOX 1	01/24/97	02/20/97	149634
BOX 1	02/20/97	03/20/97	149634
BOX 1	03/21/97	04/21/97	149634
BOX 1	04/21/97	06/02/97	149634
BOX 1	05/13/97	07/03/97	149634
BOX 1	06/02/97	07/10/97	149634
BOX 1	07/10/97	08/22/97	149634
3030	08/22/97	10/07/97	177623
2005	10/08/97	11/17/97	177623
3033	11/18/97	12/29/97	177623
3034	12/30/97	02/04/98	177623
3035	02/05/98	03/11/98	177623
3036	03/12/98	04/20/98	177623
3037	04/21/98	06/03/98	177623
3038	06/04/98	07/15/98	177623

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3039	07/16/98	09/02/98	177623
3040	09/03/98	10/22/98	177623
3041	10/23/98	12/04/98	177623
2003	12/07/98	01/18/99	177623
2004	01/19/99	03/15/99	177623
5000	03/16/99	05/18/99	177623
5002	05/19/99	07/27/99	177623
5003	07/28/99	09/15/99	177623
5004	09/15/99	10/28/99	177623
5005	10/28/99	12/30/99	177623
3002	12/16/99	02/17/00	177623
5006	12/31/99	03/06/00	177623
5007	03/07/00	05/01/00	177623
3004	04/19/00	06/08/00	177623
5008	05/02/00	07/11/00	177623
5009	07/12/00	09/12/00	177623
5010	09/13/00	11/17/00	177623
5011	11/20/00	01/18/01	177623
5012	01/18/01	03/15/01	223426
2013	03/15/01	05/07/01	223426
5014	05/08/01	07/03/01	223426
5015	07/03/01	08/21/01	223426
5016	08/22/01	10/03/01	223426
5017	10/04/01	11/11/01	223426
5018	11/12/01	01/02/02	223426
5019	01/02/02	02/20/02	223426
5020	02/21/02	03/28/02	223426
5021	04/01/02	05/16/02	223426
5022	05/17/02	07/02/02	223426
5023	07/02/02	08/09/02	223426
3010	08/11/02	09/24/02	223426
3011	09/25/02	11/11/02	223426
3012	11/11/02	01/10/03	223426
3013	01/10/03	02/26/03	223426
3014	02/27/03	04/09/03	223426
3015	04/09/03	06/05/03	223426
3016	06/09/03	08/05/03	223426
3017	08/06/03	09/24/03	223426
3018	09/24/03	11/05/03	223426
3019	11/05/03	01/19/04	223426
3021	01/20/04	03/14/04	223426
3022	03/14/04	05/19/04	223426
3023	05/19/04	08/03/04	223426
3024	08/03/04	10/05/03	223426
3025	10/16/04	12/08/04	223426
3047	12/08/04	02/03/05	223426

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3048	02/04/05	04/13/05	223426
3049	04/14/05	06/27/05	223426
3050	06/28/05	09/02/05	223426
5001	09/06/05	11/16/05	223426
3051	11/17/05	02/07/06	223426
3052	02/08/06	04/13/06	223426
3053	04/14/06	06/28/06	223425
3054	06/29/06	09/14/06	223425
3055	09/15/06	11/29/06	223425
3056	11/30/06	02/12/07	223425
3057	02/13/07	04/16/07	223425
3058	04/17/07	06/07/07	223425
3059	06/08/07	07/31/07	223425
3060	08/01/07	09/26/07	223425
3061	09/26/07	11/10/07	223425
3062	11/12/07	12/26/07	223425
3063	12/27/07	02/13/08	223425
3064	02/14/08	03/24/08	223425
3065	03/24/08	05/05/08	223425
3066	05/05/08	06/05/08	223425
3067	06/05/08	07/11/08	223425
3068	07/11/08	08/12/08	223425
3069	08/12/08	09/22/08	223425
3070	09/22/08	11/03/08	223425
3071	11/04/08	12/30/08	223425
3072	12/31/08	02/23/09	223425
3073	02/24/09	04/10/09	223425
3074	04/10/09	05/28/09	223425
3075	05/28/09	07/20/09	223425
3076	07/21/09	09/02/09	223425
3077	09/03/09	11/03/09	223425
3078	11/04/09	12/21/09	223425
3079	12/22/09	02/01/10	223425
3080	02/01/10	03/11/10	223425
3081	03/11/10	04/13/10	223425
3082	04/13/10	05/17/10	223425
3083	05/18/10	06/21/10	223425
3084	06/22/10	07/26/10	223425

T-Plant Operation Logbook Review

Title(s) of Logbook:	T-Plant Operation Logbook
Date of Review:	08/15/13 through 08/19/13
Reviewer's Name:	Stephanie Johansen
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Logbook Date Range:	07/27/10 through 04/07/11
Logbook Numbers:	3085 through 3091
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns:	
Attach copies of pages noting concern.	
Dates of Corrective Actions:	
Attach copies of pages noting concern.	
Reviewer's Signature and Date:	Stephanie Johansen

Instructions:

Review logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of pages noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	Waste Management Area Daily Inspection Data Sheet
Date of Review:	9/3/2013
Reviewer's Name:	Linda Carr
Waste Management Units: Boneyard Pad Waste Storage	221-T, 2706, MO433, 214-T, 211-T, 221-T, 271-T, 277-T,
Time Frame of Daily Inspections:	2005- August 29 – December 1
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions. Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2007-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-January 1-September 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2009-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2010-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2011-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2012-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2013-January 1-April 22
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

Summary of T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas T Plant Weekly Inspection Log Sheet
Date of Weekly Waste Inspection Review:	8/26/13 – 8/28/13
Initial Reviewer's Name:	Jeff Bramson, Linda Carr, Paul Martin.
Final Reviewer's Name:	Lana Strickling*

* A review was performed against the individual checklists developed by the initial reviewers above to consolidate and document any review notes, items of concern, etc. related to the WMU's identified below.

Waste Management Units:	271-T Cage, 221T R5, 277-T Outdoor Storage Area, 211-T Pad, 221-T Sand Filter Pad**

**Inspection sheets were reviewed for any reference to the waste management units identified for any items of concern.

Time Frame of Inspections:	6/7/91 – 12/20/99***

***See attached log for weekly waste inspections sheets reviewed. Line items missing date, document number, sheet, revision, and title indicate missing records.

Items of Concern Noted (Circle) YES _ __ NO _X__
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
DEC 31-JAN 4						
JAN 7TH						
JAN 14TH						
JAN 21TH						
JAN 28TH						
FEB 4TH						
FEB 11TH						
FEB 18TH						
FEB 25TH						
MAR 4TH						
MAR 11TH						
MAR 18TH						
MAR 25TH						
APRIL 1ST						
APRIL 8TH						
APRIL 15TH						
APRIL 22ND						
APRIL 29TH						
MAY 6TH						
MAY 13TH						
MAY 20TH						
MAY 27TH						
LOG-060791 [D197044429]	6/7/1991	LOG-060791	06/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
JUNE 10TH						
LOG-062191 [D197044441]	6/21/1991	LOG-062191	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
JUNE 24TH						
JULY 1ST						
JULY 7TH						
JULY 15TH						
LOG-072291 [D197044468]	7/22/1991	LOG-072291	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
JULY 29TH						
AUG 5TH						
AUG 12TH						
LOG-082191 [D197044477]	8/21/1991	LOG-082191	08/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-082991 [D197044485]	8/29/1991	LOG-082991	08/29/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-090991 [D197044528]	9/9/1991	LOG-090991	09/09/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-091291 [D197044539]	9/12/1991	LOG-091291	09/12/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-092691 [D197044572]	9/26/1991	LOG-092691	09/26/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-100491 [D197044613]	10/4/1991	LOG-100491	10/04/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-101191 [D197044634]	10/11/1991	LOG-101191	10/11/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-102591 [D197044655]	10/25/1991	LOG-102591	10/25/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-110791 [D197044671]	11/7/1991	LOG-110791	11/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
NOV 11TH						
NOV 18TH						
NOV 25TH						
LOG-123091 [D197044751]		LOG-123091	12/30/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-120391 [D197044680]		LOG-120391	12/03/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-122791 [D197044725]		LOG-122791	12/27/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

1992 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010692 [D197044757]		LOG-010692	01/06/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS & SATELLITE
LOG-011592 [D197044848]	01/15/1992	LOG-011592	01/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012492 [D197044895]	01/24/1992	LOG-012492	01/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012892 [D197044914]	01/28/1992	LOG-012892	01/28/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-020492 [D197044917]	02/04/1992	LOG-020492	02/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-021092 [D197044942]	02/10/1992	LOG-021092	02/10/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022192 [D197044953]	02/21/1992	LOG-022192	02/21/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022492 [D197044955]	02/24/1992	LOG-022492	02/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-030492 [D197044964]	03/04/1992	LOG-030492	03/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031192 [D197044988]	03/11/1992	LOG-031192	03/11/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031792 [D197044999]	03/17/1992	LOG-031792	03/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-032592 [D197045021]	03/25/1992	LOG-032592	03/25/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MARCH 30TH						
LOG-041492 [D197045025]	04/14/1992	LOG-041492	04/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-042992 [D197045027]	04/29/1992	LOG-042992	04/29/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MAY 4TH						
LOG-051592 [D197045032]	05/15/1992	LOG-051592	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-052792 [D197045035]	5/27/1992	LOG-052792	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060392 [D197044409]	06/03/1992	LOG-060392	06/03/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060992 [D197044251]	06/09/1992	LOG-060992	06/09/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-061792 [D197044297]	06/17/1992	LOG-061792	06/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-062392 [D197044302]	06/23/1992	LOG-062392	06/23/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070192 [D197044341]	07/01/1992	LOG-070192	07/01/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070892 [D197044353]	07/08/1992	LOG-070892	07/08/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-071492 [D197044373]	07/14/1992	LOG-071492	07/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072292 [D197044402]	07/22/1992	LOG-072292	07/22/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
	1992: JULY 29; AUG: 5, 10, 19, 25, SEPT: 1, 11, 18, 22, 30 OCT: 8, 13, 20, 27, NOV: 4, 11, 19, 25, DEC: 1, 9, 17,					
LOG-072992 [D197044191]	21, 30	LOG-072992	07/29/1992	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG

 JWS 9/9/13

1993 Weekly Dangerous Waste Inspections

Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
1993 JANUARY						
LOG-020593 [D197044227]	1993 FEB: 5, 11, 19, 24,	LOG-020593	02/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030393 [D197043351]	1993 MAR: 3, 11, 19, 25	LOG-030393	03/03/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040193 [D197043359]	1993 APRIL: 1, 7, 13, 23, 29	LOG-040193	04/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050693 [D197043361]	1993 MAY: 6, 10, 21, 28	LOG-050693	05/06/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060493 [D197043363]	1993 JUNE: 4, 11, 16, 25,	LOG-060493	06/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070193 [D197043364]	1993 JULY: 1, 8, 15, 22, 29	LOG-070193	07/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080593 [D197043369]	1993 AUG: 5, 11, 18, 24,	LOG-080593	08/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090293 [D197043390]	1993 SEPT: 2, 10, 16, 22, 30	LOG-090293	09/02/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100793 [D197043401]	1993 OCT: 7, 15, 21, 28,	LOG-100793	10/07/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-110493 [D197043403]	1993 NOV: 4, 10, 19, 23,	LOG-110493	11/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-120293 [D197043409]	1993 DEC: 2, 9, 15, 21, 30	LOG-120293	12/02/1993	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG SHEET

1994 Weekly Dangerous Waste Inspections

Object Name	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010694 [D197043414]	1994: JAN: 6, 13, 20, 27	LOG-010694	01/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-020394 [D197043420]	1994 FEB: 3, 9, 17, 23,	LOG-020394	02/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030394 [D197043423]	1994 MAR: 3, 9, 15, 25	LOG-030394	03/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040194 [D197043426]	1994 APRIL: 1, 6, 14, 20, 26	LOG-040194	04/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050594 [D197043430]	1994 MAY: 5, 9, 17, 24, JUNE 1	LOG-050594	05/05/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060194 [D197043444]	1994 JUNE: 1, 7, 15, 23, 27,	LOG-060194	06/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070694 [D197043445]	1994 JULY: 6, 14, 19, 27,	LOG-070694	07/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080394 [D197043446]	1994 AUG: 3, 10, 16, 23,	LOG-080394	08/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090194 [D197043947]	1994 SEPT: 1, 7, 14, 19, 26,	LOG-090194	09/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100394 [D197043956]	1994 OCT: 3, 10, 17, 24, 31	LOG-100394	10/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET/ T PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MIXED WASTE
LOG-110794 [D197043970]	1994 NOVEMBER: 7, 14, 22, 28	LOG-110794	11/07/1994	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-120594 [D197044093]	1994 DECEMBER: 5, 14, 20, 28	LOG-120594	12/05/1994	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE

1995 Weekly Dangerous Waste Inspections

Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010395 [D197044125]	1995 JANUARY---1992 JAN: 8, 14, 22, 29,	LOG-010395	01/03/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
1995 FEB						
1995 MARCH						
1995 APRIL						
1995 MAY						
LOG-062195 [D197045039]	1995 JUNE: 20	LOG-062195	06/21/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-071995 [D197045042]	1995 JULY: 19, 27	LOG-071995	07/19/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-081595 [D197045045]	1995 AUGUST: 15, 23, 28	LOG-081595	08/15/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-091195 [D197045049]	1995 SEPTEMBER: 7, 11, 14, 19, 27	LOG-091195	09/11/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-100495 [D197045096]	1995 OCTOBER 2, 10, 18, 24	LOG-100495	10/04/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-110195 [D197045103]	1995 NOVEMBER: 1, 6, 15, 27	LOG-110195	11/01/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-121595 [D197045111]	1995 DECEMBER: 15, 19, 29	LOG-121595	12/15/1995	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-011596 [D197045115]	1996 JANUARY: 15, 22, 30	LOG-011596	01/15/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-020596 [D197045121]	1996 FEBRUARY: 5, 13, 23,	LOG-020596	02/05/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-030396 [D197045128]	1996 MARCH: 1, 8, 15, 20 AND 29	LOG-030396	03/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-040196 [D197045147]	1996 APRIL: 1, 8, 18, 26	LOG-040196	04/01/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-052896 [D197045163]	1996 MAY: 28	LOG-052896	05/28/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-060696 [D197045179]	1996 JUNE: 6, 12, 27,	LOG-060696	06/06/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 JULY						
1996 AUGUST						
LOG-090396 [D197045193]	1996 SEPTEMBER: 3, 23	LOG-090396	09/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 OCTOBER						
1996 NOVEMBER						
LOG-122396 [D197045213]	1996 DECEMBER: 23	LOG-122396	12/23/1996	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MISED WASTE/LOW LEVEL WASTE

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Object Name/WEEK OF	Properties	Open	Document Nu	Document Date	Sheet	Revision	Title
DEC 30 THRU JAN 3							
JAN 6TH							
JAN 13TH							
JAN 20TH							
JAN 27TH							
FEB 3RD							
FEB 10TH							
FEB 27TH							
NA [D8724972]	Properties	Open	NA	02/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724970]	Properties	Open	NA	03/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724967]	Properties	Open	NA	03/11/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724966]	Properties	Open	NA	03/17/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724964]	Properties	Open	NA	03/24/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724804]	Properties	Open	NA	04/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723959]	Properties	Open	NA	04/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723954]	Properties	Open	NA	04/14/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723949]	Properties	Open	NA	05/01/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723948]	Properties	Open	NA	05/09/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723942]	Properties	Open	NA	05/16/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723941]	Properties	Open	NA	05/19/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723938]	Properties	Open	NA	05/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723935]	Properties	Open	NA	06/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723899]	Properties	Open	NA	06/16/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723902]	Properties	Open	NA	06/09/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723887]	Properties	Open	NA	06/23/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723362]	Properties	Open	NA	07/01/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
7/11/1997				**7/11/1997**			Kym Has - Copied from RHA box number: 149635
7/22/1997				**7/22/1997**			Kym Has - Copied from RHA box number: 149635
7/28/1997				**7/28/1997**			Kym Has - Copied from RHA box number: 149635
8/5/1997				**8/5/1997**			Kym Has - Copied from RHA box number: 149635
8/11/1997				**8/11/1997**			Kym Has - Copied from RHA box number: 149635
NA [D8723336]	Properties	Open	NA	08/18/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723333]	Properties	Open	NA	08/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723326]	Properties	Open	NA	09/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723317]	Properties	Open	NA	09/08/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723307]	Properties	Open	NA	09/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723196]	Properties	Open	NA	09/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723189]	Properties	Open	NA	09/30/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723186]	Properties	Open	NA	10/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723180]	Properties	Open	NA	10/13/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723174]	Properties	Open	NA	10/20/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723167]	Properties	Open	NA	10/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723126]	Properties	Open	NA	11/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723001]	Properties	Open	NA	11/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8722819]	Properties	Open	NA	11/20/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722815]	Properties	Open	NA	11/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722813]	Properties	Open	NA	12/05/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722810]	Properties	Open	NA	12/12/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722806]	Properties	Open	NA	12/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722801]	Properties	Open	NA	12/23/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
DEC 30TH							
NA [D8721807]	Properties	Open	NA	05/01/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	Properties	Open	NA	05/08/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	Properties	Open	NA	05/15/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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NA [D8721798]	Properties	Open	NA	05/22/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	Properties	Open	NA	05/29/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	Properties	Open	NA	06/05/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722692]	Properties	Open	NA	06/12/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722688]	Properties	Open	NA	06/19/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722682]	Properties	Open	NA	06/26/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722670]	Properties	Open	NA	07/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722666]	Properties	Open	NA	07/10/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722659]	Properties	Open	NA	07/17/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722651]	Properties	Open	NA	07/24/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722640]	Properties	Open	NA	07/31/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722637]	Properties	Open	NA	08/07/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722635]	Properties	Open	NA	08/14/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722631]	Properties	Open	NA	08/21/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722627]	Properties	Open	NA	08/28/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8732454]	Properties	Open	NA	09/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	Properties	Open	NA	09/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722618]	Properties	Open	NA	09/18/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722617]	Properties	Open	NA	09/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722614]	Properties	Open	NA	10/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	Properties	Open	NA	10/09/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722606]	Properties	Open	NA	10/16/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722594]	Properties	Open	NA	10/23/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	Properties	Open	NA	10/30/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722585]	Properties	Open	NA	11/06/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722577]	Properties	Open	NA	11/13/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722571]	Properties	Open	NA	11/20/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	Properties	Open	NA	11/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722345]	Properties	Open	NA	12/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	Properties	Open	NA	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 271T

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 27

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676428]	01/04/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/10/1999 [ALSO 271T BLDG]
NA [D8676427]	01/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/17/1999 [ALSO 271T BLDG]
NA [D8676425]	01/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/24/1999 [ALSO 271T BLDG]
NA [D8676424]	01/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/31/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676413]	02/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/21/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676409]	03/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/07/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676404]	03/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/21/1999 [ALSO 271T BLDG]
NA [D8676401]	03/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/28/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676390]	04/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/18/1999 [ALSO 271T BLDG]
NA [D8676387]	04/19/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/25/1999 [ALSO 271T BLDG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676370]	05/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/16/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676361]	06/01/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676336]	06/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/20/1999 [ALSO 271T BLDG]
NA [D8676298]	06/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/26/1999 [ALSO 271T BLDG]
NA [D8676297]	06/28/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676296]	07/08/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676292]	07/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/25/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]

1999 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676286]	08/16/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/22/1999 [ALSO 271T BLDG]
NA [D8676285]	08/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/29/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676277]	10/11/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676276]	10/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1999 [ALSO 271T BLDG]
NA [D8676275]	10/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1999 [ALSO 271T BLDG]
NA [D8676274]	11/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1999 [ALSO 271T BLDG]
NA [D8676271]	11/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1999 [ALSO 271T BLDG]]
NA [D8676267]	11/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1999 [ALSO 271T BLDG]
NA [D8676257]	11/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676264]	11/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676255]	12/06/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]

T-Plant Weekly and Daily Dangerous Waste Inspection Checklist Review

Title(s) of Daily Waste Inspection Form:	Treatment Facility Waste Management Area Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet
Date of Review:	8/26/2013
Reviewer's Name:	Stephanie Johansen, Don Craig
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Time Frame of Daily Inspections:	January 2000-December 2002, January 2005-December 2007
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:

Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:

Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date:

Stephanie H Johansen 08/27/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily and Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance
Date of Weekly Waste Inspection Review:	8/28/13
Initial Reviewer's Name:	Jeff Bramson
Final Reviewer's Name:	Lana Strickling
Waste Management Units:	271-T Cage, 221T R5, 277-T, 211-T Pad (WSA)

*Note: 277-T not identified on 2004 waste inspection sheets.

Time Frame of Inspections:	2003-2004
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES _X__ NO ___

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

On 6/30/03, a 5-gallon plastic container of product, Insulkote, was identified as leaking in the 271-T Cage. There is no logbook entry denoting amount spilled. A waste designation was performed on 9/10/13 on the product as part of the records review. The waste is designated as a WP03 based on the chemical product designation. Waste designation is attached.

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

On 6/30/03, NCO rewrapped and cleaned up leakage. An MSDS was submitted to the waste management representative for designation and disposal instructions. No information was located on final disposition.

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.4 Area free of combustible debris (WAC 173-303-340)	✓	✓	✓	X (3)	✓	✓	X (6)	✓	✓	✓	✓	✓
6.1.5 Minimum 20-ft separation with no combustibles between fuel packages (Canyon, Tunnel and 2706-T facility)		✓										
6.1.6 Larger combustible items (> 256 cu. ft.) posted for separation requirements		✓										
6.1.7 Minimum 5-ft separation with no combustibles maintained between fuel packages (Canyon, Tunnel, and 2706-T facility)		✓										
6.1.8 30-ft area around outdoor waste management area free of combustible debris			✓	✓			✓	✓		✓	✓	✓
6.1.9 Fire lanes and inspection aisles ≥ 30" wide and free of obstruction (WAC 173-303-340)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.13 Containment systems dry and free of cracks, gaps, or other deterioration (WAC 173-303-630 (7)(g)(i))	✓	✓	✓	✓	✓	✓	X (4)	✓	✓	✓	✓	
6.1.15Containers elevated or otherwise protected from accumulated liquids (WAC 173-303-630 (7)(c)(ii)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.16 Barricades in place and in good condition (WAC 173-303-200 (2)(a))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.18 Area postings in place, legible, and in good condition (WAC 173-303-200(1)(d))	✓	X (1)	X (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.19 Containers free of deterioration and show no sign of leakage (WAC 173-303-630 (2))	✓	✓	✓	✓	✓	✓	✓	✓	X (5)	✓	✓	✓
6.1.22 Containers closed and show no evidence of leakage (e.g., moisture, or stains on the side or underneath) (WAC 173-303-630 (5)(a))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source Document, DO-040-016
Last Printed 1/24/03 6:17 PM

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.23 Containers stored in a way that will not result in rupture or damage (WAC 173-303-630 (5)(b))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.25 Container labeling and markings are intact, unobscured, legible, complete, and in good condition (WAC 173-303-630 (3))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.26 TSCA regulated PCB containers labeled with a PCB label and a "Removed from Service" date (40 CFR 761)	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓	✓
6.1.31 Incompatible wastes segregated (WAC 173-303-630 (9)(c))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.32 Waste accumulation container has inventory attached or available	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.33 Drums stored in rows no more than 2 drums wide with an aisle space ≥ 30 inches (WAC 173-303-630 (5)(c))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.35 Inspector's initials and date and time area inspected	RLB 7-1-03 0840	PJH 6-30-03 1040	RLB 6-30-03 1400	RLB 6-30-03 1100	RLB 6-30-03 1540	RLB 6-30-03 0940	PJH 6-30-03 0900	PJH 6-30-03 0830	RLB 6-30-03 1500	RLB 6-30-03 0815 1330	RLB 6-30-03 1110	RLB 6-30-03 1120
6.1.37 General facility housekeeping of areas where waste is stored.	✓	✓	✓	(X) ①	✓	✓	(X) ②	(X) ②	✓	✓	✓	✓

★ NOTE: Any items marked with an "X", on the above checklist, require corrective action. Document corrective action(s) on inspection finding and corrective action data sheet.

① RLB 7-1-03

Pat Brummett Pat Brummett — 630 0367-1-03
Inspector's Printed Name and Signature — Date

NA — Date
Inspector's Printed Name and Signature

NA — Date
Inspector's Printed Name and Signature

Tina M. Crist — 7-2-03
Supervisor Printed Name and Signature — Date

Source Document: DO-040-016
Last Printed 1/24/03 6:17 PM

Waste Management Area Inspection Finding and Corrective Action Sheet

Inspection for Week of: 6-30-03

Findings for (circle one): Daily Inspection (Weekly Inspection)

	INSPECTION FINDING	CORRECTIVE ACTION/DATE
①	6.1.37. 5gal Plastic Container with MSDS 11339 ~~was~~ need to be put overpk	NCO rewrapped & cleaned up leakage. Submitting MSDS to WMR for designation and disposal instructions. gMC
②	6.1.4 Trash & weeds in area 6.1.37 need sweep up	to Housekeeping shall be assigned. gMC
③	6.1.18 2706T Yard 0007144 need 3 inch ~~to~~ red material ~~stickers~~ on box	new red material stickers put on box ✓
④	6.1.4. ~~was~~ the pipe box Together at the T Pad and Plastic ~~was~~ on ground.	NCO corrected these issues gMC
⑤	6.1.18 label need replace and removed sodium 22IT01-000147, 9408426, 9403041, 9517101, 22IT-01-000150 98009293, 97000410 on 2706T Pad	NCO completed next business day gMC

Comments continue on back ——

Patrick S Brummett
Operator Signature

Patrick L Brummett
Printed Name

6-30-03 661-0
Date

Supervisor Signature

Tina M. Crain
Printed Name

7-2-03
Date

Source Document: DO-049-018
Last printed 1/2/01 7:28 AM

H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Product Name: INSULKOTE ET; INSULKOTE PRIMER "E"
Manufacturer: SCHULLER INTERNATIONAL INC.
MSDS Date: 06/14/95
Input By: GC TRINER
Revised By: SM STEELE
Entry Date: 02/26/91
Revised Date: 08/07/01
Physical State: Liquid
Density: 1
Active?: Y
pH: 7
Flashpoint: N/A C
Reactivity: STABLE, INCOMPATIBLE WITH STRONG OXIDIZERS
Description:
Product Usage: COATING (AN EMULSION PRODUCT), ASPHALT

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
1302-78-9	BENTONITE	3.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
67-63-0	ISOPROPYL ALCOHOL	2.0000000	.0002000	D	~~EL~~	NA	NA	N		

Listed/TC Codes(limit mg/l)

~~D001; WT02~~ JMK 9/10/13

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
7732-18-5	WATER	48.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
8052-42-4	ASPHALT	50.0000000	.0000000	N	NA	NA	PAH	N		

Listed/TC Codes(limit mg/l)

WP03

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	4.0000000	.0000000	N	NA	NA	NA	N		

(1) Does not exhibit dangerous waste characteristic per MSDS.

(2) Does not meet dangerous waste criteria due to insufficient concentration.

JMK 9/10/13

09/10/2013 07:45:10 AM

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Sum of Weight%: 107.0000000

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	NA
* OXIDIZER	D001 DW	
pH <=2 or >= 12.5 (Liquids)	D002 DW	
(Solids Only)	WSC2 DW	
Reactive	D003 DW	

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .0002000

No data or EC% < .001	Non-Reg	NA
EC% >=.001 & <1	WT02 DW	
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .0000000 Total PAH%: 50.0000000

No HOC/PAH or below limits	Non-Reg	NA
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	
PAH% > 1%	WP03 EHW	✓

Toxicity Characteristic WAC 173-303-090-8

TC CODES: NA

MATERIAL USED AS SOLVENTS: NA

APPLICABLE WASTE CODES: WP03

APPLICABLE LDR CODES:

WASTE CLASS: EHW

COMMENTS: Designation provided at ECO request, from suspected leak at TPlant in 2003. No other information provided. Book designation based on MSDS.

Designation Specialist: JM Kisielnicki (Print Name) JM Kisielnicki (Signature) 9/10/13 (Date)

09/10/2013 07:45:10 AM

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 2706-T TSP, 221-T Pad, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	October 18, 2007 - December 31, 2007
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2008 - December 28, 2008
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

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If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

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T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 8, 2009 - December 31, 2009
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2010 - December 30, 2010
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

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T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2011 - December 29, 2011
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 4, 2012 - December 28, 2012
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

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Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

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T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	September 4, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 3, 2013 - June 12, 2013*

*June 12, 2013 was the last complete weekly inspection record on IDMS as of September 4, 2013.

Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐	NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA	
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA	
Reviewer's Signature and Date:	Paul W. Martin 9/9/13	

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

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If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

Attachment B
T-Plant 271 Cage Visual Sampling Plan
Supporting Documentation

1

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

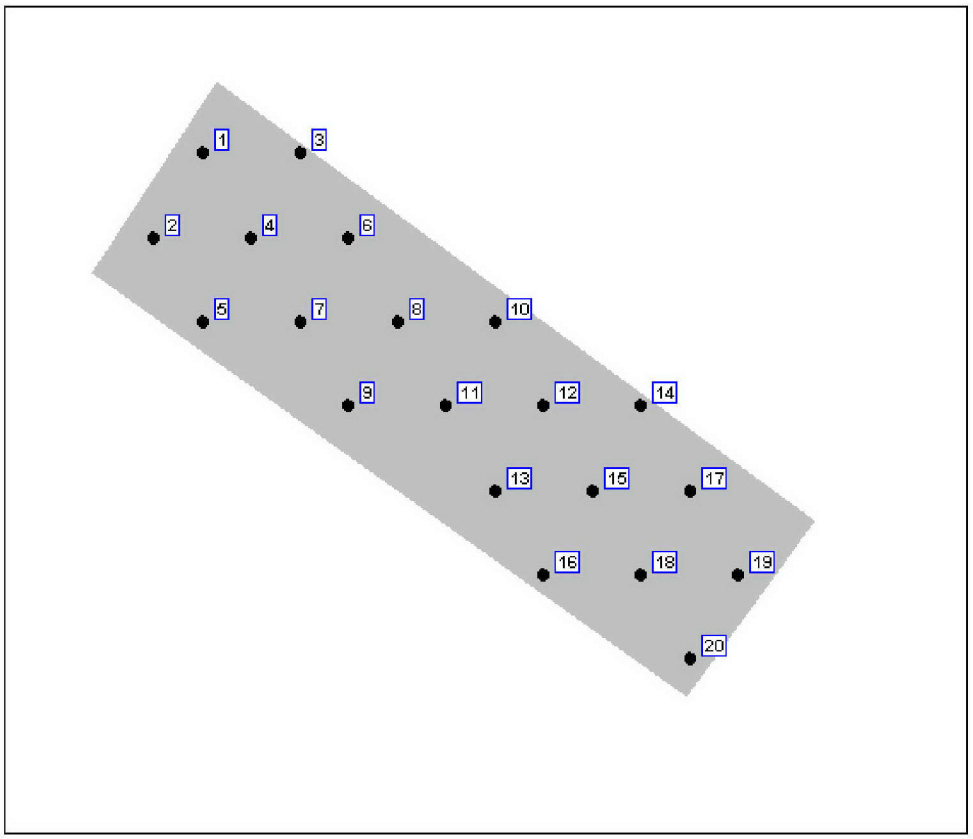
SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	90.13 ft^2
Size of grid / Area of grid cell [d]	2.28119 feet / 4.50663 ft^2
Grid pattern	Triangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.

[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.

[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.

[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.



Area: 271-T Cage					
X Coord	Y Coord	Label	Value	Type	Historical
567560.8323	136862.7479	20		Systematic	
567557.4105	136864.7235	16		Systematic	
567559.6917	136864.7235	18		Systematic	
567561.9729	136864.7235	19		Systematic	
567556.2699	136866.6990	13		Systematic	
567558.5511	136866.6990	15		Systematic	
567560.8323	136866.6990	17		Systematic	
567552.8482	136868.6746	9		Systematic	
567555.1293	136868.6746	11		Systematic	
567557.4105	136868.6746	12		Systematic	
567559.6917	136868.6746	14		Systematic	
567549.4264	136870.6502	5		Systematic	
567551.7076	136870.6502	7		Systematic	
567553.9887	136870.6502	8		Systematic	
567556.2699	136870.6502	10		Systematic	
567548.2858	136872.6257	2		Systematic	
567550.5670	136872.6257	4		Systematic	
567552.8482	136872.6257	6		Systematic	
567549.4264	136874.6013	1		Systematic	
567551.7076	136874.6013	3		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

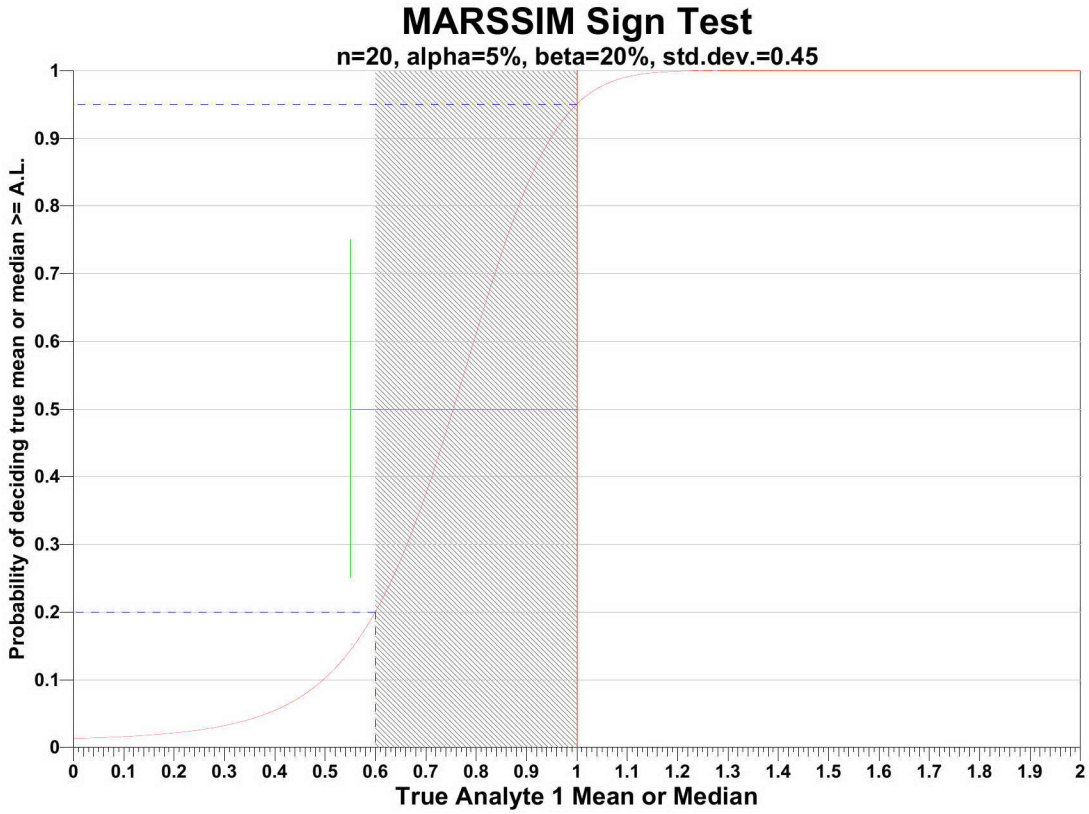
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of

gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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* - The report contents may have been modified or reformatted by end-user of software.

Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.B Appendix B - 211-T Pad

B1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 211-T Pad dangerous waste management unit (DWMU). The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU. Closure will be performed in accordance with the included schedule. This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

B1.1 Unit Description

The 211-T Pad is located west of the 221-T Canyon Facility and adjacent to the 211T-52 Building and ancillary equipment. The 211-T Pad was generally used as secondary containment for tanker trucks. However, containerized dangerous, mixed, or *Toxic Substances Control Act of 1976* (TSCA)-polychlorinated biphenyl (PCB) waste was also stored on the 211-T Pad. The 211-T Pad area is a curbed, uncoated, concrete pad 18 m (59 ft) long by 6 m (20 ft) wide with a total area of 108 m^2 (1,180 ft^2) that slopes into a blind sump (Figure B-1 and Figure B-2). The 211-T Pad blind sump provided secondary containment during periods of waste storage.

The 211-T Pad does not currently store dangerous, mixed, or TSCA-PCB waste. Future storage of dangerous, mixed, or TSCA-PCB waste is not authorized within the 211-T Pad DWMU. The 211-T Pad is located near the 221-T Canyon facility, which is part of the Canyon Disposition Initiative (CDI) (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*, hereinafter called the Tri-Party Agreement [TPA], Section 6, "Treatment Storage and Disposal (TSD) Process," and TPA Section 8, "Facility Disposition"). The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and CDI activities. The 211-T Pad is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during CDI activities for the T-Plant Complex.

> TPA Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

B1.1.1 Maximum Waste Inventory

Waste management records indicate that the maximum waste inventory over the operational period of the 211-T Pad included 53 containers of dangerous and/or mixed waste with a total volume of 83.9 m^3 (2,962.9 ft^3) and 1 container of TSCA-PCB only waste with at total volume of 3.6 m^3 (127.1 ft^3). Dangerous, mixed, and TSCA-PCB waste storage occurred from October 1985 through April 2006. Details on the waste containers are presented in Section B3.3.

Figure B-1. T-Plant Complex OUG 211-T Pad Outdoor Container Storage Area

Figure B-2. T-Plant Complex OUG 211-T Pad Outdoor Container Storage Area Sump

B2 Closure Performance Standard

Closure performance standards for the 211-T Pad will be based on requirements found in WAC 173-303-610(2), which requires closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

These performance standards are addressed in Sections B2.1 and B3.13 of this closure plan.

B2.1 Clean Closure Levels

The 211-T Pad will be clean closed using clean closure levels required for soil. However, confirmation sampling of clean closure levels will not be performed until the T-Plant Complex CDI activities are initiated. In accordance with WAC 173-303-610(2)(b)(i) for soil, the clean closure levels will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-700, "Overview of Cleanup Standards," through -760, "Sediment Cleanup Standards," excluding WAC 173-340-745, "Soil Cleanup Standards for Industrial Properties"). These numeric cleanup levels will be calculated according to the MTCA (WAC 173-340) Method B unrestricted use standards current at the time of closure.

Sampling and analysis will verify clean closure for the 211-T Pad. Sampling and analysis of the 211-T Pad will occur in conjunction with the CDI activities for the T-Plant Complex OUG. If sampling and analysis activities indicate contamination above the MTCA (WAC 173-340) Method B unrestricted use standards, potential remediation or decontamination would be incorporated with the cleanup activities. Any required changes to this closure plan and the included sampling and analysis plan (SAP) will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

B3 Closure Activities

As a storage unit, clean closure determination for the 211-T Pad is based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 211-T Pad is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with the CDI activities. Final verification sampling of clean closure will be performed during the T-Plant Complex cleanup actions consistent with the CDI activities. Sampling of the concrete pad and sump will be conducted via a SAP (Section B3.10) during the CDI activities to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure are as follows:

- Remove all dangerous, mixed, or TSCA-PCB waste inventory (completed; see Section B3.2).
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage (completed; see Section B3.3).
- Perform a visual inspection of the concrete pad surface (completed; see Section B3.3).
- Add 211-T Pad to the Waste Information Data System (WIDS) database (see Section B3.8).

Extended closure activities include:

- Verification sampling and analysis to confirm RCRA clean closure standards in coordination with the CDI activities for the T-Plant Complex OUG.

B3.1 Health and Safety Requirements

Closure will be performed to ensure safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex T-Plant, Addendum G, *Personnel Training*, and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity includes the following:

- Training will provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with quality assurance requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required

- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

B3.2 Removal of Wastes and Waste Residues

The 211-T Pad does not currently store dangerous, mixed, or TSCA-PCB waste. Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously stored on the 211-T Pad. The 211-T Pad will no longer be used for dangerous, mixed, or TSCA-PCB waste storage. The 211-T Pad is in a safe configuration, and will be tracked in WIDS until verification sampling is performed under the SAP.

B3.3 211-T Pad RCRA Operating Records Review and Visual Inspection

To support development of this closure plan and the SAP, a review of the T-Plant Complex OUG operating records was completed (Table B-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports), waste management records, and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, and TSCA-PCB waste storage for the T-Plant Complex OUG Outdoor Container Storage Areas addressed under the T-Plant Complex OUG Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated that no releases of dangerous, mixed, or TSCA-PCB waste occurred in the 211-T Pad area.

Waste management records for the dangerous, mixed, and TSCA-PCB waste containers stored on the 211-T Pad were reviewed to determine the target analytes to be included in the closure plan SAP. Container data is presented in Table B-2.

A visual inspection was performed on August 20, 2013 to identify any dangerous waste related staining on the 211-T Pad. No waste related staining was identified during the visual inspection; therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment A and include the T-Plant Daily Operating Logbook Review sheet, T-Plant Operation Logbook Review sheet, T-Plant Daily Dangerous Waste Inspection Checklist Review sheet, Summary of T-Plant Weekly Dangerous Waste Inspection Checklist Review sheet, T-Plant Complex 211-T Pad Container Storage Area visual inspection sheet, and any additional supporting information.

B3.4 Unit Components, Parts, and Ancillary Equipment

The 211-T Pad and associated sump will not be removed as part of the near-term closure activities. The concrete pad will remain in place pending final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG. No dangerous, mixed, or TSCA-PCB waste will be stored at the 211-T Pad.

Table B-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	211-T Pad	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	211-T Pad	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	211-T Pad	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	211-T Pad	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	211-T Pad	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	211-T Pad	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

Table B-2. 211-T Pad Container Data

Container Quantity	Facility Identification	Storage Unit	Waste Package Type	Package Volume (m^3)	Waste Type	Earliest Moved In Date	Latest Moved Out Date	Assigned Waste Code
53	T-Plant	211-T Pad	Various	83.9	Dangerous and/or Mixed	10/1985	4/2006	D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D022, D030, D039, F001, F002, F003, F004, F005
1	T-Plant	211-T Pad	Drum	3.6	TSCA-PCB	08/1998	04/2006	N/A

N/A = not applicable

TSCA-PCB = *Toxic Substances Control Act of 1976*-polychlorinated biphenyl

B3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 211-T Pad.

B3.6 Decontamination

Decontamination activities are not planned for the 211-T Pad.

B3.7 Identifying and Managing Contaminated Environmental Media

Should contaminated media be identified as a result of confirmation sampling, contaminated materials will be addressed under the CDI activities and managed, as appropriate. As necessary, treatment or disposal of the resulting waste will be performed at an approved treatment, storage, and disposal (TSD) facility.

B3.8 Addition of 211-T Pad to the WIDS Database

As part of the near-term closure activities, the 211-T Pad will be added to the WIDS database. Addition of the 211-T Pad to the WIDS database will help ensure that the 211-T Pad is monitored and controlled until the extended closure activities are completed and verification sampling is completed.

Addition of the 211-T Pad to the WIDS database will ensure that no unauthorized activity takes place at the 211-T Pad (i.e., waste storage and excavation).

B3.9 Confirming Clean Closure

The 211-T Pad will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. In addition to the records review, a visual inspection of the 211-T Pad was performed to identify any dangerous waste-related staining of the storage area pad. Both the records review and visual inspection are detailed in Section B3.3 and documented in Attachment A.

All dangerous, mixed, and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous, mixed, or TSCA-PCB waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 211-T Pad. Sampling and analysis of the 211-T Pad concrete pad and sump will be performed to confirm that cleanup standards for soil have been achieved.

B3.10 Sampling and Analysis and Constituents to Be Analyzed

B3.10.1 Sampling and Analysis Plan

The final clean closure verification sampling for the 211-T Pad will occur in conjunction with the T-Plant CDI activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure plan SAP and in conjunction with the CDI activities for the T-Plant Complex OUG. Sampling and analysis of the concrete pad and sump of the 211-T Pad will be conducted to confirm that clean closure levels have been achieved. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM)

Annual Book of ASTM Standards; and applicable EPA guidance. Sampling and analysis activities will meet applicable requirements of SW-846, ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

B3.10.2 Target Analytes

Waste management records indicated that dangerous, mixed, and TSCA-PCB waste has been stored on the 211-T Pad. The target analytes for evaluation during closure sampling and analysis were determined by reviewing the waste management records of the dangerous, mixed, or TSCA-PCB waste stored on the 211-T Pad. Table B-3 provides the target analyte list.

B3.10.3 211-T Pad SAP Schedule

Confirmation closure sampling and analysis will be performed during the extended closure activities in conjunction with the T-Plant Complex OUG cleanup under the CDI activities.

B3.10.4 211-T Pad Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

B3.10.5 Sampling Design

Concrete chip or core samples will be taken at predetermined sample locations. Sample locations were determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The 211-T Pad global positioning system latitudinal and longitudinal coordinates were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, the VSP software determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by the VSP software and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by the VSP software, and the subsequent nineteen sample locations were assigned by the VSP software using a rectangular grid sampling method. Supporting documentation for the VSP software sampling designations are documented in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented dangerous, mixed or TSCA-PCB waste has been released to 211-T Pad, and no waste related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

B3.10.6 Sampling Methods and Handling

The sample matrix will consist of concrete collected in pre-cleaned sample containers taken at a depth of no more than 2.54 cm (1 in.) below the surface of the concrete pad, unless staining or discoloration indicates contamination below that depth. Concrete chip or core samples will be collected into containers at the chosen sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table B-4 for concrete samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and chain-of-custody form.

To prevent potential contamination of the samples, care will be taken to use decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary, depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

Table B-3. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	1,1,2-Trichloroethane (F002)	79-00-5
Barium (D005)	7440-39-3	Acetone (F003)	67-64-1
Cadmium (D006)	7440-43-9	N-butyl alcohol (F003)	71-36-3
Chromium (Hexavalent) (D007)	18540-29-9	Cyclohexanone (F003)	108-94-1
Lead (D008)	7439-92-1	Ethyl acetate (F003)	141-78-6
Mercury (D009)	7439-97-6	Ethyl benzene (F003)	100-41-4
Selenium (D010)	7782-49-2	Ethyl ether (F003)	60-29-7
Silver (D011)	7440-22-4	Methanol (F003)	67-56-1
Benzene (D018) (F005)	71-43-1	Methyl isobutyl ketone (F003)	108-10-1
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Xylene (F003)	1330-20-7
Chloroform (D022)	67-66-3	o-Cresol (F004)	95-48-7
2,4-Dinitrotoluene (D030)	121-14-2	2-Nitropropane (F005)	79-46-9
Tetrachloroethylene (D039) (F001) (F002)	127-18-4	Carbon disulfide (F005)	75-15-0
Trichloroethylene (F001) (F002)	79-01-6	Isobutanol (F005)	78-83-1
1,1,1-Trichloroethane (F001) (F002)	71-55-6	2-Ethoxyethanol (F005)	110-80-5
Chlorinated fluorocarbons (F001) (F002)	N/A	Toluene (F005)	108-88-3
Methylene chloride (F001) (F002)	75-09-2	Methyl ethyl ketone (MEK) (F005)	78-93-3
Chlorobenzene (F002)	108-90-7	Benzene, nitro (F004)	98-95-3
1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Pyridine (F005)	110-86-1
Ortho-dichlorobenzene (F002)	95-50-1	Polychlorinated biphenyl (PCB)	1336-36-3

CAS = Chemical Abstracts Service

1

2

Table B-4. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl (PCB)	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days
aG = amber glass
G = glass
EPA = U.S. Environmental Protection Agency
ICP-MS = inductively coupled plasma-mass spectrometry
P = plastic

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling authorization form and form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)

In addition, sample records must include the following information:

- Sample location
- Matrix (e.g., water or soil)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained.

All waste generated by sampling activities will be managed in accordance with applicable regulations.

B3.10.7 Analytical Methods

All analyses and testing will be performed consistent with laboratory agreements, laboratory analytical procedures, and HASQARD (DOE/RL-96-68). The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above the clean closure level but less than the PQL of the analytical method, the Washington State Department of Ecology will be notified, and alternatives will be discussed to demonstrate clean closure levels.

Table B-5 outlines analytical methods and performance requirements associated with the target analytes.

B3.10.8 Quality Control

Quality control (QC) procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table B-6.

B3.10.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data are processed, resolution of those issues will be initiated.

The format and requirements for data validation activities are based upon the most current version of OSWER 9240.1-48, *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01), and OSWER 9240.1-51, *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

Table B-5. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit (mg/kg)[d]	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]

Table B-5. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit (mg/kg)[d]	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-Trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol	SW-846 Method 8260	N/A	8000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]

Table B-5. Concrete Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit (mg/kg)[d]	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	32,000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
1336-36-3	Polychlorinated biphenyl (PCB)	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards;" -747, "Deriving Soil Concentrations for Groundwater Protection;" and -7490, "Terrestrial Ecological Evaluation Procedures," through -7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to MTCA (WAC 173-340) Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

CAS = Chemical Abstracts Service

N/A = not applicable

RPD = relative percent difference

Table B-6. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Field Quality Control		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed. If only disposable equipment is used, then an equipment blank is not required. Otherwise, one per 20 samples per media[a].	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples[b]).	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory Quality Control[h]		
Method Blanks	1 per batch[h]	Laboratory contamination
Lab Duplicates	[c]	Laboratory reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate laboratory accuracy
Performance Evaluation Programs[d]	Annual	Evaluate laboratory accuracy
Double-Blind Standards	Quarterly[e]	Evaluate laboratory accuracy
Audit/Assessment	Annually[f] or every 3 years[g]	Evaluate overall laboratory performance and operations

Table B-6. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempt from duplicate sampling.

c. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE Quality Systems for Analytical Services requires annual audit of commercial laboratories.

g. *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68) does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

DOE = U.S. Department of Energy

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process (EPA/240/B-06/002, *Data Quality Assessment: A Reviewer's Guide* [EPA QA/G-9R]; and EPA/240/B-06/003, *Data Quality Assessment: Statistical Methods for Practitioners* [EPA QA/G-9S]).

B3.10.10 Documents and Records

The Project Manager is responsible for ensuring that the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to DOE and the lead regulatory agency.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook, and only authorized persons may make entries in logbooks. Logbooks will be signed by the field work supervisor, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following items will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records

- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following items:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the TPA (Ecology et al., 1989) will be managed in accordance with the requirements therein.

B3.10.11 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830, "Dangerous Waste Regulations," "Permit Changes."

B3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure and to sign the closure certification, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

B3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 211-T Pad DWMU, certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the department by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

B3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 211-T Pad will remain in an "as-is" state with the concrete pad and sump remaining in place. The 211-T Pad will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 211-T Pad DWMU from the sitewide permit active DWMUs.

B4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 211-T Pad to the WIDS database will be completed within 180 days of approval of the closure plan. This DWMU is located near the T-Plant Canyon Building, a large operating facility that currently serves

as both waste treatment and storage at Hanford for multiple waste streams. The TPA (Ecology et al., 1989) identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, "Coordination of Closure and Corrective Action or Other Cleanup Activities") allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 211-T Pad to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities, in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure B-3).

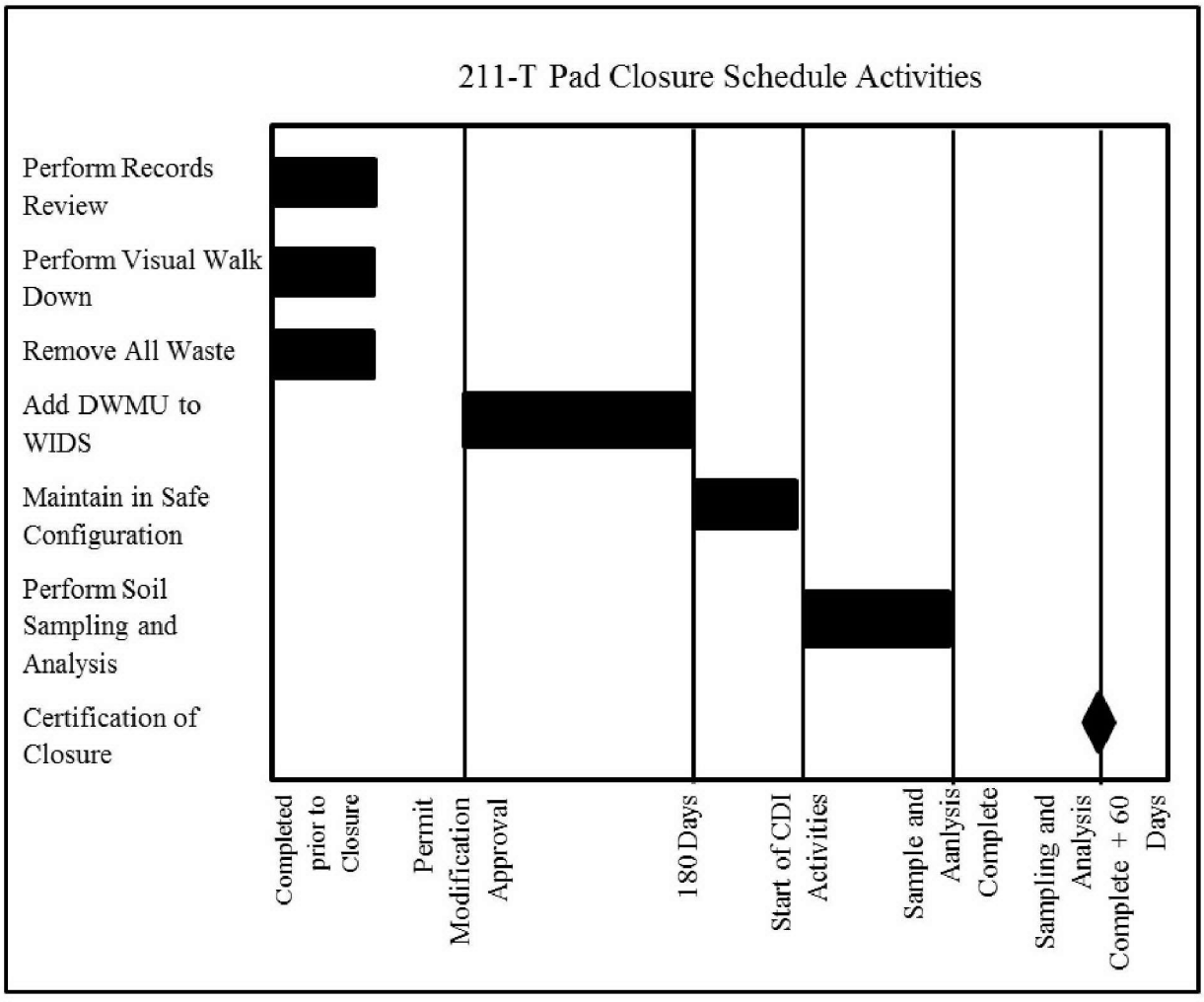

Figure B-3. 211-T Pad Closure Schedule Activities

B5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

1

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Attachment A

T-Plant 211-T Pad RCRA Records Review and Visual Inspection Supporting Documentation

1

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T Plant Complex 211-T Pad Container Storage Area

Purpose:

A visual inspection walkdown of the T Plant Complex outdoor 211-T Pad container storage area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on August 15, 2013 by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

No staining of any kind was identified on the concrete storage surface area. The 211-T Pad was thoroughly photographed. Some tumbleweeds were present. Housekeeping, if determined necessary, will be performed on the area prior to closure. Drain has been plugged (see attached photograph).

Signature/Date:

Brett M. Barnes: Brett M. Barnes 9/3/13

Strickling, Lana R

From:	Barnes, Brett M
Sent:	Tuesday, September 03, 2013 1:49 PM
To:	Horn, Sarah R; Strickling, Lana R
Cc:	Engelmann, Richard H; Dixon, Brian J; Ruck, Fred A III; Seaver, Jennie R
Subject:	REVISED T PLANT COMPLEX 211-T PAD CONTAINER STORAGE AREA CLOSURE INSPECTION REPORT
Attachments:	SPDQ0638013090313016.pdf

All, please ignore my previous closure inspection reports...I had to correct some editorial comments.

Attached is the closure inspection report for the T Plant Complex 211-T Pad Container Storage Area. The only photograph associated with this closure inspection report is directly below. Should you have any questions, please call me on my cell phone, 521-3053.

Brett M. Barnes
Environmental Compliance Officer

T-Plant Daily Operating Log Book Review

Waste Management Units:	271-T Cage, 211-T Pad, 222-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Date of Log Book Review:	8/15/13 – 8/26/13
Reviewer's Names:	Joel Williams, Brett Barnes, Brian Dixon, Jeff Bramson, Joe Archuleta, Patrick Baynes, Don Craig, Lana Strickling
Daily Operating Log Book Document No:	See attached.
Log Book Timeframe (Month/Year to Month/Year):	1/2/85 – 6/22/10
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES____ NO__X__
Items of Concern: Attach copies of log book pages noting concern.	_____ _____ _____ _____
Log Book Page# Referencing Spill:	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of log book pages noting corrective actions.	_____ _____ _____ _____
Log Book Page# Referencing Corrective Action:	_____ _____ _____ _____
Reviewer's Signature and Date:	Lana Strickling 9/16/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	01/02/87	12/31/85	135357
	01/02/86	12/31/86	135357
	01/02/87	12/31/87	135357
	01/04/88	12/30/88	135357
Operations Log	01/03/89	12/29/89	149634
Operations Log	01/02/90	01/02/91	149634
Operations Log	01/02/91	01/16/91	149634
	01/16/91	06/04/91	141785
	06/06/91	10/23/91	141785
	10/24/91	03/12/92	141785
	03/13/92	07/13/92	141785
	07/14/92	10/16/92	141785
	10/17/92	01/21/93	141785
	01/21/93	02/05/93	141785
	01/23/93	03/14/93	141785
	03/15/93	04/20/93	141785
	04/21/93	05/21/93	141785
	05/27/93	07/01/93	141785
	07/06/93	08/12/93	141785
	08/12/93	09/17/93	141785
	09/17/93	10/22/93	141785
	10/22/93	11/24/93	141785
	11/29/93	01/07/94	141785
	01/07/94	02/09/94	141785
	02/10/94	03/11/94	141785
	03/14/94	04/11/94	141785
	04/12/94	05/10/94	141785
	05/10/94	06/10/94	141785
	06/13/94	07/21/94	141785
	07/13/94	08/12/94	141785
	08/12/94	09/14/94	141785
	09/14/94	10/10/94	141785
BOX 3	10/03/94	12/12/94	131414
	10/10/94	11/09/94	141785
	11/09/94	12/07/94	141785
	12/07/94	01/05/95	141785
BOX 3	12/13/94	02/24/95	131414
	01/05/95	02/02/95	141785
	02/02/95	02/28/95	141785
	02/28/95	03/30/95	141785
	03/30/95	04/26/95	141785
	04/26/95	05/31/95	141785
	05/31/95	06/29/95	131414
	07/14/95	09/19/95	131414
	07/30/95	08/22/95	131414
	08/22/95	09/12/95	131414

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	09/13/95	10/04/95	131414
	09/20/95	11/10/95	131414
	10/04/95	10/24/95	131414
	10/24/95	11/09/95	131414
	11/10/95	01/08/96	131414
	11/10/95	11/30/95	131414
	11/30/95	12/15/95	131414
	12/15/95	01/08/96	131414
	01/09/96	02/23/96	131414
	01/18/96	01/24/96	131414
	01/24/96	02/21/96	131414
	02/21/96	03/18/96	131414
	02/23/96	04/08/96	131414
	03/18/96	04/09/96	131414
	04/09/96	05/23/96	131414
	04/09/96	05/02/96	131414
	05/02/96	05/31/96	131414
	05/24/96	07/30/96	131414
	05/31/96	06/28/96	131414
	06/28/96	07/29/96	131414
	06/30/95	07/31/95	131414
	07/30/96	08/22/96	131414
	07/31/96	09/17/96	131414
	08/22/96	09/17/96	131414
	09/19/96	11/14/96	131414
	09/17/96	10/14/96	131414
	10/14/96	11/05/96	131414
	11/05/96	12/02/96	131414
	11/15/96	01/09/97	131414
	12/02/96	12/30/96	131414
	12/30/96	01/24/97	131414
BOX 1	01/24/97	02/20/97	149634
BOX 1	02/20/97	03/20/97	149634
BOX 1	03/21/97	04/21/97	149634
BOX 1	04/21/97	06/02/97	149634
BOX 1	05/13/97	07/03/97	149634
BOX 1	06/02/97	07/10/97	149634
BOX 1	07/10/97	08/22/97	149634
3030	08/22/97	10/07/97	177623
2005	10/08/97	11/17/97	177623
3033	11/18/97	12/29/97	177623
3034	12/30/97	02/04/98	177623
3035	02/05/98	03/11/98	177623
3036	03/12/98	04/20/98	177623
3037	04/21/98	06/03/98	177623
3038	06/04/98	07/15/98	177623

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3039	07/16/98	09/02/98	177623
3040	09/03/98	10/22/98	177623
3041	10/23/98	12/04/98	177623
2003	12/07/98	01/18/99	177623
2004	01/19/99	03/15/99	177623
5000	03/16/99	05/18/99	177623
5002	05/19/99	07/27/99	177623
5003	07/28/99	09/15/99	177623
5004	09/15/99	10/28/99	177623
5005	10/28/99	12/30/99	177623
3002	12/16/99	02/17/00	177623
5006	12/31/99	03/06/00	177623
5007	03/07/00	05/01/00	177623
3004	04/19/00	06/08/00	177623
5008	05/02/00	07/11/00	177623
5009	07/12/00	09/12/00	177623
5010	09/13/00	11/17/00	177623
5011	11/20/00	01/18/01	177623
5012	01/18/01	03/15/01	223426
2013	03/15/01	05/07/01	223426
5014	05/08/01	07/03/01	223426
5015	07/03/01	08/21/01	223426
5016	08/22/01	10/03/01	223426
5017	10/04/01	11/11/01	223426
5018	11/12/01	01/02/02	223426
5019	01/02/02	02/20/02	223426
5020	02/21/02	03/28/02	223426
5021	04/01/02	05/16/02	223426
5022	05/17/02	07/02/02	223426
5023	07/02/02	08/09/02	223426
3010	08/11/02	09/24/02	223426
3011	09/25/02	11/11/02	223426
3012	11/11/02	01/10/03	223426
3013	01/10/03	02/26/03	223426
3014	02/27/03	04/09/03	223426
3015	04/09/03	06/05/03	223426
3016	06/09/03	08/05/03	223426
3017	08/06/03	09/24/03	223426
3018	09/24/03	11/05/03	223426
3019	11/05/03	01/19/04	223426
3021	01/20/04	03/14/04	223426
3022	03/14/04	05/19/04	223426
3023	05/19/04	08/03/04	223426
3024	08/03/04	10/05/03	223426
3025	10/16/04	12/08/04	223426
3047	12/08/04	02/03/05	223426

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3048	02/04/05	04/13/05	223426
3049	04/14/05	06/27/05	223426
3050	06/28/05	09/02/05	223426
5001	09/06/05	11/16/05	223426
3051	11/17/05	02/07/06	223426
3052	02/08/06	04/13/06	223426
3053	04/14/06	06/28/06	223425
3054	06/29/06	09/14/06	223425
3055	09/15/06	11/29/06	223425
3056	11/30/06	02/12/07	223425
3057	02/13/07	04/16/07	223425
3058	04/17/07	06/07/07	223425
3059	06/08/07	07/31/07	223425
3060	08/01/07	09/26/07	223425
3061	09/26/07	11/10/07	223425
3062	11/12/07	12/26/07	223425
3063	12/27/07	02/13/08	223425
3064	02/14/08	03/24/08	223425
3065	03/24/08	05/05/08	223425
3066	05/05/08	06/05/08	223425
3067	06/05/08	07/11/08	223425
3068	07/11/08	08/12/08	223425
3069	08/12/08	09/22/08	223425
3070	09/22/08	11/03/08	223425
3071	11/04/08	12/30/08	223425
3072	12/31/08	02/23/09	223425
3073	02/24/09	04/10/09	223425
3074	04/10/09	05/28/09	223425
3075	05/28/09	07/20/09	223425
3076	07/21/09	09/02/09	223425
3077	09/03/09	11/03/09	223425
3078	11/04/09	12/21/09	223425
3079	12/22/09	02/01/10	223425
3080	02/01/10	03/11/10	223425
3081	03/11/10	04/13/10	223425
3082	04/13/10	05/17/10	223425
3083	05/18/10	06/21/10	223425
3084	06/22/10	07/26/10	223425

T-Plant Operation Logbook Review

Title(s) of Logbook:	T-Plant Operation Logbook
Date of Review:	08/15/13 through 08/19/13
Reviewer's Name:	Stephanie Johansen
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Logbook Date Range:	07/27/10 through 04/07/11
Logbook Numbers:	3085 through 3091
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns:	
Attach copies of pages noting concern.	
Dates of Corrective Actions:	
Attach copies of pages noting concern.	
Reviewer's Signature and Date:	Stephanie Johansen

Instructions:

Review logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of pages noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	Waste Management Area Daily Inspection Data Sheet
Date of Review:	9/3/2013
Reviewer's Name:	Linda Carr
Waste Management Units: Boneyard Pad Waste Storage	221-T, 2706, MO433, 214-T, 211-T, 221-T, 271-T, 277-T,
Time Frame of Daily Inspections:	2005- August 29 – December 1
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions. Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2007-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Daily Inspection sheets noting concern.	
Dates of Corrective Actions: Attach copies of Daily Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-January 1-September 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Daily Inspection sheets noting concern.	
Dates of Corrective Actions: Attach copies of Daily Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2009-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2010-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Daily Inspection sheets noting concern.	
Dates of Corrective Actions: Attach copies of Daily Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2011-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2012-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2013-January 1-April 22
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Summary of T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas T Plant Weekly Inspection Log Sheet
Date of Weekly Waste Inspection Review:	8/26/13 – 8/28/13
Initial Reviewer's Name:	Jeff Bramson, Linda Carr, Paul Martin.
Final Reviewer's Name:	Lana Strickling*

* A review was performed against the individual checklists developed by the initial reviewers above to consolidate and document any review notes, items of concern, etc. related to the WMU's identified below.

Waste Management Units:	271-T Cage, 221T R5, 277-T Outdoor Storage Area, 211-T Pad, 221-T Sand Filter Pad**

**Inspection sheets were reviewed for any reference to the waste management units identified for any items of concern.

Time Frame of Inspections:	6/7/91 – 12/20/99***

***See attached log for weekly waste inspections sheets reviewed. Line items missing date, document number, sheet, revision, and title indicate missing records.

Items of Concern Noted (Circle) YES ___ NO _X__
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
DEC 31-JAN 4						
JAN 7TH						
JAN 14TH						
JAN 21TH						
JAN 28TH						
FEB 4TH						
FEB 11TH						
FEB 18TH						
FEB 25TH						
MAR 4TH						
MAR 11TH						
MAR 18TH						
MAR 25TH						
APRIL 1ST						
APRIL 8TH						
APRIL 15TH						
APRIL 22ND						
APRIL 29TH						
MAY 6TH						
MAY 13TH						
MAY 20TH						
MAY 27TH						
LOG-060791 [D197044429]	6/7/1991	LOG-060791	06/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JUNE 10TH						
LOG-062191 [D197044441]	6/21/1991	LOG-062191	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JUNE 24TH						
JULY 1ST						
JULY 7TH						
JULY 15TH						
LOG-072291 [D197044468]	7/22/1991	LOG-072291	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JULY 29TH						
AUG 5TH						
AUG 12TH						
LOG-082191 [D197044477]	8/21/1991	LOG-082191	08/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-082991 [D197044485]	8/29/1991	LOG-082991	08/29/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-090991 [D197044528]	9/9/1991	LOG-090991	09/09/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-091291 [D197044539]	9/12/1991	LOG-091291	09/12/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-092691 [D197044572]	9/26/1991	LOG-092691	09/26/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-100491 [D197044613]	10/4/1991	LOG-100491	10/04/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-101191 [D197044634]	10/11/1991	LOG-101191	10/11/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-102591 [D197044655]	10/25/1991	LOG-102591	10/25/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-110791 [D197044671]	11/7/1991	LOG-110791	11/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
NOV 11TH						
NOV 18TH						
NOV 25TH						
LOG-123091 [D197044751]		LOG-123091	12/30/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-120391 [D197044680]		LOG-120391	12/03/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-122791 [D197044725]		LOG-122791	12/27/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

1992 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010692 [D197044757]		LOG-010692	01/06/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS & SATELLITE
LOG-011592 [D197044848]	01/15/1992	LOG-011592	01/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012492 [D197044895]	01/24/1992	LOG-012492	01/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012892 [D197044914]	01/28/1992	LOG-012892	01/28/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-020492 [D197044917]	02/04/1992	LOG-020492	02/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-021092 [D197044942]	02/10/1992	LOG-021092	02/10/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022192 [D197044953]	02/21/1992	LOG-022192	02/21/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022492 [D197044955]	02/24/1992	LOG-022492	02/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-030492 [D197044964]	03/04/1992	LOG-030492	03/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031192 [D197044988]	03/11/1992	LOG-031192	03/11/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031792 [D197044999]	03/17/1992	LOG-031792	03/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-032592 [D197045021]	03/25/1992	LOG-032592	03/25/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MARCH 30TH						
LOG-041492 [D197045025]	04/14/1992	LOG-041492	04/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-042992 [D197045027]	04/29/1992	LOG-042992	04/29/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MAY 4TH						
LOG-051592 [D197045032]	05/15/1992	LOG-051592	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-052792 [D197045035]	5/27/1992	LOG-052792	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060392 [D197044409]	06/03/1992	LOG-060392	06/03/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060992 [D197044251]	06/09/1992	LOG-060992	06/09/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-061792 [D197044297]	06/17/1992	LOG-061792	06/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-062392 [D197044302]	06/23/1992	LOG-062392	06/23/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070192 [D197044341]	07/01/1992	LOG-070192	07/01/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070892 [D197044353]	07/08/1992	LOG-070892	07/08/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-071492 [D197044373]	07/14/1992	LOG-071492	07/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072292 [D197044402]	07/22/1992	LOG-072292	07/22/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
	1992: JULY 29; AUG: 5, 10, 19, 25, SEPT: 1, 11, 18, 22, 30 OCT: 8, 13, 20, 27, NOV: 4, 11, 19, 25, DEC: 1, 9, 17,					
LOG-072992 [D197044191]	21, 30	LOG-072992	07/29/1992	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG

 JMS 9/9/13

1993 Weekly Dangerous Waste Inspections

Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
1993 JANUARY						
LOG-020593 [D197044227]	1993 FEB: 5, 11, 19, 24,	LOG-020593	02/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030393 [D197043351]	1993 MAR: 3, 11, 19, 25	LOG-030393	03/03/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040193 [D197043359]	1993 APRIL: 1, 7, 13, 23, 29	LOG-040193	04/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050693 [D197043361]	1993 MAY: 6, 10, 21, 28	LOG-050693	05/06/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060493 [D197043363]	1993 JUNE: 4, 11, 16, 25,	LOG-060493	06/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070193 [D197043364]	1993 JULY: 1, 8, 15, 22, 29	LOG-070193	07/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080593 [D197043369]	1993 AUG: 5, 11, 18, 24,	LOG-080593	08/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090293 [D197043390]	1993 SEPT: 2, 10, 16, 22, 30	LOG-090293	09/02/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100793 [D197043401]	1993 OCT: 7, 15, 21, 28,	LOG-100793	10/07/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-110493 [D197043403]	1993 NOV: 4, 10, 19, 23,	LOG-110493	11/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-120293 [D197043409]	1993 DEC: 2, 9, 15, 21, 30	LOG-120293	12/02/1993	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG SHEET

1994 Weekly Dangerous Waste Inspections

Object Name	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010694 [D197043414]	1994: JAN: 6, 13, 20, 27	LOG-010694	01/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-020394 [D197043420]	1994 FEB: 3, 9, 17, 23,	LOG-020394	02/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030394 [D197043423]	1994 MAR: 3, 9, 15, 25	LOG-030394	03/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040194 [D197043426]	1994 APRIL: 1, 6, 14, 20, 26	LOG-040194	04/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050594 [D197043430]	1994 MAY: 5, 9, 17, 24, JUNE 1	LOG-050594	05/05/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060194 [D197043444]	1994 JUNE: 1, 7, 15, 23, 27,	LOG-060194	06/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070694 [D197043445]	1994 JULY: 6, 14, 19, 27,	LOG-070694	07/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080394 [D197043446]	1994 AUG: 3, 10, 16, 23,	LOG-080394	08/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090194 [D197043947]	1994 SEPT: 1, 7, 14, 19, 26,	LOG-090194	09/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100394 [D197043956]	1994 OCT: 3, 10, 17, 24, 31	LOG-100394	10/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET/ T PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MIXED WASTE
LOG-110794 [D197043970]	1994 NOVEMBER: 7, 14, 22, 28	LOG-110794	11/07/1994	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-120594 [D197044093]	1994 DECEMBER: 5, 14, 20, 28	LOG-120594	12/05/1994	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010395 [D197044125]	1995 JANUARY---1992 JAN: 8, 14, 22, 29,	LOG-010395	01/03/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
1995 FEB						
1995 MARCH						
1995 APRIL						
1995 MAY						
LOG-062195 [D197045039]	1995 JUNE: 20	LOG-062195	06/21/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-071995 [D197045042]	1995 JULY: 19, 27	LOG-071995	07/19/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-081595 [D197045045]	1995 AUGUST: 15, 23, 28	LOG-081595	08/15/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-091195 [D197045049]	1995 SEPTEMBER: 7, 11, 14, 19, 27	LOG-091195	09/11/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-100495 [D197045096]	1995 OCTOBER 2, 10, 18, 24	LOG-100495	10/04/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-110195 [D197045103]	1995 NOVEMBER: 1, 6, 15, 27	LOG-110195	11/01/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-121595 [D197045111]	1995 DECEMBER: 15, 19, 29	LOG-121595	12/15/1995	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-011596 [D197045115]	1996 JANUARY: 15, 22, 30	LOG-011596	01/15/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-020596 [D197045121]	1996 FEBRUARY: 5, 13, 23,	LOG-020596	02/05/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-030396 [D197045126]	1996 MARCH: 1, 8, 15, 20 AND 29	LOG-030396	03/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-040196 [D197045147]	1996 APRIL: 1, 8, 18, 26	LOG-040196	04/01/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-052896 [D197045163]	1996 MAY: 28	LOG-052896	05/28/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-060696 [D197045179]	1996 JUNE: 6, 12, 27,	LOG-060696	06/06/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 JULY						
1996 AUGUST						
LOG-090396 [D197045193]	1996 SEPTEMBER: 3, 23	LOG-090396	09/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 OCTOBER						
1996 NOVEMBER						
LOG-122396 [D197045213]	1996 DECEMBER: 23	LOG-122396	12/23/1996	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MISED WASTE/LOW LEVEL WASTE

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DEC 30 THRU JAN 3							
JAN 6TH							
JAN 13TH							
JAN 20TH							
JAN 27TH							
FEB 3RD							
FEB 10TH							
FEB 27TH							
NA [D8724972]	Properties	Open	NA	02/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724970]	Properties	Open	NA	03/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724967]	Properties	Open	NA	03/11/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724966]	Properties	Open	NA	03/17/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724964]	Properties	Open	NA	03/24/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724804]	Properties	Open	NA	04/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723959]	Properties	Open	NA	04/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723954]	Properties	Open	NA	04/14/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723949]	Properties	Open	NA	05/01/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723948]	Properties	Open	NA	05/09/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723942]	Properties	Open	NA	05/16/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723941]	Properties	Open	NA	05/19/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723938]	Properties	Open	NA	05/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723935]	Properties	Open	NA	06/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723899]	Properties	Open	NA	06/16/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723902]	Properties	Open	NA	06/09/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723887]	Properties	Open	NA	06/23/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723362]	Properties	Open	NA	07/01/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
7/11/1997				**7/11/1997**			Kym Has - Copied from RHA box number: 149635
7/22/1997				**7/22/1997**			Kym Has - Copied from RHA box number: 149635
7/28/1997				**7/28/1997**			Kym Has - Copied from RHA box number: 149635
8/5/1997				**8/5/1997**			Kym Has - Copied from RHA box number: 149635
8/11/1997				**8/11/1997**			Kym Has - Copied from RHA box number: 149635
NA [D8723338]	Properties	Open	NA	08/18/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723333]	Properties	Open	NA	08/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723326]	Properties	Open	NA	09/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723317]	Properties	Open	NA	09/08/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723307]	Properties	Open	NA	09/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723196]	Properties	Open	NA	09/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723189]	Properties	Open	NA	09/30/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723186]	Properties	Open	NA	10/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723180]	Properties	Open	NA	10/13/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723174]	Properties	Open	NA	10/20/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723167]	Properties	Open	NA	10/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723126]	Properties	Open	NA	11/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723001]	Properties	Open	NA	11/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8722819]	Properties	Open	NA	11/20/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722815]	Properties	Open	NA	11/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722813]	Properties	Open	NA	12/05/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722810]	Properties	Open	NA	12/12/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722806]	Properties	Open	NA	12/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722801]	Properties	Open	NA	12/23/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
DEC 30TH							
NA [D8721807]	Properties	Open	NA	05/01/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	Properties	Open	NA	05/08/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	Properties	Open	NA	05/15/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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NA [D8721798]	Properties	Open	NA	05/22/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	Properties	Open	NA	05/29/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	Properties	Open	NA	06/05/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722692]	Properties	Open	NA	06/12/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722688]	Properties	Open	NA	06/19/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722682]	Properties	Open	NA	06/26/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722670]	Properties	Open	NA	07/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722666]	Properties	Open	NA	07/10/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722659]	Properties	Open	NA	07/17/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722651]	Properties	Open	NA	07/24/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722640]	Properties	Open	NA	07/31/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722637]	Properties	Open	NA	08/07/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722635]	Properties	Open	NA	08/14/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722631]	Properties	Open	NA	08/21/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722627]	Properties	Open	NA	08/28/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8732454]	Properties	Open	NA	09/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	Properties	Open	NA	09/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722618]	Properties	Open	NA	09/18/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722617]	Properties	Open	NA	09/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722614]	Properties	Open	NA	10/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	Properties	Open	NA	10/09/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722606]	Properties	Open	NA	10/16/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722594]	Properties	Open	NA	10/23/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	Properties	Open	NA	10/30/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722585]	Properties	Open	NA	11/06/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722577]	Properties	Open	NA	11/13/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722571]	Properties	Open	NA	11/20/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	Properties	Open	NA	11/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722345]	Properties	Open	NA	12/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	Properties	Open	NA	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 271T

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 27

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NA [D8676428]	01/04/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/10/1999 [ALSO 271T BLDG]
NA [D8676427]	01/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/17/1999 [ALSO 271T BLDG]
NA [D8676425]	01/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/24/1999 [ALSO 271T BLDG]
NA [D8676424]	01/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/31/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676413]	02/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/21/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676409]	03/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/07/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676404]	03/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/21/1999 [ALSO 271T BLDG]
NA [D8676401]	03/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/28/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676390]	04/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/18/1999 [ALSO 271T BLDG]
NA [D8676387]	04/19/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/25/1999 [ALSO 271T BLDG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676370]	05/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/16/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676361]	06/01/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676336]	06/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/20/1999 [ALSO 271T BLDG]
NA [D8676298]	06/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/26/1999 [ALSO 271T BLDG]
NA [D8676297]	06/28/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676296]	07/08/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676292]	07/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/25/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]

1999 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676286]	08/16/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/22/1999 [ALSO 271T BLDG]
NA [D8676285]	08/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/29/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676277]	10/11/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676276]	10/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1999 [ALSO 271T BLDG]
NA [D8676275]	10/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1999 [ALSO 271T BLDG]
NA [D8676274]	11/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1999 [ALSO 271T BLDG]
NA [D8676271]	11/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1999 [ALSO 271T BLDG]]
NA [D8676267]	11/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1999 [ALSO 271T BLDG]
NA [D8676257]	11/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676264]	11/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676255]	12/06/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]

T-Plant Weekly and Daily Dangerous Waste Inspection Checklist Review

Title(s) of Daily Waste Inspection Form:	Treatment Facility Waste Management Area Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet
Date of Review:	8/26/2013
Reviewer's Name:	Stephanie Johansen, Don Craig
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Time Frame of Daily Inspections:	January 2000-December 2002, January 2005-December 2007
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:

Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:

Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date:

Stephanie H Johansen 08/27/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily and Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance
Date of Weekly Waste Inspection Review:	8/28/13
Initial Reviewer's Name:	Jeff Bramson
Final Reviewer's Name:	Lana Strickling
Waste Management Units:	271-T Cage, 221T R5, 277-T, 211-T Pad (WSA)

*Note: 277-T not identified on 2004 waste inspection sheets.

Time Frame of Inspections:	2003-2004
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES _X__ NO ___

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

On 6/30/03, a 5-gallon plastic container of product, Insulkote, was identified as leaking in the 271-T Cage. There is no logbook entry denoting amount spilled. A waste designation was performed on 9/10/13 on the product as part of the records review. The waste is designated as a WP03 based on the chemical product designation. Waste designation is attached.

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

On 6/30/03, NCO rewrapped and cleaned up leakage. An MSDS was submitted to the waste management representative for designation and disposal instructions. No information was located on final disposition.

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.4 Area free of combustible debris (WAC 173-303-340)	✓	✓	✓	X (3)	✓	✓	X (4)	✓	✓	✓	✓	✓
6.1.5 Minimum 20-ft separation with no combustibles between fuel packages (Canyon, Tunnel and 2706-T facility)		✓										
6.1.6 Larger combustible items (> 256 cu. ft.) posted for separation requirements		✓										
6.1.7 Minimum 5-ft separation with no combustibles maintained between fuel packages (Canyon, Tunnel, and 2706-T facility)		✓										
6.1.8 30-ft area around outdoor waste management area free of combustible debris			✓	✓			✓	✓		✓	✓	✓
6.1.9 Fire lanes and inspection aisles ≥ 30" wide and free of obstruction (WAC 173-303-340)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.13 Containment systems dry and free of cracks, gaps, or other deterioration (WAC 173-303-630 (7)(g)(i))	✓	✓	✓	✓	✓	✓	X (4)	✓	✓	✓	✓	
6.1.15Containers elevated or otherwise protected from accumulated liquids (WAC 173-303-630 (7)(c)(ii)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.16 Barricades in place and in good condition (WAC 173-303-200 (2)(a))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.18 Area postings in place, legible, and in good condition (WAC 173-303-200(1)(d))	✓	X (1)	✓ (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.19 Containers free of deterioration and show no sign of leakage (WAC 173-303-630 (2))	✓	✓	✓	✓	✓	✓	✓	✓	X (5)	✓	✓	✓
6.1.22 Containers closed and show no evidence of leakage (e.g., moisture, or stains on the side or underneath) (WAC 173-303-630 (5)(a)).	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source Document: DO-040-016
Last Printed 1/24/03 9:17 PM

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.23 Containers stored in a way that will not result in rupture or damage (WAC 173-303-630 (5)(b))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.25 Container labeling and markings are intact, unobscured, legible, complete, and in good condition (WAC 173-303-630 (3))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.26 TSCA regulated PCB containers labeled with a PCB label and a "Removed from Service" date (40 CFR 761)	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓	✓
6.1.31 Incompatible wastes segregated (WAC 173-303-630 (9)(c))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.32 Waste accumulation container has inventory attached or available	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.33 Drums stored in rows no more than 2 drums wide with an aisle space ≥ 30 inches (WAC 173-303-630 (5)(c))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.35 Inspector's initials and date and time area inspected	RJB 7-1-03 0840	RJB 6-30-03 1040	RJB 6-30-03 1140	RJB 6-30-03 1100	RJB 6-30-03 1540	RJB 6-30-03 0940	RJB 6-30-03 0900	RJB 6-30-03 0830	RJB 6-30-03 1500	RJB 6-30-03 0915	RJB 6-30-03 1110	RJB 6-30-03 1120
6.1.37 General facility housekeeping of areas where waste is stored.	✓	✓	✓	(X) ①	✓	✓	(X) ②	(X) ③	✓	✓	✓	✓

★ NOTE: Any items marked with an "X", on the above checklist, require corrective action. Document corrective action(s) on inspection finding and corrective action data sheet.

RJB 7-1-03

Pat Brummett Pat Brummett
Inspector's Printed Name and Signature

6-30-03 7-1-03
Date

NA
Inspector's Printed Name and Signature

Date

NA
Inspector's Printed Name and Signature

Date

Tina M. Crews
Supervisor Printed Name and Signature

7-2-03
Date

Source Document: DO-040-016
Last Printed 1/24/03 6:17 PM

Waste Management Area Inspection Finding and Corrective Action Sheet

Inspection for Week of: 6-30-03

Findings for (circle one): Daily Inspection (Weekly Inspection)

	INSPECTION FINDING	CORRECTIVE ACTION/DATE
①	6.1.37. 5gal Plastic Container with MSDS 11339 ~~too.~~ need to be put away.	NCO rewrapped & cleaned up leakage. Submitting MSDS to WMR for designation and disposal instructions. JMC
②	6.1.4 Trash/debris in area 6.1.37 need sweep up	~~to~~ Housekeeping shall be assigned. JMC
③	6.1.18 2706 T Yard 0007144 need 3 inch ~~to~~ red material ~~Sticker~~ on box	New red material sticker put on box ✓
④	6.1.4. ~~over~~ the pipe box together at the T Pad and Plastic ~~over~~ on ground.	NCO corrected these issues. JMC
⑤	6.1.18 label need replace and removed on drum 221T-01-000147, 9408426, 9403041, 9517101, 221T-01-000150 98009293, 97000410 on 2706 T Pad	NCO completed next business day JMC

Comments continue on back →

Patrick S Brummett
Operator Signature

Patrick L Brummett
Printed Name

6-30-03 & 6-1-03
Date

Supervisor Signature

Tina M. Crane
Printed Name

7-2-03
Date

Source Document DO-040-018
Last printed 1/2/01 7:28 AM

H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Product Name: INSULKOTE ET; INSULKOTE PRIMER "E"
Manufacturer: SCHULLER INTERNATIONAL INC.
MSDS Date: 06/14/95
Input By: GC TRINER
Revised By: SM STEELE
Entry Date: 02/26/91
Revised Date: 08/07/01
Physical State: Liquid
Density: 1
Active?: Y
pH: 7
Flashpoint: N/A C
Reactivity: STABLE, INCOMPATIBLE WITH STRONG OXIDIZERS
Description:
Product Usage: COATING (AN EMULSION PRODUCT), ASPHALT

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
1302-78-9	BENTONITE	3.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
67-63-0	ISOPROPYL ALCOHOL	2.0000000	.0002000	D	~~FL~~	NA	NA	N		

Listed/TC Codes(limit mg/l)

~~D001~~; ~~WT02~~ JMK 9/10/13

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
7732-18-5	WATER	48.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
8052-42-4	ASPHALT	50.0000000	.0000000	N	NA	NA	PAH	N		

Listed/TC Codes(limit mg/l)

WP03

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	4.0000000	.0000000	N	NA	NA	NA	N		

(1) Does not exhibit dangerous waste characteristic per MSDS.
(2) Does not meet dangerous waste criteria due to insufficient concentration.
JMK 9/10/13

09/10/2013 07:45:10 AM

Sum of Weight%: 107.0000000

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	NA
* OXIDIZER	D001 DW	
pH <=2 or >= 12.5 (Liquids)	D002 DW	
(Solids Only)	WSC2 DW	
Reactive	D003 DW	

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .0002000

No data or EC% < .001	Non-Reg	NA
EC% >=.001 & <1	WT02 DW	
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .0000000 **Total PAH%:** 50.0000000

No HOC/PAH or below limits	Non-Reg	NA
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	
PAH% > 1%	WP03 EHW	✓

Toxicity Characteristic WAC 173-303-090-8

TC CODES: NA

MATERIAL USED AS SOLVENTS: NA

APPLICABLE WASTE CODES: WP03

APPLICABLE LDR CODES:

WASTE CLASS: EHW

COMMENTS: Designation provided at ECO request, from suspected leak at TPlant in 2003. No other information provided. Book designation based on MSDS.

Designation Specialist: JM Kisielnicki (Print Name) JM Kisielnicki (Signature) 9/10/13 (Date)

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 2706-T TSP, 221-T Pad, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	October 18, 2007 - December 31, 2007
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2008 - December 28, 2008
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 8, 2009 - December 31, 2009
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/9/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2010 - December 30, 2010
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2011 - December 29, 2011
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 4, 2012 - December 28, 2012
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	September 4, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 3, 2013 - June 12, 2013*

*June 12, 2013 was the last complete weekly inspection record on IDMS as of September 4, 2013.

Items of Concern Noted (Circle) YES☐ NO☒

If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns: NA
Attach copies of Weekly Inspection sheets noting concern.

Dates of Corrective Actions: NA
Attach copies of Weekly Inspection sheets noting concern.

Reviewer's Signature and Date: Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

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Attachment B
T-Plant 211 Pad Sampling Plan Supporting Documentation

1

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

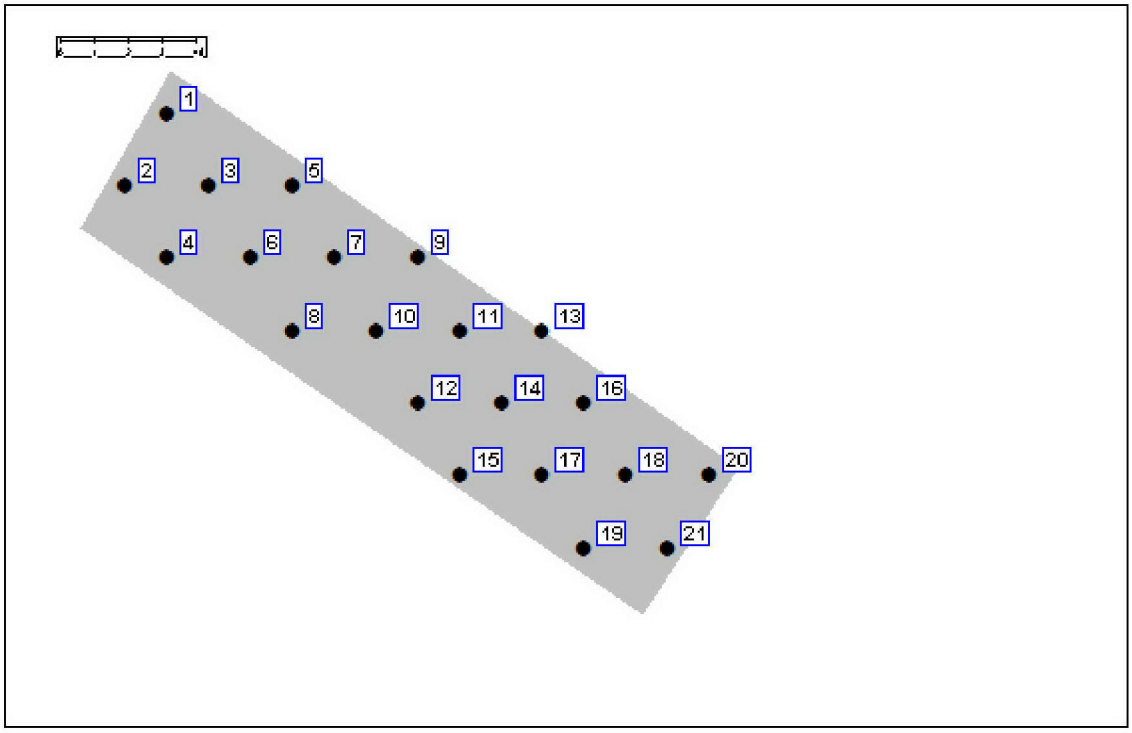
Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	21
Number of selected sample areas [b]	1
Specified sampling area [c]	104.01 ft^2
Size of grid / Area of grid cell [d]	2.43269 feet / 5.12513 ft^2
Grid pattern	Triangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.
[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.
[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.
[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.
[e] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: 221-T Pad					
X Coord	**Y Coord**	**Label**	**Value**	**Type**	**Historical**
567572.3567	136883.1457	19		Systematic	
567574.7894	136883.1457	21		Systematic	
567568.7076	136885.2525	15		Systematic	
567571.1403	136885.2525	17		Systematic	
567573.5730	136885.2525	18		Systematic	
567576.0057	136885.2525	20		Systematic	
567567.4913	136887.3593	12		Systematic	
567569.9240	136887.3593	14		Systematic	
567572.3567	136887.3593	16		Systematic	
567563.8422	136889.4660	8		Systematic	
567566.2749	136889.4660	10		Systematic	
567568.7076	136889.4660	11		Systematic	
567571.1403	136889.4660	13		Systematic	
567560.1932	136891.5728	4		Systematic	
567562.6259	136891.5728	6		Systematic	
567565.0586	136891.5728	7		Systematic	
567567.4913	136891.5728	9		Systematic	
567558.9769	136893.6796	2		Systematic	
567561.4095	136893.6796	3		Systematic	
567563.8422	136893.6796	5		Systematic	
567560.1932	136895.7863	1		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

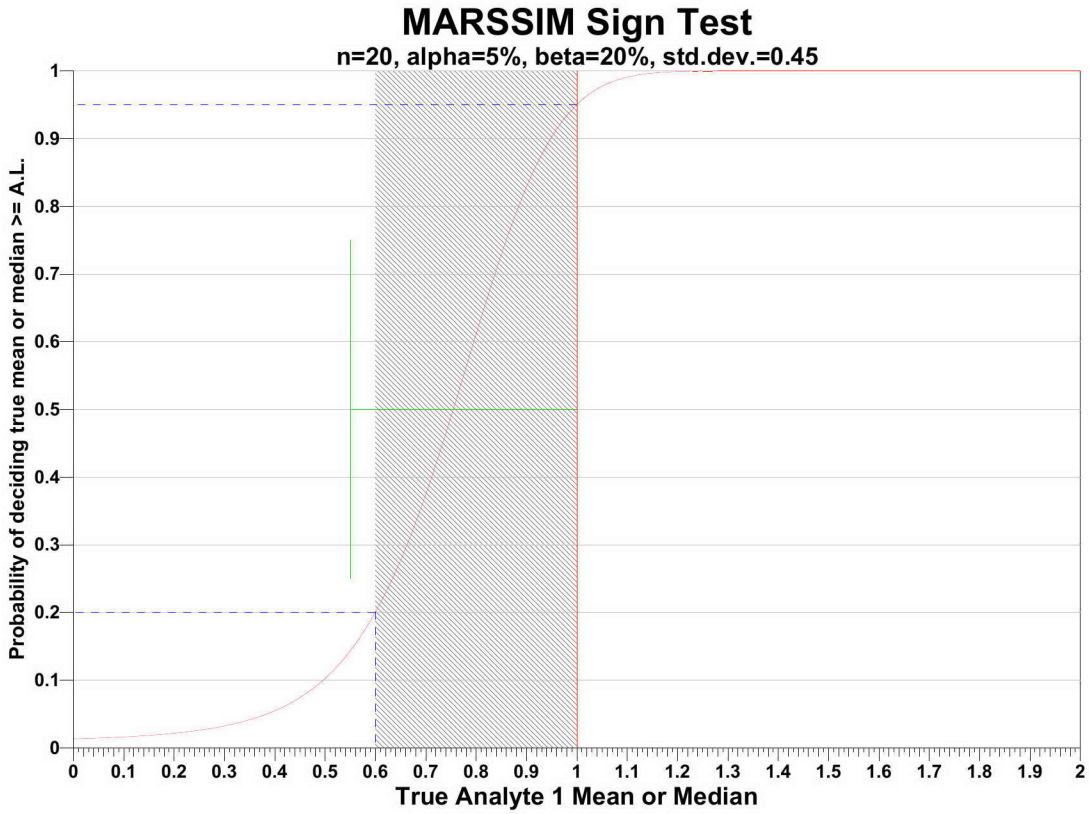
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.C Appendix C - 221-T Sand Filter Pad

C1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 221-T Sand Filter Pad dangerous waste management unit (DWMU). The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU. Closure will be performed in accordance with the included schedule. This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

C1.1 Unit Description

The 221-T Sand Filter Pad is located to the north end of the T-Plant Canyon Building. The 221-T Sand Filter Pad was used to store dangerous, mixed, and *Toxic Substances Control Act of 1976* (TSCA)-polychlorinated biphenyl (PCB) waste in a <90-day storage or satellite accumulation area (SAA).

The 221-T Sand Filter Pad was constructed with the primary purpose of storing containers of various sizes and volumes and a variety of waste streams to ensure adequate capacity and operational flexibility to support T-Plant activities. The 221-T Sand Filter Pad is an uncovered gravel area 55 m (180 ft) long by 18 m (60 ft). The perimeter of the 221-T Sand Filter pad is designated by jersey barriers (Figure C-1).

The 221-T Sand Filter Pad does not currently store dangerous, mixed, or TSCA-PCB waste. Future storage of dangerous, mixed, or TSCA-PCB waste is not authorized within the 221-T Sand Filter Pad DWMU. The 221-T Sand Filter Pad is located near the 221-T Canyon facility, which is part of the Canyon Disposition Initiative (CDI) (Ecology et al., 1989, *Hanford Federal Facility Agreement and Consent Order*, hereinafter called the Tri-Party Agreement [TPA], Section 6, "Treatment Storage and Disposal (TSD) Process," and TPA Section 8, "Facility Disposition"). The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and CDI activities. The 221-T Sand Filter Pad is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during CDI activities for the T-Plant Complex.

> TPA Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

C1.1.1 Maximum Waste Inventory

No permitted RCRA waste container storage was identified at the 221-T Sand Filter Pad during the T-Plant operating records review. Therefore, no maximum waste inventory is presented. Weekly inspection records of the <90-day storage area and SAA identified that the 221-T Sand Filter Pad stored non-dangerous, dangerous, mixed, and TSCA-PCB waste.

Figure C-1. T-Plant Complex OUG221-T Sand Filter Pad Outdoor Container Storage Area

C2 Closure Performance Standard

Closure performance standards for the 221-T Sand Filter Pad will be based on requirements found in WAC 173-303-610(2), which requires closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes, or eliminates, to the extent necessary, to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

These performance standards are addressed in Sections C2.1 and C3.13 of this closure plan.

C2.1 Clean Closure Levels

The 221-T Sand Filter Pad is clean closed using clean closure levels required for soil. However, confirmation sampling of clean closure levels will not be performed until the T-Plant Complex CDI is initiated. In accordance with WAC 173-303-610(2)(b)(i) for soil, clean closure levels will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the WAC 173-340, "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-700, "Overview of Cleanup

Standards," through -760, "Sediment Cleanup Standards," excluding WAC 173-340-745, "Soil Cleanup Standards for Industrial Properties"). These numeric cleanup levels will be calculated according to the MTCA (WAC 173-340) Method B unrestricted use standards current at the time of closure.

Sampling and analysis will verify clean closure for the 221-T Sand Filter Pad. Sampling and analysis of the 221-T Sand Filter Pad will occur in conjunction with the CDI activities for the T-Plant Complex OUG. If sampling and analysis activities indicate contamination above the MTCA (WAC 173-340) Method B unrestricted use standards, potential remediation or decontamination would be incorporated with the cleanup activities. Any required changes to this closure plan and the included sampling and analysis plan (SAP) will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

C3 Closure Activities

As a container management unit, clean closure determination for the 221-T Sand Filter Pad is based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 221-T Sand Filter Pad is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with the CDI activities. Final verification sampling of clean closure will be performed during the T-Plant Complex cleanup activities consistent with the CDI. Sampling of the gravel pad will be conducted via a SAP (Section C3.10) to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure are as follows:

- Remove all dangerous, mixed, or TSCA-PCB waste inventory (completed; see Section C3.2).
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage (completed; see Section C3.3).
- Perform a visual inspection of the gravel surface (completed; see Section C3.3).
- Add 221-T Sand Filter Pad to the Waste Information Data System (WIDS) Database (see Section C3.8).

Extended closure activities include:

- Sampling and analysis to confirm RCRA clean closure standards in coordination with the CDI activities for the T-Plant Complex OUG.

C3.1 Health and Safety Requirements

Closure will be performed to ensure safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, *Personnel Training*, and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity includes the following:

- Training will provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with quality assurance requirements
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

C3.2 Removal of Wastes and Waste Residues

The 221-T Sand Filter Pad does not currently store dangerous, mixed, or TSCA-PCB waste. Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously stored in the 221-T Sand Filter Pad under <90-day and SAA storage. The 221-T Sand Filter Pad will no longer be used for dangerous, mixed, or TSCA-PCB waste storage. The 221-T Sand Filter Pad is in a safe configuration and will be tracked in WIDS until verification sampling is performed under the SAP.

C3.3 221-T Sand Filter Pad Records Review and Visual Inspection

To support development of this closure plan and the SAP, a review of the T-Plant Complex OUG operating records was completed (Table C-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active

dangerous, mixed, and TSCA-PCB waste storage for the T-Plant Complex OUG SWOC Outdoor Container Storage Areas addressed under the T-Plant Complex OUG SWOC Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated that no releases of dangerous, mixed, or TSCA-PCB waste occurred in the 221-T Sand Filter Pad area.

Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously stored in the 221-T Sand Filter Pad under <90-day or SAA storage.

A visual inspection was performed on August 15, 2013 to identify any dangerous waste related staining in the 221-T Sand Filter Pad. No waste related staining was identified during the visual inspection; therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment A and include the T-Plant Daily Operating Logbook Review sheet, T-Plant Operation Logbook Review sheet, T-Plant Daily Dangerous Waste Inspection Checklist Review sheet, Summary of T-Plant Weekly Dangerous Waste Inspection Checklist Review sheet, T-Plant Complex 221-T Sand Filter Pad Container Storage Area visual inspection sheet, and any additional supporting information.

C3.4 Unit Components, Parts, and Ancillary Equipment

The 221-T Sand Filter Pad gravel area will not be removed as part of the near-term closure activities. The 221-T Sand Filter Pad gravel area will remain in place pending final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG. No dangerous, mixed, or TSCA-PCB waste will be stored at the 221-T Sand Filter Pad.

C3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 221-T Sand Filter Pad.

C3.6 Decontamination

Decontamination activities are not planned for the 221-T Sand Filter Pad.

C3.7 Identifying and Managing Contaminated Environmental Media

Should contaminated media be identified as a result of confirmation sampling, contaminated materials will be addressed under the CDI activities and managed as appropriate. As necessary, treatment or disposal of the resulting waste will be performed at an approved treatment, storage, and disposal (TSD) facility.

C3.8 Addition of 221-T Sand Filter Pad to the WIDS Database

As part of the near-term closure activities, the 221-T Sand Filter Pad will be added to the WIDS database. Addition of the 221-T Sand Filter Pad to the WIDS database will help ensure that the 221-T Sand Filter Pad is monitored and controlled until the extended closure activities are completed and verification sampling is completed.

Addition of the 221-T Sand Filter Pad to the WIDS database will ensure that no unauthorized activity takes place at the 221-T Sand Filter Pad (i.e., waste storage and excavation).

Table C-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	221-T Sand Filter Pad	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	221-T Sand Filter Pad	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T Sand Filter Pad	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T Sand Filter Pad	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	221-T Sand Filter Pad	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	221-T Sand Filter Pad	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	221-T Sand Filter Pad	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	221-T Sand Filter Pad	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

C3.9 Confirming Clean Closure

The 221-T Sand Filter Pad will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. In addition to the records review, a visual inspection of the 221-T Sand Filter Pad was performed to identify any dangerous waste-related staining of the storage area pad. Both the records review and visual inspection are detailed in Section C3.3 and documented in Attachment A.

All dangerous, mixed, and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous or mixed waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 221-T Sand Filter Pad. Sampling and analysis of the 221-T Sand Filter Pad gravel and soil will occur to confirm that cleanup standards for soil have been achieved.

C3.10 Sampling and Analysis and Constituents to Be Analyzed

C3.10.1 Sampling and Analysis Plan

The final clean closure verification sampling for the 221-T Sand Filter Pad will occur in conjunction with the T-Plant CDI cleanup activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP and in conjunction with the CDI activities for the T-Plant Complex OUG. Sampling and analysis of the gravel and soil of the 221-T Sand Filter Pad will be conducted to confirm that clean closure levels have been achieved. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable EPA guidance. Sampling and analysis activities will meet applicable requirements of SW-846, ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

C3.10.2 Target Analytes

Waste management records indicated that dangerous, mixed, and TSCA-PCB waste has been stored in the 221-T Sand Filter Pad under <90-day or SAA storage. Based on the physical proximity of other T-Plant SWOC Outdoor Container Storage Areas that have stored dangerous waste under permitted storage, and assuming similar use during support of T-Plant Canyon operations, the target analytes for evaluation during closure sampling and analysis were determined by reviewing the waste management records of the other dangerous, mixed, or TSCA-PCB waste stored in the T-Plant SWOC Outdoor Container Storage Areas. Table C-2 provides the target analyte list.

C3.10.3 221-T Sand Filter Pad SAP Schedule

Confirmation closure sampling and analysis will be performed during the extended closure activities in conjunction with the T-Plant Complex OUG cleanup under the CDI activities.

C3.10.4 221-T Sand Filter Pad Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

Table C-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Ethyl benzene (F003)	100-41-4
Barium (D005)	7440-39-3	Ethyl ether (F003)	60-29-7
Cadmium (D006)	7440-43-9	Methanol (F003)	67-56-1
Chromium (Hexavalent) (D007)	18540-29-9	Methyl isobutyl ketone (F003)	108-10-1
Lead (D008)	7439-92-1	Xylene (F003)	1330-20-7
Mercury (D009)	7439-97-6	o-Cresol (F004)	95-48-7
Selenium (D010)	7782-49-2	Benzene, nitro (F004)	98-95-3
Silver (D011)	7440-22-4	Pyridine (F005)	110-86-1
Benzene (D018) (F005)	71-43-1	2-nitropropane (F005)	79-46-9
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Carbon disulfide (F005) (P022)	75-15-0
Chloroform (D022)	67-66-3	Isobutanol (F005)	78-83-1
2,4-Dinitrotoluene (D030)	121-14-2	2-ethoxyethanol (F005) (U359)	110-80-5
Hexachoroethane (D034)	67-72-1	Toluene (F005)	108-88-3
Methyl ethyl ketone (MEK) (D035)(F005)	78-93-3	Acetaldehyde (I) (U001)[a]	75-07-0
Pentachlorophenol (D037)	87-86-5	Acetyl chloride (C,R,T)(U006)[b]	75-36-5
Tetrachloroethylene (D039) (F001) (F002)	127-18-4	Dichloroethyl ether (U025)	111-44-4
Trichloroethylene (D040)(F001)(F002)	79-01-6	1-Butanol (I) (U031)	71-36-3
Vinyl chloride (D043)	75-01-4	1,4-Diethyleneoxide (U108)	123-91-1
1,1,1-Trichloroethane (F001) (F002) (U226)	71-55-6	Ethane, 1,1′-oxybis-(I) (U117)	60-29-7
Chlorinated fluorocarbons (F001) (F002)	N/A	Formic acid (C,T) (U123)	64-18-6
Methylene chloride (F001) (F002)	75-09-2	2-Butanone, peroxide (R,T) (U160)[b]	1338-23-4
Chlorobenzene (F002)	108-90-7	Phosphorus pentasulfide (R)(U189)[b]	1314-80-3
1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Furan, tetrahydro-(I) (U213)[b]	109-99-9

Table C-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Ortho-dichlorobenzene (F002)	95-50-1	Cyanides (soluble cyanide salts), not otherwise specified (P030)	57-12-5
1,1,2-trichloroethane (F002)	79-00-5	Acetaldehyde, chloro- (P023) [b]	107-20-0
Acetone (F003)	67-64-1	Copper cyanide (P029) (as cyanide)	544-92-3
N-butyl alcohol (F003)	71-36-3	Potassium cyanide (as cyanide) (P098)	151-50-8
Cyclohexanone (F003)	108-94-1	Sodium cyanide (as cyanide) (P106)	143-33-9
Ethyl acetate (F003)	141-78-6	Vanadium oxide V2O5 (P120)	1314-62-1
		Polychlorinated biphenyls (PCBs) (Aroclors)	1336-36-3

a. Acetaldehyde is analyzed as a gas, not as a solid. Acetaldehyde will not be analyzed.

b. There are no previous records of analysis for this on the Hanford Site. The CAS number is not listed in the EPA Cleanup Levels and Risk Calculations tables.

CAS = Chemical Abstracts Service

EPA = U.S. Environmental Protection Agency

C3.10.5 Sampling Design

Gravel and soil samples will be taken at predetermined sample locations. Sample locations will be determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The 221-T Sand Filter Pad global positioning system (GPS) latitude and longitude coordinates were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, the VSP software determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by the VSP software and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by the VSP software, and the subsequent nineteen sample locations were assigned by the VSP software using a triangular grid sampling method. Supporting documentation for the VSP software sampling designations are documented in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented dangerous, mixed or TSCA-PCB waste has been released to 221-T Sand Filter Pad, and no waste related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

C3.10.6 Sampling Methods and Handling

The sample matrix will consist of gravel and soil collected in pre-cleaned sample containers taken at a depth of no more than 0 to 15.24 cm (0 to 6 in.) below ground surface, unless staining or discoloration indicates contamination below that depth. For the purpose of this SAP, ground surface is defined as the exposed surface layer once loose gravel has been moved aside. To gather the greatest representative sample, loose gravel will be moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil is sampled, the sampled media will be screened to remove material larger than approximately 2 mm (0.08 in.) in diameter. Gravel and soil samples will be collected directly into containers at the chosen sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table C-3 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and chain-of-custody form.

Table C-3. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl (PCB)	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days

aG = amber glass

G = glass

EPA = U.S. Environmental Protection Agency

ICP-MS = inductively coupled plasma-mass spectrometry

P = plastic

To prevent potential contamination of the samples, care will be taken to use decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary, depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling authorization form and form number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)

In addition to the above information, sample records must include the following information:

- Sample location
- Matrix (e.g., water or soil)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained.

All waste generated by sampling activities will be managed in accordance with applicable regulations.

C3.10.7 Analytical Methods

All analyses and testing will be performed consistent with laboratory agreements, laboratory analytical procedures, and HASQARD (DOE/RL-96-68). The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above the clean closure level but less than the PQL of the analytical method, the Washington State Department of Ecology will be notified and alternatives will be discussed to demonstrate clean closure levels.

Table C-4 outlines analytical methods and performance requirements associated with the target analytes.

C3.10.8 Quality Control

Quality control (QC) procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples.

Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table C-5.

C3.10.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data are processed, resolution of those issues will be initiated.

Table C-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
67-72-1	Hexachloroethane	SW-846 Method 8270	25	56	0.005	N/A[c]	N/A[c]
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
87-86-5	Pentachlorophenol	SW-846 Method 8260	8.33	2,400	0.33	N/A[c]	N/A[c]

Table C-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
75-01-4	Vinyl chloride	SW-846 Method 8260	66.7	240	0.01	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-Trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol	SW-846 Method 8260	N/A	8000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20

Table C-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	32,000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl) ether)	SW-846 Method 8270	0.909	N/A	0.33	N/A[c]	N/A[c]
71-36-3	1-Butanol	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
123-91-1	1,4-Diethyleneoxide (1,4-Dioxane)	SW-846 Method 8260	10	2,400	0.5	N/A[c]	N/A[c]
60-29-7	Diethyl ether Ethane, 1,1'-oxybis-(I)	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
64-18-6	Formic Acid (U123)	Modified 9056A or Modified 300.0	N/A	160,000	NA	N/A[c]	N/A[c]
57-12-5	Cyanide	SW-846 Method 9010/9012/9013/ 9014	N/A	48	0.5	±30	≤30
1314-62-1	Vanadium oxide (vanadium pentoxide)	SW-846 Method 6010/200.8	N/A	720	NA	N/A[c]	N/A[c]

Table C-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
1336-36-3	Polychlorinated biphenyl (PCB)	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to "Model Toxics Control Act—"Cleanup" (MTCA) regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards;" -747, "Deriving Soil Concentrations for Groundwater Protection;" and -7490, "Terrestrial Ecological Evaluation Procedures," through -7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to MTCA (WAC 173-340) Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

CAS = Chemical Abstracts Service

N/A = not applicable

NA = information not available

RPD = relative percent difference

Table C-5. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Field Quality Control		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed. If only disposable equipment is used, then an equipment blank is not required. Otherwise, one per 20 samples per media[a].	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples[b]).	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory QC[h]		
Method Blanks	1 per batch[h]	Laboratory contamination
Lab Duplicates	[c]	Laboratory reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate laboratory accuracy
Performance Evaluation Programs[d]	Annual	Evaluate laboratory accuracy
Double-Blind Standards	Quarterly[e]	Evaluate laboratory accuracy
Audit/Assessment	Annually[f] or every 3 years[g]	Evaluate overall laboratory performance and operations

Table C-5. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempt from duplicate sampling.

c. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE Quality Systems for Analytical Services requires annual audit of commercial laboratories.

g. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

DOE = U.S. Department of Energy

The format and requirements for data validation activities are based upon the most current version of OSWER 9240.1-48, *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01), and OSWER 9240.1-51, *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process (EPA/240/B-06/002, *Data Quality Assessment: A Reviewer's Guide* [EPA QA/G-9R]; and EPA/240/B-06/003, *Data Quality Assessment: Statistical Methods for Practitioners* [EPA QA/G-9S]).

C3.10.10 Documents and Records

The Project Manager is responsible for ensuring the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to DOE and the lead regulatory agency.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook and only authorized persons may make entries in logbooks. Logbooks will be signed by the field work supervisor, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following items will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following items:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

C3.10.11 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830, "Dangerous Waste Regulations," "Permit Changes."

C3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure and to sign the closure certification, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

C3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 221-T Sand Filter Pad DWMU, certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the department by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

C3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 221-T Sand Filter Pad will remain in an "as-is" state with the gravel remaining in place. The 221-T Sand Filter Pad will continue to be used for equipment and material storage in support of the T-Plant Canyon activities. The 221-T Sand Filter Pad will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG.

A permit modification request will be submitted after clean closure has been confirmed to remove the 221-T Sand Filter Pad DWMU from the sitewide permit active DWMUs.

C4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 221-T Sand Filter Pad to the WIDS database will be completed within 180 days of approval of the closure plan. This DWMU is located near the T-Plant Canyon Building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA (Ecology et al., 1989) identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, "Coordination of Closure and Corrective Action or Other Cleanup Activities") allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 221-T Sand Filter Pad to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities in, accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure C-2).

C5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

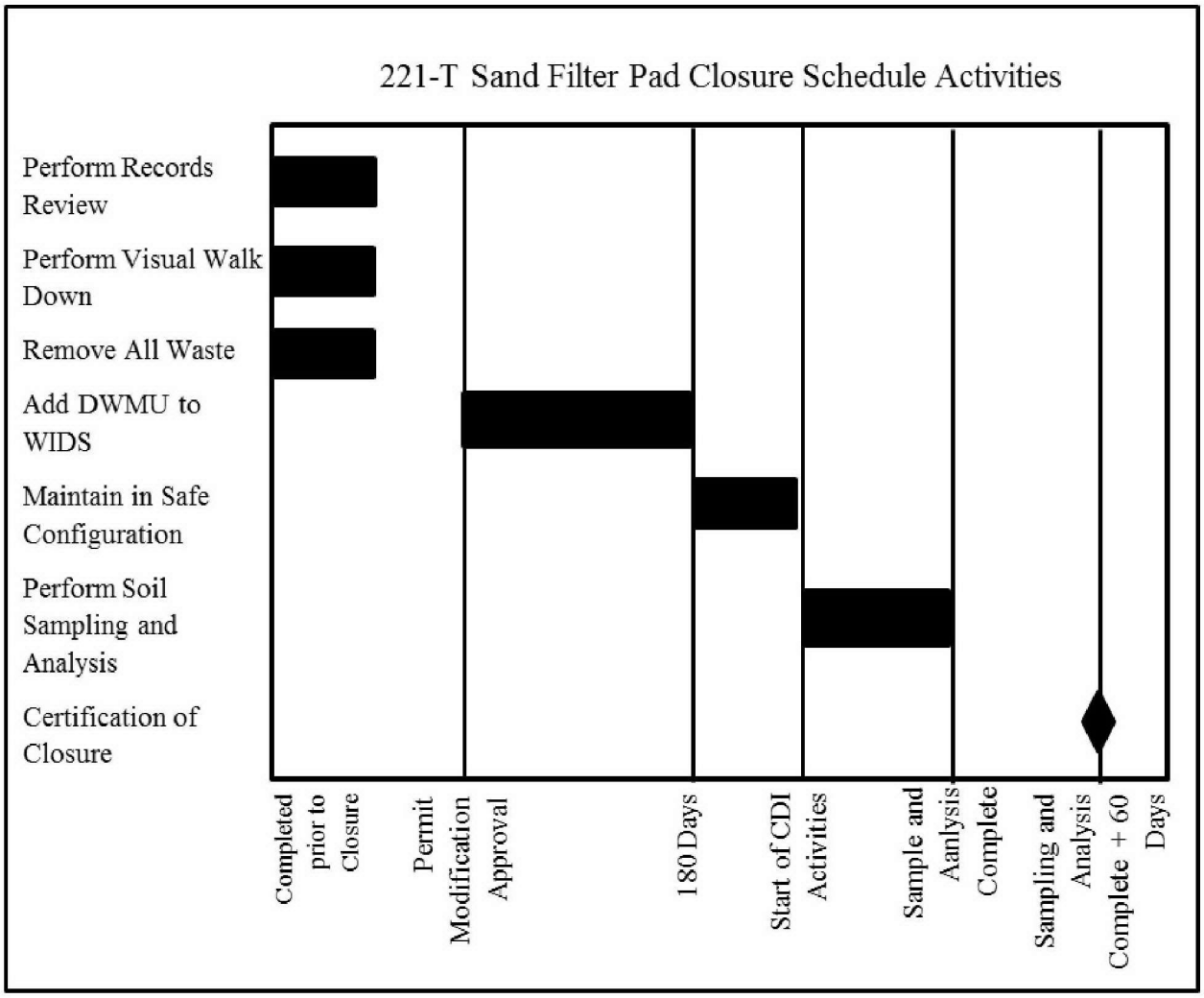

Figure C-2. 221-T Sand Filter Pad Closure Schedule Activities

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Attachment A

T-Plant 221-T Sand Filter Pad RCRA Records Review and Visual Inspection Supporting Documentation

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T Plant Complex 221-T Sand Filter Pad Container Storage Area

Purpose:

A visual inspection walkdown of the T Plant Complex outdoor 221-T Sand Filter Pad container storage area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on August 15, 2013 by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

No staining of any kind was identified on the storage area surface. Area was thoroughly photographed. A few debris items were observed (e.g., small pieces of lumber, bricks, and Jersey barriers).

Housekeeping will be performed on the area prior to closure.

Signature/Date:

Brett M. Barnes: Brett M. Barnes 9/3/13

T-Plant Daily Operating Log Book Review

Waste Management Units:	271-T Cage, 211-T Pad, 222-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Date of Log Book Review:	8/15/13 – 8/26/13
Reviewer's Names:	Joel Williams, Brett Barnes, Brian Dixon, Jeff Bramson, Joe Archuleta, Patrick Baynes, Don Craig, Lana Strickling
Daily Operating Log Book Document No:	See attached.
Log Book Timeframe (Month/Year to Month/Year):	1/2/85 – 6/22/10
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES____ NO__X__
Items of Concern: Attach copies of log book pages noting concern.	_____ _____ _____ _____
Log Book Page# Referencing Spill:	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of log book pages noting corrective actions.	_____ _____ _____ _____
Log Book Page# Referencing Corrective Action:	_____ _____ _____ _____
Reviewer's Signature and Date:	Lana Strickling 9/6/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	01/02/87	12/31/85	135357
	01/02/86	12/31/86	135357
	01/02/87	12/31/87	135357
	01/04/88	12/30/88	135357
Operations Log	01/03/89	12/29/89	149634
Operations Log	01/02/90	01/02/91	149634
Operations Log	01/02/91	01/16/91	149634
	01/16/91	06/04/91	141785
	06/06/91	10/23/91	141785
	10/24/91	03/12/92	141785
	03/13/92	07/13/92	141785
	07/14/92	10/16/92	141785
	10/17/92	01/21/93	141785
	01/21/93	02/05/93	141785
	01/23/93	03/14/93	141785
	03/15/93	04/20/93	141785
	04/21/93	05/21/93	141785
	05/27/93	07/01/93	141785
	07/06/93	08/12/93	141785
	08/12/93	09/17/93	141785
	09/17/93	10/22/93	141785
	10/22/93	11/24/93	141785
	11/29/93	01/07/94	141785
	01/07/94	02/09/94	141785
	02/10/94	03/11/94	141785
	03/14/94	04/11/94	141785
	04/12/94	05/10/94	141785
	05/10/94	06/10/94	141785
	06/13/94	07/21/94	141785
	07/13/94	08/12/94	141785
	08/12/94	09/14/94	141785
	09/14/94	10/10/94	141785
BOX 3	10/03/94	12/12/94	131414
	10/10/94	11/09/94	141785
	11/09/94	12/07/94	141785
	12/07/94	01/05/95	141785
BOX 3	12/13/94	02/24/95	131414
	01/05/95	02/02/95	141785
	02/02/95	02/28/95	141785
	02/28/95	03/30/95	141785
	03/30/95	04/26/95	141785
	04/26/95	05/31/95	141785
	05/31/95	06/29/95	131414
	07/14/95	09/19/95	131414
	07/30/95	08/22/95	131414
	08/22/95	09/12/95	131414

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	09/13/95	10/04/95	131414
	09/20/95	11/10/95	131414
	10/04/95	10/24/95	131414
	10/24/95	11/09/95	131414
	11/10/95	01/08/96	131414
	11/10/95	11/30/95	131414
	11/30/95	12/15/95	131414
	12/15/95	01/08/96	131414
	01/09/96	02/23/96	131414
	01/18/96	01/24/96	131414
	01/24/96	02/21/96	131414
	02/21/96	03/18/96	131414
	02/23/96	04/08/96	131414
	03/18/96	04/09/96	131414
	04/09/96	05/23/96	131414
	04/09/96	05/02/96	131414
	05/02/96	05/31/96	131414
	05/24/96	07/30/96	131414
	05/31/96	06/28/96	131414
	06/28/96	07/29/96	131414
	06/30/95	07/31/95	131414
	07/30/96	08/22/96	131414
	07/31/96	09/17/96	131414
	08/22/96	09/17/96	131414
	09/19/96	11/14/96	131414
	09/17/96	10/14/96	131414
	10/14/96	11/05/96	131414
	11/05/96	12/02/96	131414
	11/15/96	01/09/97	131414
	12/02/96	12/30/96	131414
	12/30/96	01/24/97	131414
BOX 1	01/24/97	02/20/97	149634
BOX 1	02/20/97	03/20/97	149634
BOX 1	03/21/97	04/21/97	149634
BOX 1	04/21/97	06/02/97	149634
BOX 1	05/13/97	07/03/97	149634
BOX 1	06/02/97	07/10/97	149634
BOX 1	07/10/97	08/22/97	149634
3030	08/22/97	10/07/97	177623
2005	10/08/97	11/17/97	177623
3033	11/18/97	12/29/97	177623
3034	12/30/97	02/04/98	177623
3035	02/05/98	03/11/98	177623
3036	03/12/98	04/20/98	177623
3037	04/21/98	06/03/98	177623
3038	06/04/98	07/15/98	177623

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3039	07/16/98	09/02/98	177623
3040	09/03/98	10/22/98	177623
3041	10/23/98	12/04/98	177623
2003	12/07/98	01/18/99	177623
2004	01/19/99	03/15/99	177623
5000	03/16/99	05/18/99	177623
5002	05/19/99	07/27/99	177623
5003	07/28/99	09/15/99	177623
5004	09/15/99	10/28/99	177623
5005	10/28/99	12/30/99	177623
3002	12/16/99	02/17/00	177623
5006	12/31/99	03/06/00	177623
5007	03/07/00	05/01/00	177623
3004	04/19/00	06/08/00	177623
5008	05/02/00	07/11/00	177623
5009	07/12/00	09/12/00	177623
5010	09/13/00	11/17/00	177623
5011	11/20/00	01/18/01	177623
5012	01/18/01	03/15/01	223426
2013	03/15/01	05/07/01	223426
5014	05/08/01	07/03/01	223426
5015	07/03/01	08/21/01	223426
5016	08/22/01	10/03/01	223426
5017	10/04/01	11/11/01	223426
5018	11/12/01	01/02/02	223426
5019	01/02/02	02/20/02	223426
5020	02/21/02	03/28/02	223426
5021	04/01/02	05/16/02	223426
5022	05/17/02	07/02/02	223426
5023	07/02/02	08/09/02	223426
3010	08/11/02	09/24/02	223426
3011	09/25/02	11/11/02	223426
3012	11/11/02	01/10/03	223426
3013	01/10/03	02/26/03	223426
3014	02/27/03	04/09/03	223426
3015	04/09/03	06/05/03	223426
3016	06/09/03	08/05/03	223426
3017	08/06/03	09/24/03	223426
3018	09/24/03	11/05/03	223426
3019	11/05/03	01/19/04	223426
3021	01/20/04	03/14/04	223426
3022	03/14/04	05/19/04	223426
3023	05/19/04	08/03/04	223426
3024	08/03/04	10/05/03	223426
3025	10/16/04	12/08/04	223426
3047	12/08/04	02/03/05	223426

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3048	02/04/05	04/13/05	223426
3049	04/14/05	06/27/05	223426
3050	06/28/05	09/02/05	223426
5001	09/06/05	11/16/05	223426
3051	11/17/05	02/07/06	223426
3052	02/08/06	04/13/06	223426
3053	04/14/06	06/28/06	223425
3054	06/29/06	09/14/06	223425
3055	09/15/06	11/29/06	223425
3056	11/30/06	02/12/07	223425
3057	02/13/07	04/16/07	223425
3058	04/17/07	06/07/07	223425
3059	06/08/07	07/31/07	223425
3060	08/01/07	09/26/07	223425
3061	09/26/07	11/10/07	223425
3062	11/12/07	12/26/07	223425
3063	12/27/07	02/13/08	223425
3064	02/14/08	03/24/08	223425
3065	03/24/08	05/05/08	223425
3066	05/05/08	06/05/08	223425
3067	06/05/08	07/11/08	223425
3068	07/11/08	08/12/08	223425
3069	08/12/08	09/22/08	223425
3070	09/22/08	11/03/08	223425
3071	11/04/08	12/30/08	223425
3072	12/31/08	02/23/09	223425
3073	02/24/09	04/10/09	223425
3074	04/10/09	05/28/09	223425
3075	05/28/09	07/20/09	223425
3076	07/21/09	09/02/09	223425
3077	09/03/09	11/03/09	223425
3078	11/04/09	12/21/09	223425
3079	12/22/09	02/01/10	223425
3080	02/01/10	03/11/10	223425
3081	03/11/10	04/13/10	223425
3082	04/13/10	05/17/10	223425
3083	05/18/10	06/21/10	223425
3084	06/22/10	07/26/10	223425

T-Plant Operation Logbook Review

Title(s) of Logbook:	T-Plant Operation Logbook
Date of Review:	08/15/13 through 08/19/13
Reviewer's Name:	Stephanie Johansen
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Logbook Date Range:	07/27/10 through 04/07/11
Logbook Numbers:	3085 through 3091
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns:	
Attach copies of pages noting concern.	
Dates of Corrective Actions:	
Attach copies of pages noting concern.	
Reviewer's Signature and Date:	Stephanie Johansen

Instructions:

Review logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of pages noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	Waste Management Area Daily Inspection Data Sheet
Date of Review:	9/3/2013
Reviewer's Name:	Linda Carr
Waste Management Units: Boneyard Pad Waste Storage	221-T, 2706, MO433, 214-T, 211-T, 221-T, 271-T, 277-T,
Time Frame of Daily Inspections:	2005- August 29 – December 1
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: L. L. Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions. Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2007-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-January 1-September 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2009-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2010-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2011-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2012-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/14/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2013-January 1-April 22
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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Summary of T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas T Plant Weekly Inspection Log Sheet
Date of Weekly Waste Inspection Review:	8/26/13 – 8/28/13
Initial Reviewer's Name:	Jeff Bramson, Linda Carr, Paul Martin.
Final Reviewer's Name:	Lana Strickling*

* A review was performed against the individual checklists developed by the initial reviewers above to consolidate and document any review notes, items of concern, etc. related to the WMU's identified below.

Waste Management Units:	271-T Cage, 221T R5, 277-T Outdoor Storage Area, 211-T Pad, 221-T Sand Filter Pad**

**Inspection sheets were reviewed for any reference to the waste management units identified for any items of concern.

Time Frame of Inspections:	6/7/91 – 12/20/99***

***See attached log for weekly waste inspections sheets reviewed. Line items missing date, document number, sheet, revision, and title indicate missing records.

Items of Concern Noted (Circle) YES ___ NO _X__
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
DEC 31-JAN 4						
JAN 7TH						
JAN 14TH						
JAN 21TH						
JAN 28TH						
FEB 4TH						
FEB 11TH						
FEB 18TH						
FEB 25TH						
MAR 4TH						
MAR 11TH						
MAR 18TH						
MAR 25TH						
APRIL 1ST						
APRIL 8TH						
APRIL 15TH						
APRIL 22ND						
APRIL 29TH						
MAY 6TH						
MAY 13TH						
MAY 20TH						
MAY 27TH						
LOG-060791 [D197044429]	6/7/1991	LOG-060791	06/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
JUNE 10TH						
LOG-062191 [D197044441]	6/21/1991	LOG-062191	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
JUNE 24TH						
JULY 1ST						
JULY 7TH						
JULY 15TH						
LOG-072291 [D197044468]	7/22/1991	LOG-072291	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
JULY 29TH						
AUG 5TH						
AUG 12TH						
LOG-082191 [D197044477]	8/21/1991	LOG-082191	08/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-082991 [D197044485]	8/29/1991	LOG-082991	08/29/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-090991 [D197044528]	9/9/1991	LOG-090991	09/09/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-091291 [D197044539]	9/12/1991	LOG-091291	09/12/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-092691 [D197044572]	9/26/1991	LOG-092691	09/26/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-100491 [D197044613]	10/4/1991	LOG-100491	10/04/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-101191 [D197044634]	10/11/1991	LOG-101191	10/11/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-102591 [D197044655]	10/25/1991	LOG-102591	10/25/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
LOG-110791 [D197044671]	11/7/1991	LOG-110791	11/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE ,
NOV 11TH						
NOV 18TH						
NOV 25TH						
LOG-123091 [D197044751]		LOG-123091	12/30/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-120391 [D197044680]		LOG-120391	12/03/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-122791 [D197044725]		LOG-122791	12/27/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

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Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010692 [D197044757]		LOG-010692	01/06/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS & SATELLITE
LOG-011592 [D197044848]	01/15/1992	LOG-011592	01/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012492 [D197044895]	01/24/1992	LOG-012492	01/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012892 [D197044914]	01/28/1992	LOG-012892	01/28/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-020492 [D197044917]	02/04/1992	LOG-020492	02/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-021092 [D197044942]	02/10/1992	LOG-021092	02/10/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022192 [D197044953]	02/21/1992	LOG-022192	02/21/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022492 [D197044955]	02/24/1992	LOG-022492	02/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-030492 [D197044964]	03/04/1992	LOG-030492	03/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031192 [D197044988]	03/11/1992	LOG-031192	03/11/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031792 [D197044999]	03/17/1992	LOG-031792	03/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-032592 [D197045021]	03/25/1992	LOG-032592	03/25/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MARCH 30TH						
LOG-041492 [D197045025]	04/14/1992	LOG-041492	04/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-042992 [D197045027]	04/29/1992	LOG-042992	04/29/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MAY 4TH						
LOG-051592 [D197045032]	05/15/1992	LOG-051592	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-052792 [D197045035]	5/27/1992	LOG-052792	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060392 [D197044409]	06/03/1992	LOG-060392	06/03/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060992 [D197044251]	06/09/1992	LOG-060992	06/09/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-061792 [D197044297]	06/17/1992	LOG-061792	06/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-062392 [D197044302]	06/23/1992	LOG-062392	06/23/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070192 [D197044341]	07/01/1992	LOG-070192	07/01/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070892 [D197044353]	07/08/1992	LOG-070892	07/08/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-071492 [D197044373]	07/14/1992	LOG-071492	07/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072292 [D197044402]	07/22/1992	LOG-072292	07/22/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072992 [D197044191]	1992: JULY 29; AUG: 5, 10, 19, 25, SEPT: 1, 11, 18, 22, 30 OCT: 8, 13, 20, 27, NOV: 4, 11, 19, 25, DEC: 1, 9, 17, 21, 30	LOG-072992	07/29/1992	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
1993 JANUARY						
LOG-020593 [D197044227]	1993 FEB: 5, 11, 19, 24,	LOG-020593	02/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030393 [D197043351]	1993 MAR: 3, 11, 19, 25	LOG-030393	03/03/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040193 [D197043359]	1993 APRIL: 1, 7, 13, 23, 29	LOG-040193	04/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050693 [D197043361]	1993 MAY: 6, 10, 21, 28	LOG-050693	05/06/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060493 [D197043363]	1993 JUNE: 4, 11, 16, 25,	LOG-060493	06/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070193 [D197043364]	1993 JULY: 1, 8, 15, 22, 29	LOG-070193	07/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080593 [D197043369]	1993 AUG: 5, 11, 18, 24,	LOG-080593	08/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090293 [D197043390]	1993 SEPT: 2, 10, 16, 22, 30	LOG-090293	09/02/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100793 [D197043401]	1993 OCT: 7, 15, 21, 28,	LOG-100793	10/07/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-110493 [D197043403]	1993 NOV: 4, 10, 19, 23,	LOG-110493	11/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-120293 [D197043409]	1993 DEC: 2, 9, 15, 21, 30	LOG-120293	12/02/1993	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG SHEET

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Object Name	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010694 [D197043414]	1994: JAN: 6, 13, 20, 27	LOG-010694	01/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-020394 [D197043420]	1994 FEB: 3, 9, 17, 23,	LOG-020394	02/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030394 [D197043423]	1994 MAR: 3, 9, 15, 25	LOG-030394	03/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040194 [D197043426]	1994 APRIL: 1, 6, 14, 20, 26	LOG-040194	04/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050594 [D197043430]	1994 MAY: 5, 9, 17, 24, JUNE 1	LOG-050594	05/05/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060194 [D197043444]	1994 JUNE: 1, 7, 15, 23, 27,	LOG-060194	06/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070694 [D197043445]	1994 JULY: 6, 14, 19, 27,	LOG-070694	07/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080394 [D197043446]	1994 AUG: 3, 10, 16, 23,	LOG-080394	08/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090194 [D197043947]	1994 SEPT: 1, 7, 14, 19, 26,	LOG-090194	09/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100394 [D197043956]	1994 OCT: 3, 10, 17, 24, 31	LOG-100394	10/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET/ T PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MIXED WASTE
LOG-110794 [D197043970]	1994 NOVEMBER: 7, 14, 22, 28	LOG-110794	11/07/1994	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-120594 [D197044093]	1994 DECEMBER: 5, 14, 20, 28	LOG-120594	12/05/1994	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010395 [D197044125]	1995 JANUARY--1992 JAN: 8, 14, 22, 29,	LOG-010395	01/03/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
1995 FEB						
1995 MARCH						
1995 APRIL						
1995 MAY						
LOG-062195 [D197045039]	1995 JUNE: 20	LOG-062195	06/21/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-071995 [D197045042]	1995 JULY: 19, 27	LOG-071995	07/19/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-081595 [D197045045]	1995 AUGUST: 15, 23, 28	LOG-081595	08/15/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-091195 [D197045049]	1995 SEPTEMBER: 7, 11, 14, 19, 27	LOG-091195	09/11/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-100495 [D197045096]	1995 OCTOBER 2, 10, 18, 24	LOG-100495	10/04/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-110195 [D197045103]	1995 NOVEMBER: 1, 6, 15, 27	LOG-110195	11/01/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-121595 [D197045111]	1995 DECEMBER: 15, 19, 29	LOG-121595	12/15/1995	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-011596 [D197045115]	1996 JANUARY: 15, 22, 30	LOG-011596	01/15/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-020596 [D197045121]	1996 FEBRUARY: 5, 13, 23,	LOG-020596	02/05/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-030396 [D197045128]	1996 MARCH: 1, 8, 15, 20 AND 29	LOG-030396	03/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-040196 [D197045147]	1996 APRIL: 1, 8, 18, 26	LOG-040196	04/01/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-052896 [D197045163]	1996 MAY: 28	LOG-052896	05/28/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-060696 [D197045179]	1996 JUNE: 6, 12, 27,	LOG-060696	06/06/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 JULY						
1996 AUGUST						
LOG-090396 [D197045193]	1996 SEPTEMBER: 3, 23	LOG-090396	09/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 OCTOBER						
1996 NOVEMBER						
LOG-122396 [D197045213]	1996 DECEMBER: 23	LOG-122396	12/23/1996	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MISED WASTE/LOW LEVEL WASTE

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Object Name/WEEK OF	Properties	Open	Document Nı	Document Date	Sheet	Revision	Title
DEC 30 THRU JAN 3							
JAN 6TH							
JAN 13TH							
JAN 20TH							
JAN 27TH							
FEB 3RD							
FEB 10TH							
FEB 27TH							
NA [D8724972]	Properties	Open	NA	02/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724970]	Properties	Open	NA	03/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724967]	Properties	Open	NA	03/11/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724966]	Properties	Open	NA	03/17/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724964]	Properties	Open	NA	03/24/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724804]	Properties	Open	NA	04/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723959]	Properties	Open	NA	04/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723954]	Properties	Open	NA	04/14/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723949]	Properties	Open	NA	05/01/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723948]	Properties	Open	NA	05/09/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723942]	Properties	Open	NA	05/16/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723941]	Properties	Open	NA	05/19/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723938]	Properties	Open	NA	05/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723935]	Properties	Open	NA	06/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723899]	Properties	Open	NA	06/16/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723902]	Properties	Open	NA	06/09/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723887]	Properties	Open	NA	06/23/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723362]	Properties	Open	NA	07/01/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
7/11/1997				**7/11/1997**			Kym Has - Copied from RHA box number: 149635
7/22/1997				**7/22/1997**			Kym Has - Copied from RHA box number: 149635
7/28/1997				**7/28/1997**			Kym Has - Copied from RHA box number: 149635
8/5/1997				**8/5/1997**			Kym Has - Copied from RHA box number: 149635
8/11/1997				**8/11/1997**			Kym Has - Copied from RHA box number: 149635
NA [D8723338]	Properties	Open	NA	08/18/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723333]	Properties	Open	NA	08/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723326]	Properties	Open	NA	09/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723317]	Properties	Open	NA	09/08/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723307]	Properties	Open	NA	09/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723196]	Properties	Open	NA	09/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723189]	Properties	Open	NA	09/30/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723186]	Properties	Open	NA	10/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723180]	Properties	Open	NA	10/13/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723174]	Properties	Open	NA	10/20/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723167]	Properties	Open	NA	10/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723126]	Properties	Open	NA	11/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723001]	Properties	Open	NA	11/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8722819]	Properties	Open	NA	11/20/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722815]	Properties	Open	NA	11/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722813]	Properties	Open	NA	12/05/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722810]	Properties	Open	NA	12/12/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722606]	Properties	Open	NA	12/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722801]	Properties	Open	NA	12/23/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
DEC 30TH							
NA [D8721807]	Properties	Open	NA	05/01/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	Properties	Open	NA	05/08/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	Properties	Open	NA	05/15/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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NA [D8721798]	Properties	Open	NA	05/22/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	Properties	Open	NA	05/29/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	Properties	Open	NA	06/05/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722692]	Properties	Open	NA	06/12/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722688]	Properties	Open	NA	06/19/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722682]	Properties	Open	NA	06/26/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722670]	Properties	Open	NA	07/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722666]	Properties	Open	NA	07/10/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722659]	Properties	Open	NA	07/17/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722651]	Properties	Open	NA	07/24/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722640]	Properties	Open	NA	07/31/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722637]	Properties	Open	NA	08/07/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722635]	Properties	Open	NA	08/14/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722631]	Properties	Open	NA	08/21/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722627]	Properties	Open	NA	08/28/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8732454]	Properties	Open	NA	09/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	Properties	Open	NA	09/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722618]	Properties	Open	NA	09/18/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722617]	Properties	Open	NA	09/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722614]	Properties	Open	NA	10/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	Properties	Open	NA	10/09/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722606]	Properties	Open	NA	10/16/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722594]	Properties	Open	NA	10/23/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	Properties	Open	NA	10/30/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722585]	Properties	Open	NA	11/06/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722577]	Properties	Open	NA	11/13/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722571]	Properties	Open	NA	11/20/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	Properties	Open	NA	11/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722345]	Properties	Open	NA	12/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	Properties	Open	NA	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 271T

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 27

1999 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676428]	01/04/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/10/1999 [ALSO 271T BLDG]
NA [D8676427]	01/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/17/1999 [ALSO 271T BLDG]
NA [D8676425]	01/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/24/1999 [ALSO 271T BLDG]
NA [D8676424]	01/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/31/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676413]	02/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/21/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676409]	03/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/07/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676404]	03/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/21/1999 [ALSO 271T BLDG]
NA [D8676401]	03/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/28/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676390]	04/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/18/1999 [ALSO 271T BLDG]
NA [D8676387]	04/19/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/25/1999 [ALSO 271T BLDG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676370]	05/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/16/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676361]	06/01/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676336]	06/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/20/1999 [ALSO 271T BLDG]
NA [D8676298]	06/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/26/1999 [ALSO 271T BLDG]
NA [D8676297]	06/28/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676296]	07/08/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676292]	07/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/25/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]

1999 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676286]	08/16/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/22/1999 [ALSO 271T BLDG]
NA [D8676285]	08/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/29/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676277]	10/11/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676276]	10/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1999 [ALSO 271T BLDG]
NA [D8676275]	10/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1999 [ALSO 271T BLDG]
NA [D8676274]	11/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1999 [ALSO 271T BLDG]
NA [D8676271]	11/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1999 [ALSO 271T BLDG]]
NA [D8676267]	11/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1999 [ALSO 271T BLDG]
NA [D8676257]	11/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676264]	11/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676255]	12/06/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]

T-Plant Weekly and Daily Dangerous Waste Inspection Checklist Review

Title(s) of Daily Waste Inspection Form:	Treatment Facility Waste Management Area Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet
Date of Review:	8/26/2013
Reviewer's Name:	Stephanie Johansen, Don Craig
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Time Frame of Daily Inspections:	January 2000-December 2002, January 2005-December 2007
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:

Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:

Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Stephanie H Johansen 08/27/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily and Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance
Date of Weekly Waste Inspection Review:	8/28/13
Initial Reviewer's Name:	Jeff Bramson
Final Reviewer's Name:	Lana Strickling
Waste Management Units:	271-T Cage, 221T R5, 277-T, 211-T Pad (WSA)

*Note: 277-T not identified on 2004 waste inspection sheets.

Time Frame of Inspections:	2003-2004	
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES _X__	NO ___

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

On 6/30/03, a 5-gallon plastic container of product, Insulkote, was identified as leaking in the 271-T Cage. There is no logbook entry denoting amount spilled. A waste designation was performed on 9/10/13 on the product as part of the records review. The waste is designated as a WP03 based on the chemical product designation. Waste designation is attached.

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

On 6/30/03, NCO rewrapped and cleaned up leakage. An MSDS was submitted to the waste management representative for designation and disposal instructions. No information was located on final disposition.

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.4 Area free of combustible debris (WAC 173-303-340)	✓	✓	✓	X (3)	✓	✓	✓ (2)	✓	✓	✓	✓	✓
6.1.5 Minimum 20-ft separation with no combustibles between fuel packages (Canyon, Tunnel and 2706-T facility)		✓										
6.1.6 Larger combustible items (> 256 cu. ft.) posted for separation requirements		✓										
6.1.7 Minimum 5-ft separation with no combustibles maintained between fuel packages (Canyon, Tunnel, and 2706-T facility)		✓										
6.1.8 30-ft area around outdoor waste management area free of combustible debris			✓	✓			✓	✓		✓	✓	✓
6.1.9 Fire lanes and inspection aisles ≥ 30" wide and free of obstruction (WAC 173-303-340)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.13 Containment systems dry and free of cracks, gaps, or other deterioration (WAC 173-303-630 (7)(g)(i))	✓	✓	✓	✓	✓	✓	X (4)	✓	✓	✓	✓	
6.1.15Containers elevated or otherwise protected from accumulated liquids (WAC 173-303-630 (7)(c)(ii)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.16 Barricades in place and in good condition (WAC 173-303-200 (2)(a))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.18 Area postings in place, legible, and in good condition (WAC 173-303-200(1)(d))	✓	X (1)	✓ (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.19 Containers free of deterioration and show no sign of leakage (WAC 173-303-630 (2))	✓	✓	✓	✓	✓	✓	✓	✓	X (5)	✓	✓	✓
6.1.22 Containers closed and show no evidence of leakage (e.g., moisture, or stains on the side or underneath) (WAC 173-303-630 (5)(a))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility: Connex	2706T Facility: Building & Yard	2706T Facility: PAD	2706T: TSP	MO433: Sample Storage	214T: BLDG	211T: WSA	271T: Cage WAA	221T: Ops Gallery Sample Storage	221T: R5	277T	221T: ETEC Vault
6.1.23 Containers stored in a way that will not result in rupture or damage (WAC 173-303-630 (5)(b))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.25 Container labeling and markings are intact, unobscured, legible, complete, and in good condition (WAC 173-303-630 (3))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.26 TSCA regulated PCB containers labeled with a PCB label and a "Removed from Service" date (40 CFR 761)	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓	✓
6.1.31 Incompatible wastes segregated (WAC 173-303-630 (9)(c))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.32 Waste accumulation container has inventory attached or available	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.33 Drums stored in rows no more than 2 drums wide with an aisle space ≥ 30 inches (WAC 173-303-630 (5)(c))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.35 Inspector's initials and date and time area inspected	RBB 7-1-03 0840	RBB 6-30-03 1040	RBB 6-30-03 1440	RBB 6-30-03 1100	RBB 6-30-03 1540	RBB 6-30-03 0940	RBB 6-30-03 0920	RBB 6-30-03 0830	RBB 6-30-03 1500	RBB 6-30-03 0815	RBB 6-30-03 1110	RBB 6-30-03 1120
6.1.37 General facility housekeeping of areas where waste is stored.	✓	✓	✓	(X)	✓	✓	(X)	(X)	✓	✓	✓	✓

★ NOTE: Any items marked with an "X", on the above checklist, require corrective action. Document corrective action(s) on inspection finding and corrective action data sheet.

RBB 7-1-03

Pat Brummett Pat Brummett
Inspector's Printed Name and Signature

6-30-03 7-1-03
Date

NA
Inspector's Printed Name and Signature

Date

NA
Inspector's Printed Name and Signature

Date

Supervisor Printed Name and Signature

7-2-03
Date

Source Document: DO-040-016
Last Printed 1/24/03 8:17 PM

Waste Management Area Inspection Finding and Corrective Action Sheet

Inspection for Week of: 6-30-03

Findings for (circle one): Daily Inspection (Weekly Inspection) [circled]

INSPECTION FINDING	CORRECTIVE ACTION/DATE
(1) 6.1.37. 5 gal Plastic Container with MSDS 11339 ~~?~~ need to be put away	NCO rewrapped + cleaned up leakage. Submitting MSDS to WMR for designation and disposal instructions. JMC
(4) 6.1.4 Tumble weeds in area 6.1.37 need sweep up	~~to~~ Housekeeping shall be assigned. JMC
(2) 6.1.1B 2706 T Yard 0007144 need finish red material sticker ~~on~~ on box	new red material sticker put on box ✓
(3) 6.1.4. move the pipe box together at the TSP Pad and Plastic areas on ground.	NCO corrected these issues. JMC
(5) 6.1.1B label need replace and removed on drum 221T-01-000147, 9408426, 9403041, 9517101, 221T-01-000150 98009293, 97000410 on 2706 T Pad	NCO completed next business day. JMC

comments continue on back ——···

Patrick L Brummett
Operator Signature

Printed Name: Patrick L Brummett

Date: 6-30-03 6161-0

[signature]
Supervisor Signature

Printed Name: Tina M. Crane

Date: 7-2-03

Source Document: DO-040-018
Last printed 1/2/01 7:28 AM

H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Product Name: INSULKOTE ET; INSULKOTE PRIMER "E"
Manufacturer: SCHULLER INTERNATIONAL INC.
MSDS Date: 06/14/95
Input By: GC TRINER
Revised By: SM STEELE
Entry Date: 02/26/91
Revised Date: 08/07/01
Physical State: Liquid
Density: 1
Active?: Y
pH: 7
Flashpoint: N/A C
Reactivity: STABLE, INCOMPATIBLE WITH STRONG OXIDIZERS
Description:
Product Usage: COATING (AN EMULSION PRODUCT), ASPHALT

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
1302-78-9	BENTONITE	3.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
67-63-0	ISOPROPYL ALCOHOL	2.0000000	.0002000	D	~~EL~~	NA	NA	N		

Listed/TC Codes(limit mg/l)

~~D001; WT02~~ JMK 9/10/13

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
7732-18-5	WATER	48.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
8052-42-4	ASPHALT	50.0000000	.0000000	N	NA	NA	PAH	N		

Listed/TC Codes(limit mg/l)

WP03

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	4.0000000	.0000000	N	NA	NA	NA	N		

(1) Does not exhibit dangerous waste characteristic per MSDS.

(2) Does not meet dangerous waste criteria due to insufficient concentration.

JMK 9/10/13

09/10/2013 07:45:10 AM

H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Sum of Weight%: 107.0000000

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	NA
* OXIDIZER	D001 DW	
pH <=2 or >= 12.5 (Liquids)	D002 DW	
(Solids Only)	WSC2 DW	
Reactive	D003 DW	

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .0002000

No data or EC% < .001	Non-Reg	NA
EC% >=.001 & <1	WT02 DW	
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .0000000 Total PAH%: 50.0000000

No HOC/PAH or below limits	Non-Reg	NA
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	
PAH% > 1%	WP03 EHW	✓

Toxicity Characteristic WAC 173-303-090-8

TC CODES: NA

MATERIAL USED AS SOLVENTS: NA

APPLICABLE WASTE CODES: WP03

APPLICABLE LDR CODES:

WASTE CLASS: EHW

COMMENTS: Designation provided at ECO request, from suspected leak at TPlant in 2003. No other information provided. Book designation based on MSDS.

Designation Specialist: JM Kisielnicki (Print Name) JM Kisielnicki (Signature) 9/10/13 (Date)

09/10/2013 07:45:10 AM

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 2706-T TSP, 221-T Pad, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	October 18, 2007 - December 31, 2007
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2008 - December 28, 2008
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 8, 2009 - December 31, 2009
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2010 - December 30, 2010
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2011 - December 29, 2011
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 4, 2012 - December 28, 2012
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	September 4, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 3, 2013 - June 12, 2013*

*June 12, 2013 was the last complete weekly inspection record on IDMS as of September 4, 2013.

Items of Concern Noted (Circle) YES☐ NO☒

If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns: NA
Attach copies of Weekly Inspection sheets noting concern.

Dates of Corrective Actions: NA
Attach copies of Weekly Inspection sheets noting concern.

Reviewer's Signature and Date: Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

Attachment B

T-Plant 221 Sand Filter Pad Sampling Plan

Supporting Documentation

1

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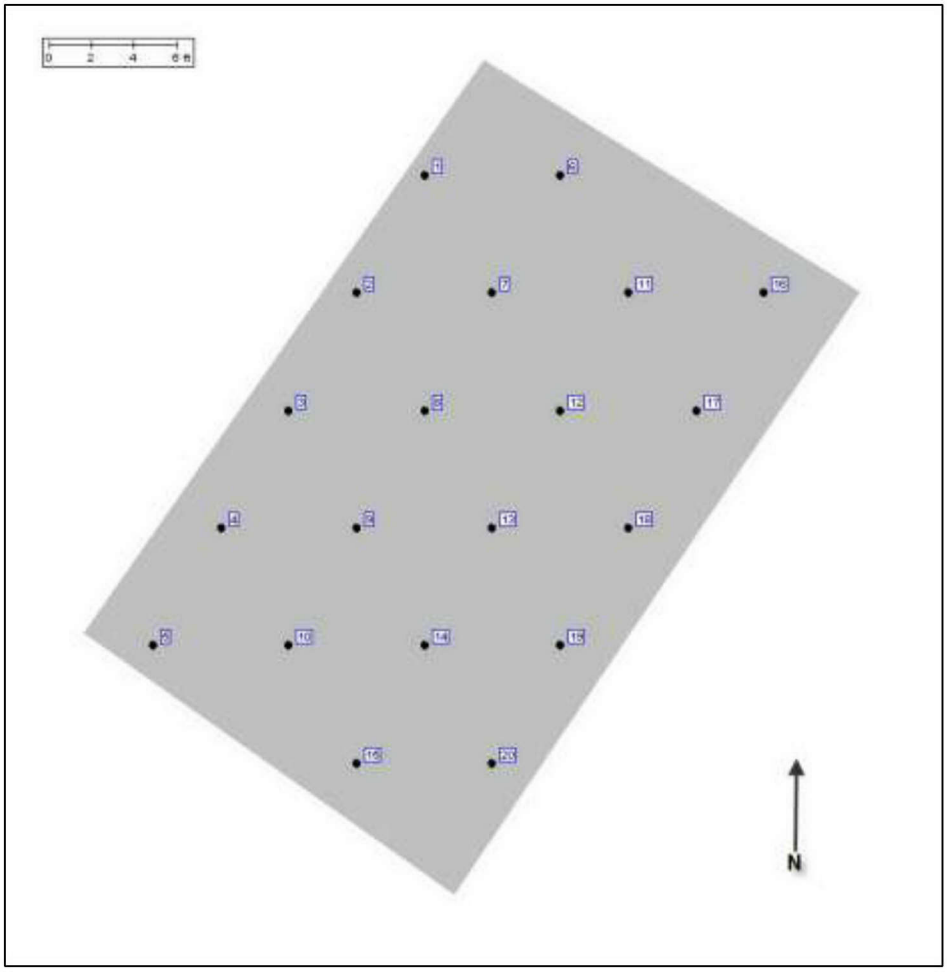
Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary
This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	704.10 ft^2
Size of grid / Area of grid cell [d]	6.37583 feet / 35.205 ft^2
Grid pattern	Triangular
Total cost of sampling [e]	$0.00

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.
[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.
[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.
[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.
[e] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: 221-T Sand Filter Pad					
X Coord	**Y Coord**	**Label**	**Value**	**Type**	**Historical**
567702.8271	136878.6403	15		Systematic	
567709.2029	136878.6403	20		Systematic	
567693.2634	136884.1620	5		Systematic	
567699.6392	136884.1620	10		Systematic	
567706.0150	136884.1620	14		Systematic	
567712.3909	136884.1620	19		Systematic	
567696.4513	136889.6836	4		Systematic	
567702.8271	136889.6836	9		Systematic	
567709.2029	136889.6836	13		Systematic	
567715.5788	136889.6836	18		Systematic	
567699.6392	136895.2052	3		Systematic	
567706.0150	136895.2052	8		Systematic	
567712.3909	136895.2052	12		Systematic	
567718.7667	136895.2052	17		Systematic	
567702.8271	136900.7269	2		Systematic	
567709.2029	136900.7269	7		Systematic	

567715.5788	136900.7269	11		Systematic	
567721.9546	136900.7269	16		Systematic	
567706.0150	136906.2485	1		Systematic	
567712.3909	136906.2485	6		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

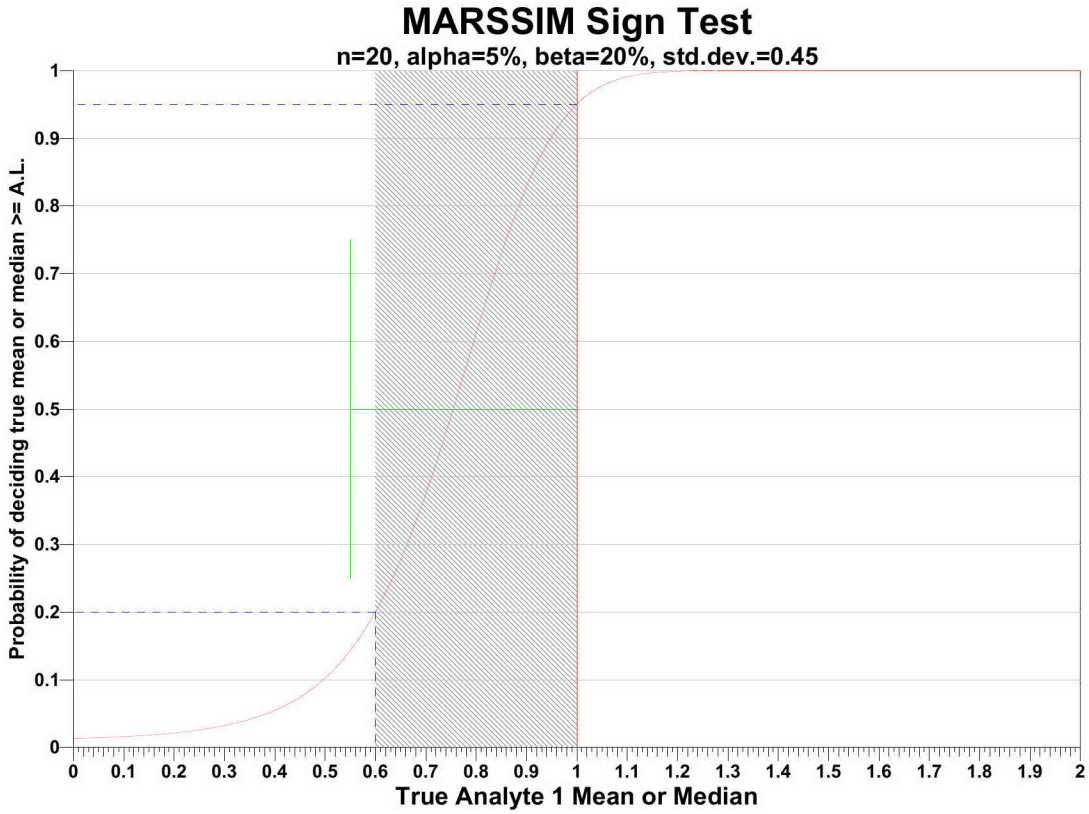
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of

gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Cost of Sampling
The total cost of the completed sampling program depends on several cost inputs, some of which are fixed, and others that are based on the number of samples collected and measured. Based on the numbers of samples determined above, the estimated total cost of sampling and analysis at this site is $0.00, which averages out to a per sample cost of $0.00. The following table summarizes the inputs and resulting cost estimates.

COST INFORMATION			
Cost Details	**Per Analysis**	**Per Sample**	**20 Samples**
Field collection costs		$0.00	$0.00
Analytical costs	$0.00	$0.00	$0.00
Sum of Field & Analytical costs		**$0.00**	**$0.00**
Fixed planning and validation costs			$0.00
Total cost			**$0.00**

Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.D Appendix D - 221-T R5 Waste Storage Area

D1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 221-T R5Waste Storage Area dangerous waste management unit (221-T R5 Waste Storage Area). The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the Environmental Protection Agency (EPA) to close this dangerous waste management unit (DWMU). The closure will be performed in accordance with the included schedule. This closure plan complies with Washington Administrative Code (WAC) 173-303-610(2) through WAC 173-303-610(6) and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

D1.1 Unit Description

The 221-T R5 Waste Storage Area is located at the northeast end of T Canyon Building. The 221-T R5 Waste Storage Area was used to store dangerous, mixed and TSCA-PCB waste in a <90-day or satellite accumulation storage area.

The 221-T R5 Waste Storage Area was constructed with the primary purpose of storing containers of various sizes and volumes, and a variety of waste streams to ensure adequate capacity and operational flexibility to support T-Plant activities. The 221-T R5 Waste Storage Area is an asphalt paved area 47 meters (155 ft) long by 18 meters (60 ft wide). A portable weather shelter, designated as 229-W, currently occupies the northeast end of the pad. (Figure D-1 and Figure D-2)

The 221-T R5 Waste Storage Area does not currently store dangerous, mixed or TSCA-PCB waste. Future storage of dangerous and/or mixed waste is not authorized within the 221-T R5 Waste Storage Area dangerous waste management unit (DWMU). The 221-T R5 Waste Storage Area is located near the 221-T Canyon facility, which is part of a the Canyon Disposition Initiative (CDI) (Tri-Party Agreement (TPA) Section 6, *Treatment Storage and Disposal (TSD) Process*, and TPA Section 8, *Facility Disposition*). The strategy for the entire T-Plant Complex is a coordinated closure for both the RCRA closing units and the CDI activities. The 221-T R5 Waste Storage Area is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during the CDI activities for the T-Plant Complex.

> TPA Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e. g. removal of structural components).*

D1.1.1 Maximum Waste Inventory

Waste management records indicate that the maximum waste inventory over the operational period of the 221-T R5 Waste Storage Area included 609 containers of dangerous and/or mixed waste with a total volume of 184 m^3 (6,498 ft^3) and four containers of TSCA-PCB only waste with at total volume of 1 m^3 (32 ft^3). Dangerous, mixed and TSCA-PCB waste storage occurred from December 1989 through July 2013. Details on the waste containers are presented in Section D3.3.

Figure D-1. T-Plant Complex OUG 221-T R5 Waste Storage Area Outdoor Container Storage Area

Figure D-2. T-Plant Complex OUG 221-T R5 Waste Storage Area Outdoor Container Storage Area

D2 Closure Performance Standard

Closure performance standards for the 221-T R5 Waste Storage Area will be based on requirements found in WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," which require closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity

These performance standards are addressed in the Sections D2.1 and D3.13 of this closure plan.

D2.1 Clean Closure Levels

The 221-T R5 Waste Storage Area will be clean closed using clean closure levels required for soil. However, confirmation sampling of clean closure levels will not be performed until the T-Plant Complex CDI is initiated. In accordance with WAC 173-303-610(2)(b)(i) for soil, the clean closure levels will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the *Model Toxics Control Act* (MTCA) (WAC 173-340, "Model Toxics Control Act—Cleanup") cleanup regulations (WAC 173-340-700 through -760, excluding WAC 173-340-745). These numeric cleanup levels will be calculated according to the MTCA Method B unrestricted use standards current at the time of closure.

Sampling and analysis will verify clean closure for the 221-T R5 Waste Storage Area. Sampling and analysis of the 221-T R5 Waste Storage Area will occur in conjunction with the CDI activities for the T-Plant Complex OUG. If sampling and analysis activities indicate contamination above the MTCA Method B unrestricted use standards, potential remediation or decontamination would be incorporated with the cleanup activities. Any required changes to this closure plan and the included sampling and analysis plan (SAP) will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

D3 Closure Activities

As a storage unit, clean closure determination for 221-T R5 Waste Storage Area is based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 221-T R5 Waste Storage Area is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with the CDI activities. Final verification sampling of the clean closure will be performed during the T-Plant Complex cleanup activities consistent with the CDI. Sampling of the asphalt pad will be conducted via a SAP (Section D3.10) to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure are as follows:

- Remove all dangerous, mixed or TSCA-PCB waste inventory. (Completed. See Section D3.2.)
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage. (Completed. See Section D3.3.)
- Perform a visual inspection of the asphalt surface. (Completed. See Section D3.3.)
- Add 221-T R5 Waste Storage Area to the Waste Information Data System (WIDS) Database. (See Section D3.8.)

Extended closure activities include:

- Sampling and analysis to confirm *Resource Conservation and Recovery Act of 1976* (RCRA) clean closure standards in coordination with the CDI activities for the T-Plant Complex OUG.

D3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, *Personnel Training,* and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided and includes the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed

- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

D3.2 Removal of Wastes and Waste Residues

The 221-T R5 Waste Storage Area does not currently store dangerous, mixed or TSCA-PCB waste. Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously stored in the 221-T R5 Waste Storage Area under <90-day and satellite accumulation area storage only. The 221-T R5 Waste Storage Area will no longer be used for dangerous, mixed or TSCA-PCB waste storage. The 221-T R5 Waste Storage Area is in a safe configuration, and will be tracked in WIDS until verification sampling performed under the SAP occurs.

D3.3 221-T R5 Waste Storage Area Records Review and Visual Inspection

To support the development of this closure plan and the SAP, a review of the T-Plant Complex OUG operating records was completed (Table D-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, and TSCA-PCB waste storage for the T-Plant Complex OUG SWOC Outdoor Container Storage Areas addressed under the T-Plant Complex OUG SWOC Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated no releases of dangerous, mixed or TSCA-PCB waste occurred in the 221-T R5 Waste Storage Area.

Waste management records indicate that dangerous, mixed and TSCA-PCB waste has been previously stored in the 221-T R5 Waste Storage Area under <90-day or satellite accumulation area storage.

A visual inspection was performed on August 15, 2013 to identify any dangerous waste related staining in the 221-T R5 Waste Storage Area. No waste related staining was identified during the visual inspection therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment A and include the T-Plant Daily Operating Logbook Review sheet, T-Plant Operation Logbook Review sheet, , the T-Plant Daily Dangerous Waste Inspection Checklist Review sheet, Summary of T-Plant Weekly Dangerous Waste Inspection Checklist Review sheet, T-Plant Complex 221-T R5 Waste Storage Area visual inspection sheet, and any additional supporting information.

D3.4 Unit Components, Parts, and Ancillary Equipment

The 221-T R5 Waste Storage Area asphalt area will not be removed as part of the near-term closure activities. The 221-T R5 Waste Storage Area asphalt area and the 229-W portable weather shelter will remain in place pending the final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG. No dangerous, mixed or TSCA-PCB waste will be stored at the 221-T R5 Waste Storage Area.

D3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for 221-T R5 Waste Storage Area.

D3.6 Decontamination

Decontamination activities are not planned for 221-T R5 Waste Storage Area.

D3.7 Identifying and Managing Contaminated Environmental Media

Should contaminated media be identified as a result of the confirmation sampling, the contaminated materials will be addressed under the CDI activities and managed as appropriate. As necessary, treatment or disposal of the resulting waste will be performed at an approved treatment, storage, and disposal facility.

D3.8 Addition of 221-T R5 Waste Storage Area to the WIDS Database

As part of the near-term closure activities, the 221-T R5 Waste Storage Area will be added to the WIDS database. Addition of the 221-T R5 Waste Storage Area to the WIDS database will help ensure that the 221-T R5 Waste Storage Area is monitored and controlled until the extended closure activities are completed and the 221-T R5 Waste Storage Area undergoes final closure in coordination with the CDI activities for the T-Plant Complex OUG.

The addition of the 221-T R5 Waste Storage Area to the WIDS database will ensure that an annual inspection of the unit is performed and that no unauthorized activity takes place at the 221-T R5 Waste Storage Area (i.e., waste storage, excavation).

D3.9 Confirming Clean Closure

The 221-T R5 Waste Storage Area will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. In addition to the records review, a visual inspection of the 221-T R5 Waste Storage Area was performed to identify any dangerous waste-related staining of the storage area pad. Both the records review and visual inspection are detailed in Section C3.3 and documented in Attachment A.

All dangerous, mixed and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous or mixed waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During the CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 221-T R5 Waste Storage Area. Sampling and analysis of the 221-T R5 Waste Storage Area asphalt will occur to confirm that cleanup standards for soil have been achieved.

D3.10 Sampling and Analysis and Constituents to Be Analyzed

D3.10.1 Sampling and Analysis Plan

The final clean closure verification sampling for the 221-T R5 Waste Storage Area will occur in conjunction with the T-Plant CDI cleanup activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP and in conjunction with the CDI activities for the T-Plant Complex OUG. Sampling and analysis of the asphalt pad of the 221-T R5 Waste Storage Area will be conducted to confirm that clean closure levels have been achieved.

The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements of SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

D3.10.2 Target Analytes

Waste management records indicated that dangerous, mixed, and TSCA-PCB waste has been stored in the 221-T-R5 Waste Storage Area under <90-day or satellite accumulation area storage. Based on the physical proximity of other T-Plant SWOC Outdoor Container Storage Areas that have stored dangerous waste under permitted storage, and assuming similar use during support of T-Plant Canyon operations, the target analytes for evaluation during closure sampling and analysis were determined by reviewing the waste management records of the other dangerous, mixed or TSCA-PCB waste stored in the T-Plant SWOC Outdoor Container Storage Areas. Table D-2 provides the target analyte list.

D3.10.3 221-T R5 Waste Storage Area SAP Schedule

Confirmation closure sampling and analysis will be performed during the extended closure activities in conjunction with the T-Plant Complex OUG cleanup under the CDI activities.

D3.10.4 221-T R5 Waste Storage Area Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

D3.10.5 Sampling Design

Gravel and soil samples will be taken at predetermined sample locations. Sample locations will be determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The 221-T R5 global positioning system (GPS) latitude and longitude coordinates were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, the VSP software determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by the VSP software and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by the VSP software, and the subsequent nineteen sample locations were assigned by the VSP software using a triangular grid sampling method. Supporting documentation for the VSP software sampling designations are documented in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented dangerous, mixed or TSCA-PCB waste has been released to 221-T R5, and no waste related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

D3.10.6 Sampling Methods and Handling

The sample matrix will consist of asphalt collected in pre-cleaned sample containers taken at a depth of no more than 2.54 cm (1 in.) below the surface of the asphalt, unless staining or discoloration indicates

contamination is below that depth. Asphalt samples will be collected into containers at the chosen sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table D-3 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form.

To prevent potential contamination of the samples, care will be taken to use decontaminated equipment for each sampling activity.

Table D-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	221-T R5 WSA	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	221-T R5 WSA	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T R5 WSA	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T R5 WSA	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	221-T R5 WSA	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	221-T R5 WSA	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	221-T R5 WSA	2003	2004	Yes[a]
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	221-T R5 WSA	10/18/2007	06/12/2013	No

N/A = not applicable

a = A container of Insulkote was leaking. Product was determined to be non-regulated material.

WSA = Waste Storage Area

Table D-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Ethyl benzene (F003)	100-41-4
Barium (D005)	7440-39-3	Ethyl ether (F003)	60-29-7
Cadmium (D006)	7440-43-9	Methanol (F003)	67-56-1
Chromium (Hexavalent) (D007)	18540-29-9	Methyl isobutyl ketone (F003)	108-10-1
Lead (D008)	7439-92-1	Xylene (F003)	1330-20-7
Mercury (D009)	7439-97-6	o-Cresol (F004)	95-48-7
Selenium (D010)	7782-49-2	Benzene, nitro (F004)	98-95-3
Silver (D011)	7440-22-4	Pyridine (F005)	110-86-1
Benzene (D018) (F005)	71-43-1	2-nitropropane (F005)	79-46-9
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Carbon disulfide (F005) (P022)	75-15-0
Chloroform (D022)	67-66-3	Isobutanol (F005)	78-83-1
2,4-Dinitrotoluene (D030)	121-14-2	2-ethoxyethanol (F005) (U359)	110-80-5
Hexachoroethane (D034)	67-72-1	Toluene (F005)	108-88-3
Methyl ethyl ketone (MEK) (D035)(F005)	78-93-3	Acetaldehyde (I) (U001)[a]	75-07-0
Pentachlorophenol (D037)	87-86-5	Acetyl chloride (C,R,T)(U006)[b]	75-36-5
Tetrachloroethylene (D039) (F001) (F002)	127-18-4	Dichloroethyl ether (U025)	111-44-4
Trichloroethylene (D040)(F001)(F002)	79-01-6	1-Butanol (I) (U031)	71-36-3
Vinyl chloride (D043)	75-01-4	1,4-Diethyleneoxide (U108)	123-91-1
1,1,1-Trichloroethane (F001) (F002) (U226)	71-55-6	Ethane, 1,1′-oxybis-(I) (U117)	60-29-7
Chlorinated fluorocarbons (F001) (F002)	N/A	Formic acid (C,T) (U123)	64-18-6
Methylene chloride (F001) (F002)	75-09-2	2-Butanone, peroxide (R,T) (U160) [b]	1338-23-4
Chlorobenzene (F002)	108-90-7	Phosphorus pentasulfide (R)(U189)[b]	1314-80-3

Table D-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Furan, tetrahydro-(I) (U213)[b]	109-99-9
Ortho-dichlorobenzene (F002)	95-50-1	Cyanides (soluble cyanide salts), not otherwise specified (P030)	57-12-5
1,1,2-trichloroethane (F002)	79-00-5	Acetaldehyde, chloro- (P023)[b]	107-20-0
Acetone (F003)	67-64-1	Copper cyanide (P029) (as Cyanide)	544-92-3
N-butyl alcohol (F003)	71-36-3	Potassium cyanide (as Cyanide) (P098)	151-50-8
Cyclohexanone (F003)	108-94-1	Sodium cyanide (as Cyanide) (P106)	143-33-9
Ethyl acetate (F003)	141-78-6	Vanadium oxide V2O5 (P120)	1314-62-1
		Polychlorinated biphenyls (PCBs) (Arochlors)	1336-36-3

a. Acetaldehyde is analyzed as a gas not as a solid. Acetaldehyde will not be analyzed.

b. There are no previous records of analysis for this on the Hanford Site. The CAS number is not listed in the CLARC tables.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary, depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling Authorization Form
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)
- Sample authorization form number

In addition to the above information, sample records must include the following:

- Sample location
- Matrix (water, soil, etc.)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure the maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure sample integrity is maintained.

All waste generated by sampling activities will be managed in accordance with applicable regulations.

D3.10.7 Analytical Methods

All analyses and testing will be performed consistent with laboratory agreements, laboratory analytical procedures, and *HASQARD*. The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above the clean closure level but less than the PQL of the analytical method, the Washington State Department of Ecology will be notified and alternatives will be discussed to demonstrate clean closure levels.

Table D-4 outlines analytical methods and performance requirements associated with the target analytes.

D3.10.8 Quality Control

The QC procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table D-5.

Table D-3. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl (PCB)	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Table D-3. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days

aG = amber glass

G = glass

P = plastic

D3.10.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data is processed, resolution of those issues will be initiated.

The format and requirements for data validation activities are based upon the most current version of *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01 [OSWER 9240.1-48]) and *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011 [OSWER 9240.1-51]). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process, EPA/240/B-06/002, Data Quality Assessment: A Reviewer's Guide, EPA QA/G-9R, and EPA/240/B-06/003, Data Quality Assessment: Statistical Methods for Practitioners, EPA QA/G-9S.

D3.10.10 Documents and Records

The Project Manager is responsible for ensuring the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to DOE and the lead regulatory agency.

Table D-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
67-72-1	Hexachloroethane	SW-846 Method 8270	25	56	0.005	N/A[c]	N/A[c]
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
87-86-5	Pentachlorophenol	SW-846 Method 8260	8.33	2,400	0.33	N/A[c]	N/A[c]

Table D-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
12 7-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
75-01-4	Vinyl chloride	SW-846 Method 8260	66.7	240	0.01	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-Trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol	SW-846 Method 8260	N/A	8000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20

Table D-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	32,000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl) ether)	SW-846 Method 8270	0.909	N/A	0.33	N/A[c]	N/A[c]
71-36-3	1-Butanol	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
123-91-1	1,4-Diethyleneoxide (1,4-Dioxane)	SW-846 Method 8260	10	2,400	0.5	N/A[c]	N/A[c]
60-29-7	Diethyl ether Ethane, 1,1'-oxybis-(I)	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
64-18-6	Formic Acid (U123)	Modified 9056A or Modified 300.0	N/A	160,000	na	N/A[c]	N/A[c]
57-12-5	Cyanide	SW-846 Method 9010/9012/9013/ 9014	N/A	48	0.5	±30	≤30
1314-62-1	Vanadium oxide (vanadium pentoxide)	SW-846 Method 6010/200.8	N/A	720	na	N/A[c]	N/A[c]

Table D-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
1336-36-3	Polychlorinated biphenyl (PCB)	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure Performance Standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the Model Toxics Control Act (MTCA) Cleanup Regulation (WAC 173-340-740, -747, -and -7490 through -7494). These numeric clean-up levels will be calculated according to MTCA Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the Required Detection Limit and the Practical Quantification Limit are identical.

N/A = not applicable

na = information not available

Table D-5. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Field QC		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed If only disposable equipment is used then an equipment blank is not required. Otherwise, one per 20 samples per media [a]	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples [b])	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory QC[h]		
Method Blanks	1 per batch[h]	Laboratory Contamination
Lab Duplicates	[c]	Laboratory Reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate Laboratory Accuracy
Performance Evaluation Programs[d]	Annual	Evaluate Laboratory Accuracy
Double-Blind Standards	Quarterly[e]	Evaluate Laboratory Accuracy
Audit/Assessment	Annually[f] or Every 3 years[g]	Evaluate overall laboratory performance and operations

Table D-5. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempted from duplicate sampling.

c. As defined in the laboratory contract or QA plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE QSAS requires annual audit of commercial laboratories.

g. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

QA = Quality assurance.

QC = Quality control.

VOC = Volatile organic compound

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook and only authorized persons may make entries in logbooks. Logbooks will be signed by the FWS, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following:

- Analytical logbooks
- Raw data and QC sample records

- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

D3.10.11 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830.

D3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure, and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

D3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 221-T R5 Waste Storage Area DWMU, a certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the department by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

D3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 221-T R5 Waste Storage Area will remain in an "as-is" state with the asphalt and the 229-W portable weather shelter remaining in place. The 221-T R5 Waste Storage Area will continue to be used for equipment and material storage in support of the T-Plant Canyon activities. The 221-T R5 Waste Storage Area will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 221-T R5 Waste Storage Area DWMU from the sitewide permit active DWMUs.

D4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the221-T R5 Waste Storage Area to the WIDS database will be completed within 180-days of approval of the closure plan. This DWMU is located near the T-Plant Canyon building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).

Section 11.0, Coordination of Closure and Corrective Action or Other Cleanup Activities of Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities*, allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for closure of the 221-T R5 Waste Storage Area to

coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities in accordance with WAC 173-303-610(4)(c) and a separate extension request will not be filed (Figure D-2).

D5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

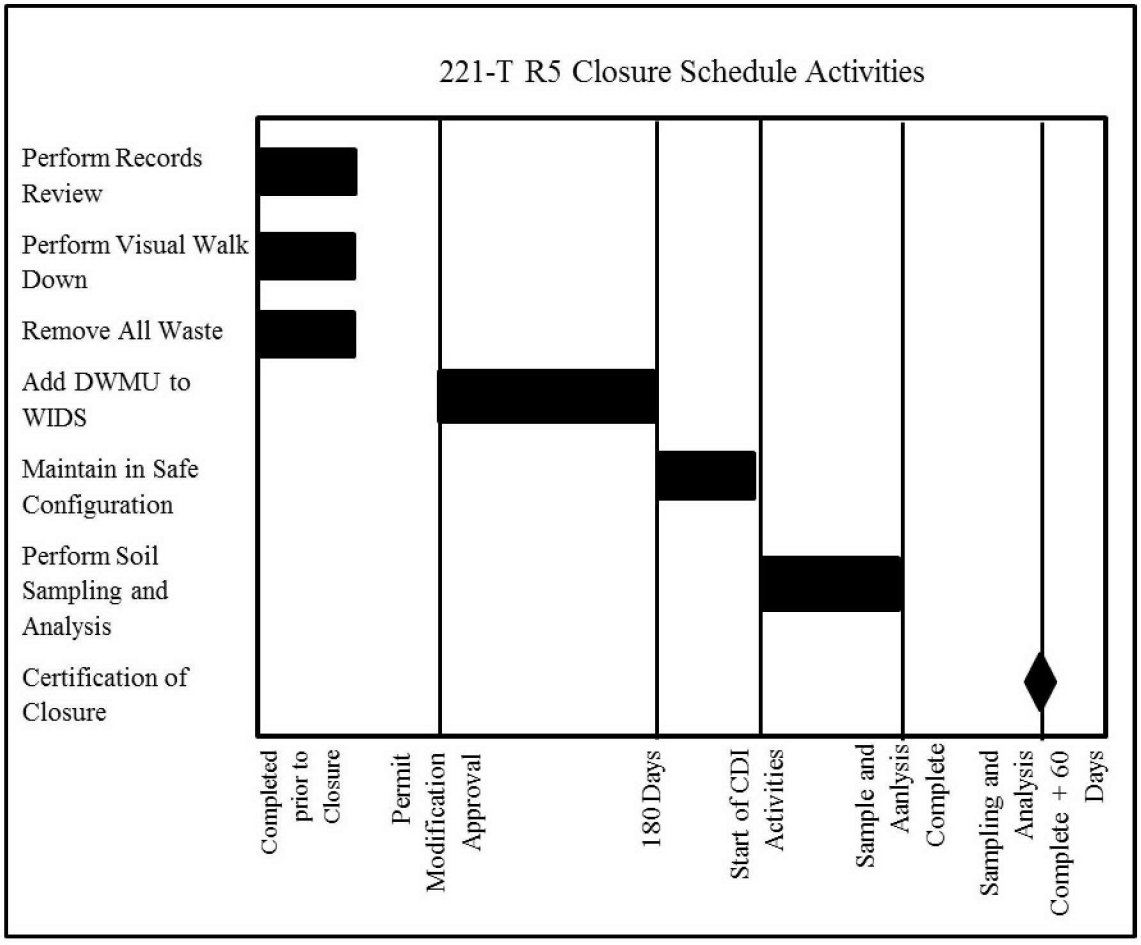

Figure D-2. 221-T R5 Waste Storage Area Closure Schedule Activities

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Attachment A

T-Plant 221-T R5 Waste Storage Area RCRA Records Review and Visual Inspection Supporting Documentation

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T Plant Complex 221-T-R5 Waste Storage Area

Purpose:

A visual inspection walkdown of the T Plant Complex outdoor 221-T-R5 Waste Storage Area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., gravel and soil), and to denote any remaining waste related items.

The inspection was performed on August 15, 2013 by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

No staining of any kind was identified on the storage area surface. Area was thoroughly photographed. A few debris items were observed (e.g., lumber and tumbleweeds).

Housekeeping will be performed on the area prior to closure.

Signature/Date:

Brett M. Barnes: Brett M Barnes 9/3/13

T-Plant Daily Operating Log Book Review

Waste Management Units:	271-T Cage, 211-T Pad, 222-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Date of Log Book Review:	8/15/13 – 8/26/13
Reviewer's Names:	Joel Williams, Brett Barnes, Brian Dixon, Jeff Bramson, Joe Archuleta, Patrick Baynes, Don Craig, Lana Strickling
Daily Operating Log Book Document No:	See attached.
Log Book Timeframe (Month/Year to Month/Year):	1/2/85 – 6/22/10
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES____ NO__X__
Items of Concern: Attach copies of log book pages noting concern.	_____ _____ _____ _____
Log Book Page# Referencing Spill:	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of log book pages noting corrective actions.	_____ _____ _____ _____
Log Book Page# Referencing Corrective Action:	_____ _____ _____ _____
Reviewer's Signature and Date:	Lana Strickling 9/6/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	01/02/87	12/31/85	135357
	01/02/86	12/31/86	135357
	01/02/87	12/31/87	135357
	01/04/88	12/30/88	135357
Operations Log	01/03/89	12/29/89	149634
Operations Log	01/02/90	01/02/91	149634
Operations Log	01/02/91	01/16/91	149634
	01/16/91	06/04/91	141785
	06/06/91	10/23/91	141785
	10/24/91	03/12/92	141785
	03/13/92	07/13/92	141785
	07/14/92	10/16/92	141785
	10/17/92	01/21/93	141785
	01/21/93	02/05/93	141785
	01/23/93	03/14/93	141785
	03/15/93	04/20/93	141785
	04/21/93	05/21/93	141785
	05/27/93	07/01/93	141785
	07/06/93	08/12/93	141785
	08/12/93	09/17/93	141785
	09/17/93	10/22/93	141785
	10/22/93	11/24/93	141785
	11/29/93	01/07/94	141785
	01/07/94	02/09/94	141785
	02/10/94	03/11/94	141785
	03/14/94	04/11/94	141785
	04/12/94	05/10/94	141785
	05/10/94	06/10/94	141785
	06/13/94	07/21/94	141785
	07/13/94	08/12/94	141785
	08/12/94	09/14/94	141785
	09/14/94	10/10/94	141785
BOX 3	10/03/94	12/12/94	131414
	10/10/94	11/09/94	141785
	11/09/94	12/07/94	141785
	12/07/94	01/05/95	141785
BOX 3	12/13/94	02/24/95	131414
	01/05/95	02/02/95	141785
	02/02/95	02/28/95	141785
	02/28/95	03/30/95	141785
	03/30/95	04/26/95	141785
	04/26/95	05/31/95	141785
	05/31/95	06/29/95	131414
	07/14/95	09/19/95	131414
	07/30/95	08/22/95	131414
	08/22/95	09/12/95	131414

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	09/13/95	10/04/95	131414
	09/20/95	11/10/95	131414
	10/04/95	10/24/95	131414
	10/24/95	11/09/95	131414
	11/10/95	01/08/96	131414
	11/10/95	11/30/95	131414
	11/30/95	12/15/95	131414
	12/15/95	01/08/96	131414
	01/09/96	02/23/96	131414
	01/18/96	01/24/96	131414
	01/24/96	02/21/96	131414
	02/21/96	03/18/96	131414
	02/23/96	04/08/96	131414
	03/18/96	04/09/96	131414
	04/09/96	05/23/96	131414
	04/09/96	05/02/96	131414
	05/02/96	05/31/96	131414
	05/24/96	07/30/96	131414
	05/31/96	06/28/96	131414
	06/28/96	07/29/96	131414
	06/30/95	07/31/95	131414
	07/30/96	08/22/96	131414
	07/31/96	09/17/96	131414
	08/22/96	09/17/96	131414
	09/19/96	11/14/96	131414
	09/17/96	10/14/96	131414
	10/14/96	11/05/96	131414
	11/05/96	12/02/96	131414
	11/15/96	01/09/97	131414
	12/02/96	12/30/96	131414
	12/30/96	01/24/97	131414
BOX 1	01/24/97	02/20/97	149634
BOX 1	02/20/97	03/20/97	149634
BOX 1	03/21/97	04/21/97	149634
BOX 1	04/21/97	06/02/97	149634
BOX 1	05/13/97	07/03/97	149634
BOX 1	06/02/97	07/10/97	149634
BOX 1	07/10/97	08/22/97	149634
3030	08/22/97	10/07/97	177623
2005	10/08/97	11/17/97	177623
3033	11/18/97	12/29/97	177623
3034	12/30/97	02/04/98	177623
3035	02/05/98	03/11/98	177623
3036	03/12/98	04/20/98	177623
3037	04/21/98	06/03/98	177623
3038	06/04/98	07/15/98	177623

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3039	07/16/98	09/02/98	177623
3040	09/03/98	10/22/98	177623
3041	10/23/98	12/04/98	177623
2003	12/07/98	01/18/99	177623
2004	01/19/99	03/15/99	177623
5000	03/16/99	05/18/99	177623
5002	05/19/99	07/27/99	177623
5003	07/28/99	09/15/99	177623
5004	09/15/99	10/28/99	177623
5005	10/28/99	12/30/99	177623
3002	12/16/99	02/17/00	177623
5006	12/31/99	03/06/00	177623
5007	03/07/00	05/01/00	177623
3004	04/19/00	06/08/00	177623
5008	05/02/00	07/11/00	177623
5009	07/12/00	09/12/00	177623
5010	09/13/00	11/17/00	177623
5011	11/20/00	01/18/01	177623
5012	01/18/01	03/15/01	223426
2013	03/15/01	05/07/01	223426
5014	05/08/01	07/03/01	223426
5015	07/03/01	08/21/01	223426
5016	08/22/01	10/03/01	223426
5017	10/04/01	11/11/01	223426
5018	11/12/01	01/02/02	223426
5019	01/02/02	02/20/02	223426
5020	02/21/02	03/28/02	223426
5021	04/01/02	05/16/02	223426
5022	05/17/02	07/02/02	223426
5023	07/02/02	08/09/02	223426
3010	08/11/02	09/24/02	223426
3011	09/25/02	11/11/02	223426
3012	11/11/02	01/10/03	223426
3013	01/10/03	02/26/03	223426
3014	02/27/03	04/09/03	223426
3015	04/09/03	06/05/03	223426
3016	06/09/03	08/05/03	223426
3017	08/06/03	09/24/03	223426
3018	09/24/03	11/05/03	223426
3019	11/05/03	01/19/04	223426
3021	01/20/04	03/14/04	223426
3022	03/14/04	05/19/04	223426
3023	05/19/04	08/03/04	223426
3024	08/03/04	10/05/03	223426
3025	10/16/04	12/08/04	223426
3047	12/08/04	02/03/05	223426

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3048	02/04/05	04/13/05	223426
3049	04/14/05	06/27/05	223426
3050	06/28/05	09/02/05	223426
5001	09/06/05	11/16/05	223426
3051	11/17/05	02/07/06	223426
3052	02/08/06	04/13/06	223426
3053	04/14/06	06/28/06	223425
3054	06/29/06	09/14/06	223425
3055	09/15/06	11/29/06	223425
3056	11/30/06	02/12/07	223425
3057	02/13/07	04/16/07	223425
3058	04/17/07	06/07/07	223425
3059	06/08/07	07/31/07	223425
3060	08/01/07	09/26/07	223425
3061	09/26/07	11/10/07	223425
3062	11/12/07	12/26/07	223425
3063	12/27/07	02/13/08	223425
3064	02/14/08	03/24/08	223425
3065	03/24/08	05/05/08	223425
3066	05/05/08	06/05/08	223425
3067	06/05/08	07/11/08	223425
3068	07/11/08	08/12/08	223425
3069	08/12/08	09/22/08	223425
3070	09/22/08	11/03/08	223425
3071	11/04/08	12/30/08	223425
3072	12/31/08	02/23/09	223425
3073	02/24/09	04/10/09	223425
3074	04/10/09	05/28/09	223425
3075	05/28/09	07/20/09	223425
3076	07/21/09	09/02/09	223425
3077	09/03/09	11/03/09	223425
3078	11/04/09	12/21/09	223425
3079	12/22/09	02/01/10	223425
3080	02/01/10	03/11/10	223425
3081	03/11/10	04/13/10	223425
3082	04/13/10	05/17/10	223425
3083	05/18/10	06/21/10	223425
3084	06/22/10	07/26/10	223425

T-Plant Operation Logbook Review

Title(s) of Logbook:	T-Plant Operation Logbook
Date of Review:	08/15/13 through 08/19/13
Reviewer's Name:	Stephanie Johansen
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Logbook Date Range:	07/27/10 through 04/07/11
Logbook Numbers:	3085 through 3091
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns:	
Attach copies of pages noting concern.	
Dates of Corrective Actions:	
Attach copies of pages noting concern.	
Reviewer's Signature and Date:	Stephanie Johansen

Instructions:

Review logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of pages noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	Waste Management Area Daily Inspection Data Sheet
Date of Review:	9/3/2013
Reviewer's Name:	Linda Carr
Waste Management Units: Boneyard Pad Waste Storage	221-T, 2706, MO433, 214-T, 211-T, 221-T, 271-T, 277-T,
Time Frame of Daily Inspections:	2005- August 29 – December 1
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions. Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2007-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-January 1-September 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2009-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Daily Inspection sheets noting concern.	
Dates of Corrective Actions: Attach copies of Daily Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2010-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2011-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2012-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2013-January 1-April 22
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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Summary of T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas T Plant Weekly Inspection Log Sheet
Date of Weekly Waste Inspection Review:	8/26/13 – 8/28/13
Initial Reviewer's Name:	Jeff Bramson, Linda Carr, Paul Martin.
Final Reviewer's Name:	Lana Strickling*

* A review was performed against the individual checklists developed by the initial reviewers above to consolidate and document any review notes, items of concern, etc. related to the WMU's identified below.

Waste Management Units:	271-T Cage, 221T R5, 277-T Outdoor Storage Area, 211-T Pad, 221-T Sand Filter Pad**

**Inspection sheets were reviewed for any reference to the waste management units identified for any items of concern.

Time Frame of Inspections:	6/7/91 – 12/20/99***

***See attached log for weekly waste inspections sheets reviewed. Line items missing date, document number, sheet, revision, and title indicate missing records.

Items of Concern Noted (Circle) YES _ ___ NO _X__
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
DEC 31-JAN 4						
JAN 7TH						
JAN 14TH						
JAN 21TH						
JAN 28TH						
FEB 4TH						
FEB 11TH						
FEB 18TH						
FEB 25TH						
MAR 4TH						
MAR 11TH						
MAR 18TH						
MAR 25TH						
APRIL 1ST						
APRIL 8TH						
APRIL 15TH						
APRIL 22ND						
APRIL 29TH						
MAY 6TH						
MAY 13TH						
MAY 20TH						
MAY 27TH						
LOG-060791 [D197044429]	6/7/1991	LOG-060791	06/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JUNE 10TH						
LOG-062191 [D197044441]	6/21/1991	LOG-062191	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JUNE 24TH						
JULY 1ST						
JULY 7TH						
JULY 15TH						
LOG-072291 [D197044468]	7/22/1991	LOG-072291	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JULY 29TH						
AUG 5TH						
AUG 12TH						
LOG-082191 [D197044477]	8/21/1991	LOG-082191	08/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-082991 [D197044485]	8/29/1991	LOG-082991	08/29/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-090991 [D197044528]	9/9/1991	LOG-090991	09/09/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-091291 [D197044539]	9/12/1991	LOG-091291	09/12/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-092691 [D197044572]	9/26/1991	LOG-092691	09/26/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-100491 [D197044613]	10/4/1991	LOG-100491	10/04/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-101191 [D197044634]	10/11/1991	LOG-101191	10/11/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-102591 [D197044655]	10/25/1991	LOG-102591	10/25/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-110791 [D197044671]	11/7/1991	LOG-110791	11/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
NOV 11TH						
NOV 18TH						
NOV 25TH						
LOG-123091 [D197044751]		LOG-123091	12/30/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-120391 [D197044680]		LOG-120391	12/03/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-122791 [D197044725]		LOG-122791	12/27/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

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Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010692 [D197044757]		LOG-010692	01/06/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS & SATELLITE
LOG-011592 [D197044848]	01/15/1992	LOG-011592	01/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012492 [D197044895]	01/24/1992	LOG-012492	01/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012892 [D197044914]	01/28/1992	LOG-012892	01/28/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-020492 [D197044917]	02/04/1992	LOG-020492	02/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-021092 [D197044942]	02/10/1992	LOG-021092	02/10/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022192 [D197044953]	02/21/1992	LOG-022192	02/21/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022492 [D197044955]	02/24/1992	LOG-022492	02/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-030492 [D197044964]	03/04/1992	LOG-030492	03/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031192 [D197044988]	03/11/1992	LOG-031192	03/11/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031792 [D197044999]	03/17/1992	LOG-031792	03/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-032592 [D197045021]	03/25/1992	LOG-032592	03/25/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MARCH 30TH						
LOG-041492 [D197045025]	04/14/1992	LOG-041492	04/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-042992 [D197045027]	04/29/1992	LOG-042992	04/29/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MAY 4TH						
LOG-051592 [D197045032]	05/15/1992	LOG-051592	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-052792 [D197045035]	5/27/1992	LOG-052792	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060392 [D197044409]	06/03/1992	LOG-060392	06/03/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060992 [D197044251]	06/09/1992	LOG-060992	06/09/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-061792 [D197044297]	06/17/1992	LOG-061792	06/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-062392 [D197044302]	06/23/1992	LOG-062392	06/23/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070192 [D197044341]	07/01/1992	LOG-070192	07/01/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070892 [D197044353]	07/08/1992	LOG-070892	07/08/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-071492 [D197044373]	07/14/1992	LOG-071492	07/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072292 [D197044402]	07/22/1992	LOG-072292	07/22/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072992 [D197044191]	1992: JULY 29; AUG: 5, 10, 19, 25, SEPT: 1, 11, 18, 22, 30 OCT: 8, 13, 20, 27, NOV: 4, 11, 19, 25, DEC: 1, 9, 17, 21, 30	LOG-072992	07/29/1992	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
1993 JANUARY						
LOG-020593 [D197044227]	1993 FEB: 5, 11, 19, 24,	LOG-020593	02/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030393 [D197043351]	1993 MAR: 3, 11, 19, 25	LOG-030393	03/03/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040193 [D197043359]	1993 APRIL: 1, 7, 13, 23, 29	LOG-040193	04/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050693 [D197043361]	1993 MAY: 6, 10, 21, 28	LOG-050693	05/06/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060493 [D197043363]	1993 JUNE: 4, 11, 16, 25,	LOG-060493	06/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070193 [D197043364]	1993 JULY: 1, 8, 15, 22, 29	LOG-070193	07/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080593 [D197043369]	1993 AUG: 5, 11, 18, 24,	LOG-080593	08/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090293 [D197043390]	1993 SEPT: 2, 10, 16, 22, 30	LOG-090293	09/02/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100793 [D197043401]	1993 OCT: 7, 15, 21, 28,	LOG-100793	10/07/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-110493 [D197043403]	1993 NOV: 4, 10, 19, 23,	LOG-110493	11/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-120293 [D197043409]	1993 DEC: 2, 9, 15, 21, 30	LOG-120293	12/02/1993	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG SHEET

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Object Name	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010694 [D197043414]	1994: JAN: 6, 13, 20, 27	LOG-010694	01/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-020394 [D197043420]	1994 FEB: 3, 9, 17, 23,	LOG-020394	02/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030394 [D197043423]	1994 MAR: 3, 9, 15, 25	LOG-030394	03/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040194 [D197043426]	1994 APRIL: 1, 6, 14, 20, 26	LOG-040194	04/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050594 [D197043430]	1994 MAY: 5, 9, 17, 24, JUNE 1	LOG-050594	05/05/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060194 [D197043444]	1994 JUNE: 1, 7, 15, 23, 27,	LOG-060194	06/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070694 [D197043445]	1994 JULY: 6, 14, 19, 27,	LOG-070694	07/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080394 [D197043446]	1994 AUG: 3, 10, 16, 23,	LOG-080394	08/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090194 [D197043947]	1994 SEPT: 1, 7, 14, 19, 26,	LOG-090194	09/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100394 [D197043956]	1994 OCT: 3, 10, 17, 24, 31	LOG-100394	10/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET/ T PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MIXED WASTE
LOG-110794 [D197043970]	1994 NOVEMBER: 7, 14, 22, 28	LOG-110794	11/07/1994	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-120594 [D197044093]	1994 DECEMBER: 5, 14, 20, 28	LOG-120594	12/05/1994	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010395 [D197044125]	1995 JANUARY---1992 JAN: 8, 14, 22, 29,	LOG-010395	01/03/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
1995 FEB						
1995 MARCH						
1995 APRIL						
1995 MAY						
LOG-062195 [D197045039]	1995 JUNE: 20	LOG-062195	06/21/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-071995 [D197045042]	1995 JULY: 19, 27	LOG-071995	07/19/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-081595 [D197045045]	1995 AUGUST: 15, 23, 28	LOG-081595	08/15/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-091195 [D197045049]	1995 SEPTEMBER: 7, 11, 14, 19, 27	LOG-091195	09/11/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-100495 [D197045096]	1995 OCTOBER 2, 10, 18, 24	LOG-100495	10/04/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-110195 [D197045103]	1995 NOVEMBER: 1, 6, 15, 27	LOG-110195	11/01/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-121595 [D197045111]	1995 DECEMBER: 15, 19, 29	LOG-121595	12/15/1995	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-011596 [D197045115]	1996 JANUARY: 15, 22, 30	LOG-011596	01/15/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-020596 [D197045121]	1996 FEBRUARY: 5, 13, 23,	LOG-020596	02/05/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-030396 [D197045128]	1996 MARCH: 1, 8, 15, 20 AND 29	LOG-030396	03/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-040196 [D197045147]	1996 APRIL: 1, 8, 18, 26	LOG-040196	04/01/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-052896 [D197045163]	1996 MAY: 28	LOG-052896	05/28/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-060696 [D197045179]	1996 JUNE: 6, 12, 27,	LOG-060696	06/06/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 JULY						
1996 AUGUST						
LOG-090396 [D197045193]	1996 SEPTEMBER: 3, 23	LOG-090396	09/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 OCTOBER						
1996 NOVEMBER						
LOG-122396 [D197045213]	1996 DECEMBER: 23	LOG-122396	12/23/1996	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MISED WASTE/LOW LEVEL WASTE

1997 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Properties	Open	Document Nu	Document Date	Sheet	Revision	Title
DEC 30 THRU JAN 3							
JAN 6TH							
JAN 13TH							
JAN 20TH							
JAN 27TH							
FEB 3RD							
FEB 10TH							
FEB 27TH							
NA [D8724972]	Properties	Open	NA	02/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724970]	Properties	Open	NA	03/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724967]	Properties	Open	NA	03/11/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724966]	Properties	Open	NA	03/17/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724964]	Properties	Open	NA	03/24/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724804]	Properties	Open	NA	04/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723959]	Properties	Open	NA	04/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723954]	Properties	Open	NA	04/14/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723949]	Properties	Open	NA	05/01/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723948]	Properties	Open	NA	05/09/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723942]	Properties	Open	NA	05/16/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723941]	Properties	Open	NA	05/19/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723938]	Properties	Open	NA	05/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723935]	Properties	Open	NA	06/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723899]	Properties	Open	NA	06/16/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723902]	Properties	Open	NA	06/09/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723887]	Properties	Open	NA	06/23/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723362]	Properties	Open	NA	07/01/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
7/11/1997				**7/11/1997**			Kym Has - Copied from RHA box number: 149635
7/22/1997				**7/22/1997**			Kym Has - Copied from RHA box number: 149635
7/28/1997				**7/28/1997**			Kym Has - Copied from RHA box number: 149635
8/5/1997				**8/5/1997**			Kym Has - Copied from RHA box number: 149635
8/11/1997				**8/11/1997**			Kym Has - Copied from RHA box number: 149635
NA [D8723338]	Properties	Open	NA	08/18/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723333]	Properties	Open	NA	08/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723326]	Properties	Open	NA	09/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723317]	Properties	Open	NA	09/08/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723307]	Properties	Open	NA	09/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723196]	Properties	Open	NA	09/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723189]	Properties	Open	NA	09/30/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723186]	Properties	Open	NA	10/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723180]	Properties	Open	NA	10/13/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723174]	Properties	Open	NA	10/20/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723167]	Properties	Open	NA	10/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723126]	Properties	Open	NA	11/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723001]	Properties	Open	NA	11/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8722819]	Properties	Open	NA	11/20/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722815]	Properties	Open	NA	11/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722813]	Properties	Open	NA	12/05/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722810]	Properties	Open	NA	12/12/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722806]	Properties	Open	NA	12/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722801]	Properties	Open	NA	12/23/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
DEC 30TH							
NA [D8721807]	Properties	Open	NA	05/01/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	Properties	Open	NA	05/08/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	Properties	Open	NA	05/15/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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Object Name/WEEK OF	Properties	Open	Document Nı	Document Date	Sheet	Revision	Title
NA [D8721798]	Properties	Open	NA	05/22/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	Properties	Open	NA	05/29/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	Properties	Open	NA	06/05/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722692]	Properties	Open	NA	06/12/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722688]	Properties	Open	NA	06/19/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722682]	Properties	Open	NA	06/26/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722670]	Properties	Open	NA	07/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722666]	Properties	Open	NA	07/10/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722659]	Properties	Open	NA	07/17/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722651]	Properties	Open	NA	07/24/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722640]	Properties	Open	NA	07/31/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722637]	Properties	Open	NA	08/07/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722635]	Properties	Open	NA	08/14/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722631]	Properties	Open	NA	08/21/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722627]	Properties	Open	NA	08/28/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8732454]	Properties	Open	NA	09/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	Properties	Open	NA	09/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722618]	Properties	Open	NA	09/18/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722617]	Properties	Open	NA	09/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722614]	Properties	Open	NA	10/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	Properties	Open	NA	10/09/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722606]	Properties	Open	NA	10/16/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722594]	Properties	Open	NA	10/23/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	Properties	Open	NA	10/30/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722585]	Properties	Open	NA	11/06/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722577]	Properties	Open	NA	11/13/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722571]	Properties	Open	NA	11/20/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	Properties	Open	NA	11/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722345]	Properties	Open	NA	12/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	Properties	Open	NA	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 271T

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]

1998 Daily Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 27

1999 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676426]	01/04/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/10/1999 [ALSO 271T BLDG]
NA [D8676427]	01/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/17/1999 [ALSO 271T BLDG]
NA [D8676425]	01/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/24/1999 [ALSO 271T BLDG]
NA [D8676424]	01/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/31/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676413]	02/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/21/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676409]	03/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/07/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676404]	03/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/21/1999 [ALSO 271T BLDG]
NA [D8676401]	03/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/28/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676390]	04/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/18/1999 [ALSO 271T BLDG]
NA [D8676387]	04/19/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/25/1999 [ALSO 271T BLDG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676370]	05/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/16/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676361]	06/01/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676336]	06/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/20/1999 [ALSO 271T BLDG]
NA [D8676298]	06/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/26/1999 [ALSO 271T BLDG]
NA [D8676297]	06/28/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676296]	07/08/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676292]	07/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/25/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676286]	08/16/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/22/1999 [ALSO 271T BLDG]
NA [D8676285]	08/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/29/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676277]	10/11/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676276]	10/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1999 [ALSO 271T BLDG]
NA [D8676275]	10/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1999 [ALSO 271T BLDG]
NA [D8676274]	11/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1999 [ALSO 271T BLDG]
NA [D8676271]	11/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1999 [ALSO 271T BLDG]]
NA [D8676267]	11/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1999 [ALSO 271T BLDG]
NA [D8676257]	11/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676264]	11/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676255]	12/06/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]

T-Plant Weekly and Daily Dangerous Waste Inspection Checklist Review

Title(s) of Daily Waste Inspection Form:	Treatment Facility Waste Management Area Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet
Date of Review:	8/26/2013
Reviewer's Name:	Stephanie Johansen, Don Craig
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Time Frame of Daily Inspections:	January 2000-December 2002, January 2005-December 2007
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:

Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:

Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date:

Stephanie H Johansen 08/27/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily and Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form: Waste Management Area Daily Inspection Report

Weekly Waste Area Surveillance

Date of Weekly Waste Inspection Review: 8/28/13

Initial Reviewer's Name: Jeff Bramson

Final Reviewer's Name: Lana Strickling

Waste Management Units: 271-T Cage, 221T R5, 277-T, 211-T Pad (WSA)
*Note: 277-T not identified on 2004 waste inspection sheets.

Time Frame of Inspections: 2003-2004

Items of Concern Noted (Circle) YES _X__ NO ___
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

On 6/30/03, a 5-gallon plastic container of product, Insulkote, was identified as leaking in the 271-T Cage. There is no logbook entry denoting amount spilled. A waste designation was performed on 9/10/13 on the product as part of the records review. The waste is designated as a WP03 based on the chemical product designation. Waste designation is attached.

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

On 6/30/03, NCO rewrapped and cleaned up leakage. An MSDS was submitted to the waste management representative for designation and disposal instructions. No information was located on final disposition.

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2708T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.4 Area free of combustible debris (WAC 173-303-340)	✓	✓	✓	X (3)	✓	✓	X (2)	✓	✓	✓	✓	✓
6.1.5 Minimum 20-ft separation with no combustibles between fuel packages (Canyon, Tunnel and 2706-T facility)		✓										
6.1.6 Larger combustible items (> 256 cu. ft.) posted for separation requirements		✓										
6.1.7 Minimum 5-ft separation with no combustibles maintained between fuel packages (Canyon, Tunnel, and 2706-T facility)		✓										
6.1.8 30-ft area around outdoor waste management area free of combustible debris			✓	✓			✓	✓		✓	✓	✓
6.1.9 Fire lanes and inspection aisles ≥ 30" wide and free of obstruction (WAC 173-303-340)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.13 Containment systems dry and free of cracks, gaps, or other deterioration (WAC 173-303-630 (7)(g)(i))	✓	✓	✓	✓	✓	✓	X (4)	✓	✓	✓	✓	
6.1.15Containers elevated or otherwise protected from accumulated liquids (WAC 173-303-630 (7)(c)(ii)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.16 Barricades in place and in good condition (WAC 173-303-200 (2)(a))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.18 Area postings in place, legible, and in good condition (WAC 173-303-200(1)(d))	✓	X (1)	X (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.19 Containers free of deterioration and show no sign of leakage (WAC 173-303-630 (2))	✓	✓	✓	✓	✓	✓	✓	✓	X (5)	✓	✓	✓
6.1.22 Containers closed and show no evidence of leakage (e.g., moisture, or stains on the side or underneath) (WAC 173-303-630 (5)(a))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source Document: DO-040-016
Last Printed 1/24/03 5:17 PM

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.23 Containers stored in a way that will not result in rupture or damage (WAC 173-303-630 (5)(b))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.25 Container labeling and markings are intact, unobscured, legible, complete, and in good condition (WAC 173-303-630 (3))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.26 TSCA regulated PCB containers labeled with a PCB label and a "Removed from Service" date (40 CFR 761)	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓	✓
6.1.31 Incompatible wastes segregated (WAC 173-303-630 (9)(c))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.32 Waste accumulation container has inventory attached or available	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.33 Drums stored in rows no more than 2 drums wide with an aisle space ≥ 30 inches (WAC 173-303-630 (5)(c))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.35 Inspector's initials and date and time area inspected	RBB 7-1-03 0840	RBB 6-30-03 1040	RBB 6-30-03 1400	RBB 6-30-03 1100	RBB 6-30-03 1540	RBB 6-30-03 0940	RBB 6-30-03 0900	RBB 6-30-03 0830	RBB 6-30-03 1500	RBB 6-30-03 0815 7-1-03 0730	RBB 6-30-03 1310	RBB 6-30-03 1120
6.1.37 General facility housekeeping of areas where waste is stored.	✓	✓	✓	(X)	✓	✓	(X)	(X)	✓	✓	✓	✓

★ NOTE: Any items marked with an "X", on the above checklist, require corrective action. Document corrective action(s) on inspection finding and corrective action data sheet.

RBB 7-1-03

Pat Brannoch Pat Brannoch
Inspector's Printed Name and Signature

6-30-03 7-1-03
Date

NA
Inspector's Printed Name and Signature

Date

NA
Inspector's Printed Name and Signature

Date

Tina H. Crea
Supervisor Printed Name and Signature

7-2-03
Date

Source Document: DO-040-016
Last Printed 1/24/03 6:17 PM

Waste Management Area Inspection Finding and Corrective Action Sheet

Inspection for Week of: 6-30-03

Findings for (circle one): Daily Inspection (Weekly Inspection)

	INSPECTION FINDING	CORRECTIVE ACTION/DATE
①	6.1.37. 5 gal Plastic Container with MSDS 11339 ~~has~~ need to be put away	NCO rewrapped & cleaned up leakage. Submitting MSDS to WMR for designation and disposal instructions. gMC
④	6.1.4 Turnbuckle in weeds in area 6.1.37 need sweep up	~~to~~ Housekeeping shall be assigned. gMC
⑤	6.1.18 2706 T Yard 0007144 need ~~3~~ in ~~to~~ red material ~~stickers~~ on box	never used material sticker put on box ✓
⑥	6.1.4. ~~was~~ the pipe box Together at the TSD Pad and Plastic worm on ground.	NCO corrected these issues. gMC
⑦	6.1.18 Label need replace and removed and was 22T-01-000147, 9408426, 9403041, 9517101, 22T-01-000150 9800293, 97000410 on 2706 T Pad	NCO completed next business day gMC

Comments continue on back

Patrick S Brummett
Operator Signature

Patrick L Brummett
Printed Name

6-30-03 661-0
Date

Supervisor Signature

Tina M. Crane
Printed Name

7-2-03
Date

Source Document: DO-040-016
Last printed 1/2/01 7:28 AM

H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Product Name: INSULKOTE ET; INSULKOTE PRIMER "E"
Manufacturer: SCHULLER INTERNATIONAL INC.
MSDS Date: 06/14/95
Input By: GC TRINER
Revised By: SM STEELE
Entry Date: 02/26/91
Revised Date: 08/07/01
Physical State: Liquid
Density: 1
Active?: Y
pH: 7
Flashpoint: N/A C
Reactivity: STABLE, INCOMPATIBLE WITH STRONG OXIDIZERS
Description:
Product Usage: COATING (AN EMULSION PRODUCT), ASPHALT

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
1302-78-9	BENTONITE	3.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
67-63-0	ISOPROPYL ALCOHOL	2.0000000	.0002000	D	~~EL~~	NA	NA	N		

Listed/TC Codes(limit mg/l) — Reactivity

~~D001~~; ~~WT02~~ JMK 9/10/13

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
7732-18-5	WATER	48.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
8052-42-4	ASPHALT	50.0000000	.0000000	N	NA	NA	PAH	N		

Listed/TC Codes(limit mg/l) — Reactivity

WP03

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	4.0000000	.0000000	N	NA	NA	NA	N		

(1) Does not exhibit dangerous waste characteristic per MSDS.
(2) Does not meet dangerous waste criteria due to insufficient concentration.
JMK 9/10/13

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H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Sum of Weight%: 107.0000000

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	NA
* OXIDIZER	D001 DW	
pH <=2 or >= 12.5 (Liquids)	D002 DW	
(Solids Only)	WSC2 DW	
Reactive	D003 DW	

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .0002000

No data or EC% < .001	Non-Reg	NA
EC% >=.001 & <1	WT02 DW	
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .0000000 Total PAH%: 50.0000000

No HOC/PAH or below limits Non-Reg		NA
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	
PAH% > 1%	WP03 EHW	✓

Toxicity Characteristic WAC 173-303-090-8

TC CODES: NA

MATERIAL USED AS SOLVENTS: NA

APPLICABLE WASTE CODES: WP03

APPLICABLE LDR CODES:

WASTE CLASS: EHW

COMMENTS: Designation provided at ECO request, from suspected leak at TPlant in 2003. No other information provided. Book designation based on MSDS.

Designation Specialist: JM Kisielnicki (Print Name) JM Kisielnicki (Signature) 9/10/13 (Date)

09/10/2013 07:45:10 AM

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 2706-T TSP, 221-T Pad, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	October 18, 2007 - December 31, 2007
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2008 - December 28, 2008
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 8, 2009 - December 31, 2009
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2010 - December 30, 2010
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2011 - December 29, 2011
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 4, 2012 - December 28, 2012
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

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T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	September 4, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 3, 2013 - June 12, 2013*

*June 12, 2013 was the last complete weekly inspection record on IDMS as of September 4, 2013.

Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐	NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA	
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA	
Reviewer's Signature and Date:	Paul W. Martin 9/4/13	

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

Attachment B
T-Plant 221 R5 Waste Storage Area
Sampling Plan Supporting Documentation

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

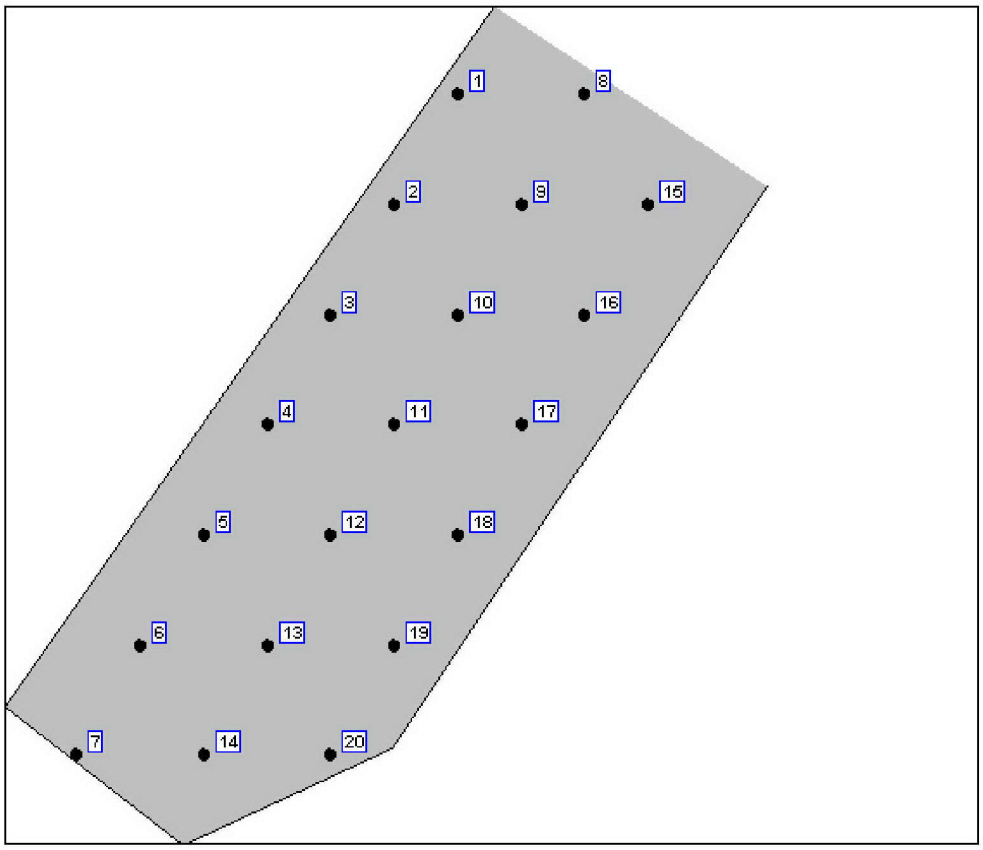
Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	1819.67 ft^2
Size of grid / Area of grid cell [d]	10.2498 feet / 90.9837 ft^2
Grid pattern	Triangular
Total cost of sampling [e]	$0.00

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.
[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.
[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.
[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.
[e] Including measurement analyses and fixed overhead costs. See the Cost of Sampling section for an explanation of the costs presented here.



Area: 221-T R-5 Waste Storage Area					
X Coord	Y Coord	Label	Value	Type	Historical
567598.9614	136860.8021	7		Systematic	
567609.2112	136860.8021	14		Systematic	
567619.4610	136860.8021	20		Systematic	
567604.0863	136869.6787	6		Systematic	
567614.3361	136869.6787	13		Systematic	
567624.5859	136869.6787	19		Systematic	
567609.2112	136878.5553	5		Systematic	
567619.4610	136878.5553	12		Systematic	
567629.7108	136878.5553	18		Systematic	
567614.3361	136887.4319	4		Systematic	
567624.5859	136887.4319	11		Systematic	
567634.8358	136887.4319	17		Systematic	
567619.4610	136896.3086	3		Systematic	
567629.7108	136896.3086	10		Systematic	
567639.9607	136896.3086	16		Systematic	
567624.5859	136905.1852	2		Systematic	
567634.8358	136905.1852	9		Systematic	
567645.0856	136905.1852	15		Systematic	
567629.7108	136914.0618	1		Systematic	
567639.9607	136914.0618	8		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

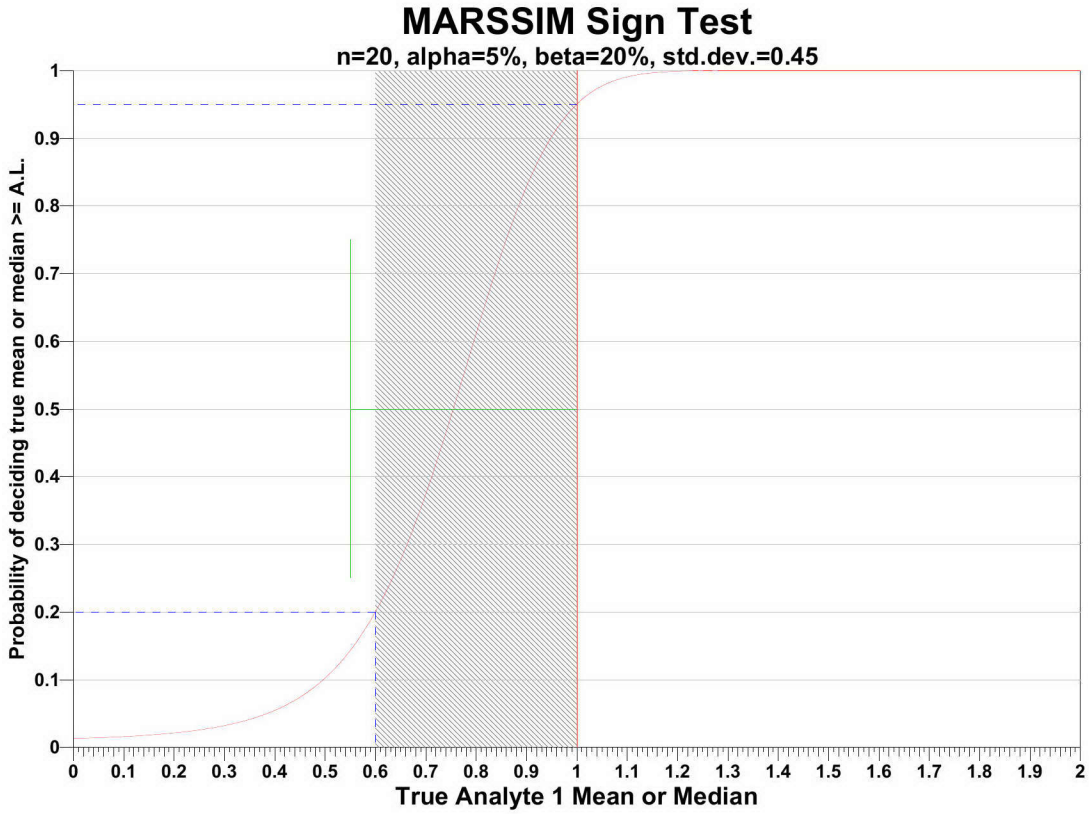
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of

gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.E Appendix E - 277-T Outdoor Storage Area

E1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 277-T Outdoor Storage Area dangerous waste management unit (277-T Outdoor Storage Area). The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the Environmental Protection Agency (EPA) to close this dangerous waste management unit (DWMU). The closure will be performed in accordance with the included schedule. This closure plan complies with Washington Administrative Code (WAC) 173-303-610(2) through WAC 173-303-610(6) and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

E1.1 Unit Description

The 277-T Outdoor Storage Area is located west of 221-T Canyon Facility and north of the 221-T Tunnel. The 277-T Outdoor Storage Area was previously used for storing containers of various sizes and volumes, and a variety of waste streams to ensure adequate capacity and operational flexibility to support T-Plant activities. The 277-T Outdoor Storage Area consists of two uncoated concrete pads and a gravel area surrounding the 277-T building. The 277-T Outdoor Storage Area is 29 m (32 yd) on the south side by 29 m (32 yd) on the west side by 44 m (49 yd) on the north side by 29 m (32 yd) on the east side for a total approximate area of 1,081 m^2 (1,293 yd^2) (Figure E-1 and Figure E-2). The 277-T building is not included in this closure plan.

277-T Outdoor Storage Area does not currently store dangerous, mixed or TSCA-PCB waste. Future storage of dangerous, mixed or TSCA-PCB waste is not authorized within the 277-T Outdoor Storage Area dangerous waste management unit (DWMU). The 277-T Outdoor Storage Area is located near the 221-T Canyon facility, which is part of a the Canyon Disposition Initiative (CDI) (Tri-Party Agreement (TPA) Section 6, *Treatment Storage and Disposal (TSD) Process*, and TPA Section 8, *Facility Disposition*). The strategy for the entire T-Plant Complex is a coordinated closure for both the RCRA closing units and the CDI activities. The 277-T Outdoor Storage Area is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during the CDI activities for the T-Plant Complex.

> TPA Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e. g. removal of structural components).*

E1.1.1 Maximum Waste Inventory

No permitted RCRA waste container storage was identified during the T-Plant operating records review. Therefore, no maximum waste inventory is presented. Weekly inspection records of <90-Day and satellite accumulation area (SAA) identified that 277-T Outdoor Storage Area stored non-dangerous, dangerous,

mixed and TSCA-PCB waste.

Figure E-1. T-Plant Complex OUG 277-T Outdoor Storage Area

Figure E-2. T-Plant Complex OUG 277-T Outdoor Storage Area

E2 Closure Performance Standard

Closure performance standards for the 277-T Outdoor Storage Area will be based on requirements found in WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure," which require closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity

These performance standards are addressed in the Sections A2.1 and A3.13 of this closure plan.

E2.1 Clean Closure Levels

The 277-T Outdoor Storage Area will be clean closed using clean closure levels required for soil. However, confirmation sampling of clean closure levels will not be performed until the T-Plant Complex CDI is initiated. In accordance with WAC 173-303-610(2)(b)(i) for soil, the clean closure levels will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the *Model Toxics Control Act* (MTCA) (WAC 173-340, "Model Toxics Control Act—Cleanup") cleanup regulations (WAC 173-340-700 through -760, excluding WAC 173-340-745). These numeric cleanup levels will be calculated according to the MTCA Method B unrestricted use standards current at the time of closure.

Sampling and analysis will verify clean closure for the 277-T Outdoor Storage Area. Sampling and analysis of the 277-T Outdoor Storage Area will occur in conjunction with the CDI activities for the T-Plant Complex OUG. If sampling and analysis activities indicate contamination above the MTCA Method B unrestricted use standards, potential remediation or decontamination would be incorporated with the cleanup activities. Any required changes to this closure plan and the included sampling and analysis plan (SAP) will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

E3 Closure Activities

As a storage unit, clean closure determination for 277-T Outdoor Storage Area is based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 211-T Pad is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with the CDI activities. Final verification sampling of the clean closure will be performed during the T-Plant Complex cleanup activities consistent with the CDI. Sampling of the concrete pads and gravel will be conducted via a SAP (Section E3.10) to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities required to achieve and verify clean closure are as follows:

- Remove all dangerous, mixed or TSCA-PCB waste inventory. (Completed. See Section E3.2.)
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage. (Completed. See Section E3.3.)
- Perform a visual inspection of the concrete pads and surface gravel. (Completed. See Section E3.3.)
- Add 277-T Outdoor Storage Area to the Waste Information Data System (WIDS) Database. (See Section E3.8.)

Extended closure activities include:

- Sampling and analysis to confirm *Resource Conservation and Recovery Act of 1976* (RCRA) clean closure standards in coordination with the CDI activities for the T-Plant Complex OUG.

E3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, *Personnel Training,* and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided and includes the following:

- Training to provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed

- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

E3.2 Removal of Wastes and Waste Residues

The 277-T Outdoor Storage Area does not currently store dangerous, mixed or TSCA-PCB waste. Waste management records indicate that dangerous, mixed, and TSCA-PCB waste has been previously stored in the 277-T Outdoor Storage Area under <90-day and satellite accumulation area storage only. After the near-term RCRA closure activities are complete, the 277-T Outdoor Storage Area will not be used for dangerous, mixed or TSCA-PCB waste storage. The 277-T Outdoor Storage Area is in a safe configuration, and will be tracked in WIDS until verification sampling performed under the SAP occurs.

E3.3 277-T Outdoor Storage Area Records Review and Visual Inspection

To support the development of this closure plan and the SAP, a review of the T-Plant Complex OUG operating records was completed (Table E-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, and TSCA-PCB waste storage for the T-Plant Complex OUG Outdoor Container Storage Areas addressed under the T-Plant Complex OUG Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated no releases of dangerous, mixed or TSCA-PCB waste occurred in the 277-T Outdoor Storage Area.

Waste management records indicate that dangerous, mixed and TSCA-PCB waste has been previously stored in the 277-T Outdoor Storage Area.

A visual inspection was performed on August 29, 2013 to identify any dangerous waste related staining in the 277-T Outdoor Storage Area. No waste related staining was identified during the visual inspection therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection are documented in Attachment A and include the T-Plant Daily Operating Logbook Review sheet, T-Plant Operation Logbook Review sheet, , the T-Plant Daily Dangerous Waste Inspection Checklist Review sheet, Summary of T-Plant Weekly Dangerous Waste Inspection Checklist Review sheet, T-Plant Complex 277-T Outdoor Container Storage Area visual inspection sheet, and any additional supporting information.

E3.4 Unit Components, Parts, and Ancillary Equipment

The 277-T Outdoor Storage Area will not be removed as part of the near-term closure activities. The concrete pads and gravel will remain in place pending the final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG. No dangerous, mixed or TSCA-PCB waste will be stored at the 277-T Outdoor Storage Area.

E3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for 277-T Outdoor Storage Area.

E3.6 Decontamination

Decontamination activities are not planned for 277-T Outdoor Storage Area.

E3.7 Identifying and Managing Contaminated Environmental Media

Should contaminated media be identified as a result of the confirmation sampling, the contaminated materials will be addressed under the CDI activities and managed as appropriate. As necessary, treatment or disposal of the resulting waste will be performed at an approved treatment, storage, and disposal facility.

E3.8 Addition of 277-T Outdoor Storage Area to the WIDS Database

As part of the near-term closure activities, the 277-T Outdoor Storage Area will be added to the WIDS database. Addition of the 277-T Outdoor Storage Area to the WIDS database will help ensure that the 277-T Outdoor Storage Area is monitored and controlled until the extended closure activities are completed verification sampling is completed.

The addition of the 277-T Outdoor Storage Area to the WIDS database will ensure that no unauthorized activity takes place at the 277-T Outdoor Storage Area (i.e., waste storage, excavation).

E3.9 Confirming Clean Closure

The 277-T Outdoor Storage Area will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. In addition to the records review, a visual inspection of the 277-T Outdoor Storage Area was performed to identify any dangerous waste-related staining of the storage area pad. Both the records review and visual inspection are detailed in Section E3.3 and documented in Attachment A.

All dangerous, mixed and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous or mixed waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During the CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 277-T Outdoor Storage Area. Sampling and analysis of the 277-T Outdoor Storage Area concrete pads and gravel will occur to confirm that cleanup standards for soil have been achieved.

E3.10 Sampling and Analysis and Constituents to Be Analyzed

E3.10.1 Sampling and Analysis Plan

The final clean closure verification sampling for the 277-T Outdoor Storage Area will occur in conjunction with the T-Plant CDI cleanup activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP and in conjunction with the CDI activities for the T-Plant Complex OUG. Sampling and analysis of the concrete pads and gravel of the 277-T Outdoor Storage Area will be conducted to confirm that clean closure levels have been achieved. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*;

the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements of SW-846, the ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

E3.10.2 Target Analytes

Waste management records indicated that dangerous, mixed, and TSCA-PCB waste has been stored on the 277-T Outdoor Storage Area. The target analytes for evaluation during closure sampling and analysis were determined by reviewing the waste management records of the dangerous, mixed or TSCA-PCB waste stored on the 277-T Outdoor Storage Area. Table E-2 provides the target analyte list.

E3.10.3 277-T Outdoor Storage Area SAP Schedule

Confirmation closure sampling and analysis will be performed during the extended closure activities in conjunction with the T-Plant Complex OUG cleanup under the CDI activities.

E3.10.4 277-T Outdoor Storage Area Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

E3.10.5 Sampling Design

Concrete chip or core samples, and gravel and soil grab samples will be taken at predetermined sample locations. Sample locations were determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The 277-T Outdoor Storage Area length and width were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, the VSP software determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by the VSP software and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by the VSP software, and the subsequent nineteen sample locations were assigned by the VSP software using a triangular grid sampling method. Supporting documentation for the VSP software sampling designations are documented in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented dangerous, mixed or TSCA-PCB waste has been released to 277-T Outdoor Storage Area, and no waste related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

E3.10.6 Sampling Methods and Handling

The concrete pad sample matrix will consist of concrete collected in pre-cleaned sample containers taken at a depth of no more than 2.54 cm (1 in.) below the surface of the concrete, unless staining or discoloration indicates contamination is below that depth. Concrete chip or core samples will be collected directly into containers at the chosen sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

The gravel and soil sample matrix will consist of gravel and soil collected in pre-cleaned sample containers taken at a depth of no more than 0-15.24 cm (0-6 inches) below ground surface, unless staining or discoloration indicates contamination is below that depth. For the purpose of this SAP, ground surface is defined as the exposed surface layer once loose gravel has been moved aside. To gather the greatest representative sample media, loose gravel will be moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil is sampled, the sampled media will be screened to remove material larger than approximately 2 mm (0.08 in) in diameter.

Sample container, preservation, and holding time requirements are specified in Table E-3 for concrete and soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and the chain-of-custody form.

Table E-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	277-T OSA	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	277-T OSA	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	277-T OSA	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	277-T OSA	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	277-T OSA	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	277-T OSA	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	277-T OSA	2003	2004	Yes[a]
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	277-T OSA	10/18/2007	06/12/2013	No

N/A = not applicable

a = A container of Insulkote was leaking. Product was determined to be non-regulated material.

OSA = Outdoor Storage Area

Table E-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Ethyl benzene (F003)	100-41-4
Barium (D005)	7440-39-3	Ethyl ether (F003)	60-29-7
Cadmium (D006)	7440-43-9	Methanol (F003)	67-56-1
Chromium (Hexavalent) (D007)	18540-29-9	Methyl isobutyl ketone (F003)	108-10-1
Lead (D008)	7439-92-1	Xylene (F003)	1330-20-7
Mercury (D009)	7439-97-6	o-Cresol (F004)	95-48-7
Selenium (D010)	7782-49-2	Benzene, nitro (F004)	98-95-3
Silver (D011)	7440-22-4	Pyridine (F005)	110-86-1
Benzene (D018) (F005)	71-43-1	2-nitropropane (F005)	79-46-9
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Carbon disulfide (F005) (P022)	75-15-0
Chloroform (D022)	67-66-3	Isobutanol (F005)	78-83-1
2,4-Dinitrotoluene (D030)	121-14-2	2-ethoxyethanol (F005) (U359)	110-80-5
Hexachoroethane (D034)	67-72-1	Toluene (F005)	108-88-3
Methyl ethyl ketone (MEK) (D035)(F005)	78-93-3	Acetaldehyde (I) (U001)[a]	75-07-0
Pentachlorophenol (D037)	87-86-5	Acetyl chloride (C,R,T)(U006)[b]	75-36-5
Tetrachloroethylene (D039) (F001) (F002)	127-18-4	Dichloroethyl ether (U025)	111-44-4
Trichloroethylene (D040)(F001)(F002)	79-01-6	1-Butanol (I) (U031)	71-36-3
Vinyl chloride (D043)	75-01-4	1,4-Diethyleneoxide (U108)	123-91-1
1,1,1-Trichloroethane (F001) (F002) (U226)	71-55-6	Ethane, 1,1′-oxybis-(I) (U117)	60-29-7
Chlorinated fluorocarbons (F001) (F002)	N/A	Formic acid (C,T) (U123)	64-18-6
Methylene chloride (F001) (F002)	75-09-2	2-Butanone, peroxide (R,T) (U160) [b]	1338-23-4
Chlorobenzene (F002)	108-90-7	Phosphorus pentasulfide (R)(U189)[b]	1314-80-3

1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Furan, tetrahydro-(I) (U213) [b]	109-99-9
Ortho-dichlorobenzene (F002)	95-50-1	Cyanides (soluble cyanide salts), not otherwise specified (P030)	57-12-5
1,1,2-trichloroethane (F002)	79-00-5	Acetaldehyde, chloro- (P023) [b]	107-20-0
Acetone (F003)	67-64-1	Copper cyanide (P029) (as Cyanide)	544-92-3
N-butyl alcohol (F003)	71-36-3	Potassium cyanide (as Cyanide) (P098)	151-50-8
Cyclohexanone (F003)	108-94-1	Sodium cyanide (as Cyanide) (P106)	143-33-9
Ethyl acetate (F003)	141-78-6	Vanadium oxide V2O5 (P120)	1314-62-1
		Polychlorinated biphenyls (PCBs) (Arochlors)	1336-36-3

a. Acetaldehyde is analyzed as a gas not as a solid. Acetaldehyde will not be analyzed.

b. There are no previous records of analysis for this on the Hanford Site. The CAS number is not listed in the CLARC tables.

To prevent potential contamination of the samples, care will be taken to use decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary, depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling Authorization Form
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)
- Sample authorization form number

In addition to the information above, sample records must include the following:

- Sample location
- Matrix (water, soil, etc.)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure the maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure sample integrity is maintained.

All waste generated by sampling activities will be managed in accordance with applicable regulations.

E3.10.7 Analytical Methods

All analyses and testing will be performed consistent with laboratory agreements, laboratory analytical procedures, and *HASQARD*. The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above the clean closure level but less than the PQL of the analytical method, the Washington State Department of Ecology will be notified and alternatives will be discussed to demonstrate clean closure levels.

Table E-4 outlines analytical methods and performance requirements associated with the target analytes.

E3.10.8 Quality Control

The QC procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table E-5.

Table E-3. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl (PCB)	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Table E-3. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size

Notes:

For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*

For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days
aG = amber glass
G = glass
P = plastic

E3.10.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed .to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data is processed, resolution of those issues will be initiated.

The format and requirements for data validation activities are based upon the most current version of *National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA-540-R-08-01 [OSWER 9240.1-48]) and *National Functional Guidelines for Inorganic Superfund Data Review* (USEPA-540-R-10-011 [OSWER 9240.1-51]). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process, EPA/240/B-06/002, Data Quality Assessment: A Reviewer's Guide, EPA QA/G-9R, and EPA/240/B-06/003, Data Quality Assessment: Statistical Methods for Practitioners, EPA QA/G-9S.

E3.10.10 Documents and Records

The Project Manager is responsible for ensuring the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to DOE and the lead regulatory agency.

Table E-4. Concrete and Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]

Table E-4. Concrete and Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-Trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol	SW-846 Method 8260	N/A	8000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4000	0.66	N/A[c]	≤20

Table E-4. Concrete and Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-carcinogen			
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	32,000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
1336-36-3	Polychlorinated biphenyl (PCB)	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure Performance Standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the Model Toxics Control Act (MTCA) Cleanup Regulation (WAC 173-340-740, -747, -and -7490 through -7494). These numeric clean-up levels will be calculated according to MTCA Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the Required Detection Limit and the Practical Quantification Limit are identical.

N/A = not applicable

na = information not available

Table E-5. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated
Field QC		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed If only disposable equipment is used then an equipment blank is not required. Otherwise, one per 20 samples per media [a]	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples [b])	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory QC[h]		
Method Blanks	1 per batch[h]	Laboratory Contamination
Lab Duplicates	[c]	Laboratory Reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate Laboratory Accuracy
Performance Evaluation Programs[d]	Annual	Evaluate Laboratory Accuracy
Double-Blind Standards	Quarterly[e]	Evaluate Laboratory Accuracy
Audit/Assessment	Annually[f] or Every 3 years[g]	Evaluate overall laboratory performance and operations

Table E-5. Project QC Sampling Summary

QC Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempted from duplicate sampling.

c. As defined in the laboratory contract or QA plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE QSAS requires annual audit of commercial laboratories.

g. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

QA = Quality assurance.

QC = Quality control.

VOC = Volatile organic compound.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook and only authorized persons may make entries in logbooks. Logbooks will be signed by the FWS, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following:

- Analytical logbooks
- Raw data and QC sample records

- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

E3.10.11 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830.

E3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered professional engineer will be retained to provide certification of the closure, and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

E3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 277-T Outdoor Storage Area DWMU, a certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the department by registered mail. The certification will be signed by the owner or operator and by an independent qualified registered professional engineer.

E3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 277-T Outdoor Storage Area will remain in an "as-is" state with the concrete pads and gravel remaining in place. The 277-T Outdoor Storage Area will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 277-T Outdoor Storage Area DWMU from the sitewide permit active DWMUs.

E4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 277-T Outdoor Storage Area to the WIDS database will be completed within 180-days of approval of the closure plan. This DWMU is located near the T-Plant Canyon building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).

Section 11.0, Coordination of Closure and Corrective Action or Other Cleanup Activities of Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities*, allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for closure of the 277-T Outdoor Storage Area to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions

are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities in accordance with WAC 173-303-610(4)(c) and a separate extension request will not be filed (Figure E-3).

E5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

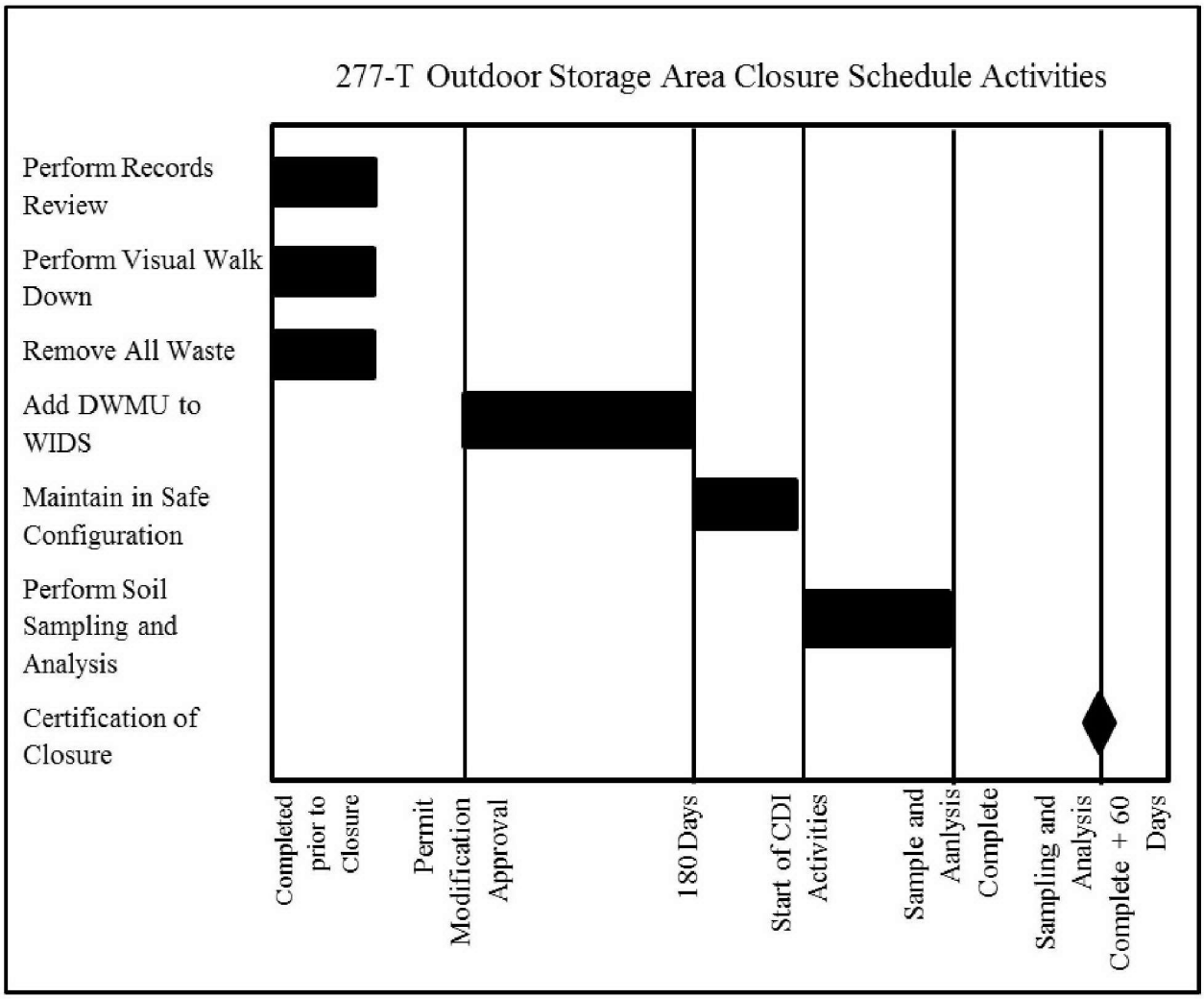

Figure E-3. 277-T Outdoor Storage Area Closure Schedule Activities

Attachment A

T-Plant 277-T Outdoor Storage Area RCRA Records Review and Visual Inspection Supporting Documentation

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T Plant Complex 277-T Outdoor Container Storage Area

Purpose:

A visual inspection walkdown of the T Plant Complex 277-T Outdoor Container Storage Area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from ongoing and past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface (i.e., asphalt and concrete), and to denote any remaining waste related items.

The inspection was performed on August 29, 2013 by Brett M. Barnes (CHPRC) Environmental Compliance Officer.

Results:

Stains from rusting equipment was observed on the concrete pad and the asphalt pad (see attached photographs). Area was thoroughly photographed.

Some items were observed in the 277-T Outdoor Container Storage Area:

- Metal posts
- Wire roping and radiological postings
- White road paint for striping
- ERDF roll-off/roll-on box (actively used for accumulation of low-level waste)
- Pieces of tumbleweeds
- Loose gravel

Housekeeping will be performed on the area prior to closure.

Signature/Date:

Brett M. Barnes: Brett M Barnes 9/3/13

Strickling, Lana R

From: Barnes, Brett M
Sent: Tuesday, September 03, 2013 1:34 PM
To: Horn, Sarah R; Strickling, Lana R
Cc: Engelmann, Richard H; Dixon, Brian J; Ruck, Fred A III; Seaver, Jennie R
Subject: REVISED T PLANT COMPLEX 277-T OUTDOOR CONTAINER STORAGE AREA CLOSURE INSPECTION REPORT
Attachments: SPDQ0638013090313013.pdf

All, please ignore my previous closure inspection reports...I had to correct some editorial comments.

Attached is the closure inspection report for the T Plant Complex 277-T Outdoor Container Storage Area. The photographs that are attached to this report are directly below, in descending order. Should you have any questions, please call me on my cell phone, 521-3053.

Brett M. Barnes
Environmental Compliance Officer

1

08 29 2013 13 33

T-Plant Daily Operating Log Book Review

Waste Management Units:	271-T Cage, 211-T Pad, 222-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Date of Log Book Review:	8/15/13 – 8/26/13
Reviewer's Names:	Joel Williams, Brett Barnes, Brian Dixon, Jeff Bramson, Joe Archuleta, Patrick Baynes, Don Craig, Lana Strickling
Daily Operating Log Book Document No:	See attached.
Log Book Timeframe (Month/Year to Month/Year):	1/2/85 – 6/22/10
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES____ NO__X__
Items of Concern: Attach copies of log book pages noting concern.	_____ _____ _____ _____
Log Book Page# Referencing Spill:	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of log book pages noting corrective actions.	_____ _____ _____ _____
Log Book Page# Referencing Corrective Action:	_____ _____ _____ _____
Reviewer's Signature and Date:	Lana Strickling 9/16/13

Instructions:

Review Daily Operating Log for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for the entire year, the "Log Book Time Frame" can be January 1, 20xx to December 31, 20xx.

If unplanned spills, releases or discharges are referenced in the Daily Operating Log, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of the Daily Operating Log page(s) noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	01/02/87	12/31/85	135357
	01/02/86	12/31/86	135357
	01/02/87	12/31/87	135357
	01/04/88	12/30/88	135357
Operations Log	01/03/89	12/29/89	149634
Operations Log	01/02/90	01/02/91	149634
Operations Log	01/02/91	01/16/91	149634
	01/16/91	06/04/91	141785
	06/06/91	10/23/91	141785
	10/24/91	03/12/92	141785
	03/13/92	07/13/92	141785
	07/14/92	10/16/92	141785
	10/17/92	01/21/93	141785
	01/21/93	02/05/93	141785
	01/23/93	03/14/93	141785
	03/15/93	04/20/93	141785
	04/21/93	05/21/93	141785
	05/27/93	07/01/93	141785
	07/06/93	08/12/93	141785
	08/12/93	09/17/93	141785
	09/17/93	10/22/93	141785
	10/22/93	11/24/93	141785
	11/29/93	01/07/94	141785
	01/07/94	02/09/94	141785
	02/10/94	03/11/94	141785
	03/14/94	04/11/94	141785
	04/12/94	05/10/94	141785
	05/10/94	06/10/94	141785
	06/13/94	07/21/94	141785
	07/13/94	08/12/94	141785
	08/12/94	09/14/94	141785
	09/14/94	10/10/94	141785
BOX 3	10/03/94	12/12/94	131414
	10/10/94	11/09/94	141785
	11/09/94	12/07/94	141785
	12/07/94	01/05/95	141785
BOX 3	12/13/94	02/24/95	131414
	01/05/95	02/02/95	141785
	02/02/95	02/28/95	141785
	02/28/95	03/30/95	141785
	03/30/95	04/26/95	141785
	04/26/95	05/31/95	141785
	05/31/95	06/29/95	131414
	07/14/95	09/19/95	131414
	07/30/95	08/22/95	131414
	08/22/95	09/12/95	131414

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
	09/13/95	10/04/95	131414
	09/20/95	11/10/95	131414
	10/04/95	10/24/95	131414
	10/24/95	11/09/95	131414
	11/10/95	01/08/96	131414
	11/10/95	11/30/95	131414
	11/30/95	12/15/95	131414
	12/15/95	01/08/96	131414
	01/09/96	02/23/96	131414
	01/18/96	01/24/96	131414
	01/24/96	02/21/96	131414
	02/21/96	03/18/96	131414
	02/23/96	04/08/96	131414
	03/18/96	04/09/96	131414
	04/09/96	05/23/96	131414
	04/09/96	05/02/96	131414
	05/02/96	05/31/96	131414
	05/24/96	07/30/96	131414
	05/31/96	06/28/96	131414
	06/28/96	07/29/96	131414
	06/30/95	07/31/95	131414
	07/30/96	08/22/96	131414
	07/31/96	09/17/96	131414
	08/22/96	09/17/96	131414
	09/19/96	11/14/96	131414
	09/17/96	10/14/96	131414
	10/14/96	11/05/96	131414
	11/05/96	12/02/96	131414
	11/15/96	01/09/97	131414
	12/02/96	12/30/96	131414
	12/30/96	01/24/97	131414
BOX 1	01/24/97	02/20/97	149634
BOX 1	02/20/97	03/20/97	149634
BOX 1	03/21/97	04/21/97	149634
BOX 1	04/21/97	06/02/97	149634
BOX 1	05/13/97	07/03/97	149634
BOX 1	06/02/97	07/10/97	149634
BOX 1	07/10/97	08/22/97	149634
3030	08/22/97	10/07/97	177623
2005	10/08/97	11/17/97	177623
3033	11/18/97	12/29/97	177623
3034	12/30/97	02/04/98	177623
3035	02/05/98	03/11/98	177623
3036	03/12/98	04/20/98	177623
3037	04/21/98	06/03/98	177623
3038	06/04/98	07/15/98	177623

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3039	07/16/98	09/02/98	177623
3040	09/03/98	10/22/98	177623
3041	10/23/98	12/04/98	177623
2003	12/07/98	01/18/99	177623
2004	01/19/99	03/15/99	177623
5000	03/16/99	05/18/99	177623
5002	05/19/99	07/27/99	177623
5003	07/28/99	09/15/99	177623
5004	09/15/99	10/28/99	177623
5005	10/28/99	12/30/99	177623
3002	12/16/99	02/17/00	177623
5006	12/31/99	03/06/00	177623
5007	03/07/00	05/01/00	177623
3004	04/19/00	06/08/00	177623
5008	05/02/00	07/11/00	177623
5009	07/12/00	09/12/00	177623
5010	09/13/00	11/17/00	177623
5011	11/20/00	01/18/01	177623
5012	01/18/01	03/15/01	223426
2013	03/15/01	05/07/01	223426
5014	05/08/01	07/03/01	223426
5015	07/03/01	08/21/01	223426
5016	08/22/01	10/03/01	223426
5017	10/04/01	11/11/01	223426
5018	11/12/01	01/02/02	223426
5019	01/02/02	02/20/02	223426
5020	02/21/02	03/28/02	223426
5021	04/01/02	05/16/02	223426
5022	05/17/02	07/02/02	223426
5023	07/02/02	08/09/02	223426
3010	08/11/02	09/24/02	223426
3011	09/25/02	11/11/02	223426
3012	11/11/02	01/10/03	223426
3013	01/10/03	02/26/03	223426
3014	02/27/03	04/09/03	223426
3015	04/09/03	06/05/03	223426
3016	06/09/03	08/05/03	223426
3017	08/06/03	09/24/03	223426
3018	09/24/03	11/05/03	223426
3019	11/05/03	01/19/04	223426
3021	01/20/04	03/14/04	223426
3022	03/14/04	05/19/04	223426
3023	05/19/04	08/03/04	223426
3024	08/03/04	10/05/03	223426
3025	10/16/04	12/08/04	223426
3047	12/08/04	02/03/05	223426

T Plant Facility Logbooks

Book Number	Start Date	End Date	Box Number
3048	02/04/05	04/13/05	223426
3049	04/14/05	06/27/05	223426
3050	06/28/05	09/02/05	223426
5001	09/06/05	11/16/05	223426
3051	11/17/05	02/07/06	223426
3052	02/08/06	04/13/06	223426
3053	04/14/06	06/28/06	223425
3054	06/29/06	09/14/06	223425
3055	09/15/06	11/29/06	223425
3056	11/30/06	02/12/07	223425
3057	02/13/07	04/16/07	223425
3058	04/17/07	06/07/07	223425
3059	06/08/07	07/31/07	223425
3060	08/01/07	09/26/07	223425
3061	09/26/07	11/10/07	223425
3062	11/12/07	12/26/07	223425
3063	12/27/07	02/13/08	223425
3064	02/14/08	03/24/08	223425
3065	03/24/08	05/05/08	223425
3066	05/05/08	06/05/08	223425
3067	06/05/08	07/11/08	223425
3068	07/11/08	08/12/08	223425
3069	08/12/08	09/22/08	223425
3070	09/22/08	11/03/08	223425
3071	11/04/08	12/30/08	223425
3072	12/31/08	02/23/09	223425
3073	02/24/09	04/10/09	223425
3074	04/10/09	05/28/09	223425
3075	05/28/09	07/20/09	223425
3076	07/21/09	09/02/09	223425
3077	09/03/09	11/03/09	223425
3078	11/04/09	12/21/09	223425
3079	12/22/09	02/01/10	223425
3080	02/01/10	03/11/10	223425
3081	03/11/10	04/13/10	223425
3082	04/13/10	05/17/10	223425
3083	05/18/10	06/21/10	223425
3084	06/22/10	07/26/10	223425

T-Plant Operation Logbook Review

Title(s) of Logbook:	T-Plant Operation Logbook
Date of Review:	08/15/13 through 08/19/13
Reviewer's Name:	Stephanie Johansen
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Logbook Date Range:	07/27/10 through 04/07/11
Logbook Numbers:	3085 through 3091
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns:	
Attach copies of pages noting concern.	
Dates of Corrective Actions:	
Attach copies of pages noting concern.	
Reviewer's Signature and Date:	Stephanie Johansen

Instructions:

Review logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of pages noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	Waste Management Area Daily Inspection Data Sheet
Date of Review:	9/3/2013
Reviewer's Name:	Linda Carr
Waste Management Units: Boneyard Pad Waste Storage	221-T, 2706, MO433, 214-T, 211-T, 221-T, 271-T, 277-T,
Time Frame of Daily Inspections:	2005- August 29 – December 1
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions. Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2007-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-January 1-September 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Daily Inspection sheets noting concern.	
Dates of Corrective Actions: Attach copies of Daily Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2008-October 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2009-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2010-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Daily Inspection sheets noting concern.	
Dates of Corrective Actions: Attach copies of Daily Inspection sheets noting concern.	
Reviewer's Signature and Date:	Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2011-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2012-January 1-December 31
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action. Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

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T-Plant Daily Dangerous Waste Inspection Checklist Review

Title of Daily Waste Inspection Form:	T-Plant Daily Waste Management Area Inspection Data Sheets
Date of Review:	7/31/2013
Reviewer's Name:	Linda Carr
Waste Management Units:	221-T SF, 211-T, 271-T, 277-T Bld., 221-T R5
Time Frame of Daily Inspections:	2013-January 1-April 22
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:
Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:
Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date: Linda Carr 9/4/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.
If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Summary of T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas T Plant Weekly Inspection Log Sheet
Date of Weekly Waste Inspection Review:	8/26/13 – 8/28/13
Initial Reviewer's Name:	Jeff Bramson, Linda Carr, Paul Martin.
Final Reviewer's Name:	Lana Strickling*

* A review was performed against the individual checklists developed by the initial reviewers above to consolidate and document any review notes, items of concern, etc. related to the WMU's identified below.

Waste Management Units:	271-T Cage, 221T R5, 277-T Outdoor Storage Area, 211-T Pad, 221-T Sand Filter Pad**

**Inspection sheets were reviewed for any reference to the waste management units identified for any items of concern.

Time Frame of Inspections:	6/7/91 – 12/20/99***

***See attached log for weekly waste inspections sheets reviewed. Line items missing date, document number, sheet, revision, and title indicate missing records.

Items of Concern Noted (Circle) YES ___ NO _X__
If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
DEC 31-JAN 4						
JAN 7TH						
JAN 14TH						
JAN 21TH						
JAN 28TH						
FEB 4TH						
FEB 11TH						
FEB 18TH						
FEB 25TH						
MAR 4TH						
MAR 11TH						
MAR 18TH						
MAR 25TH						
APRIL 1ST						
APRIL 8TH						
APRIL 15TH						
APRIL 22ND						
APRIL 29TH						
MAY 6TH						
MAY 13TH						
MAY 20TH						
MAY 27TH						
LOG-060791 [D197044429]	6/7/1991	LOG-060791	06/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JUNE 10TH						
LOG-062191 [D197044441]	6/21/1991	LOG-062191	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JUNE 24TH						
JULY 1ST						
JULY 7TH						
JULY 15TH						
LOG-072291 [D197044468]	7/22/1991	LOG-072291	06/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
JULY 29TH						
AUG 5TH						
AUG 12TH						
LOG-082191 [D197044477]	8/21/1991	LOG-082191	08/21/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-082991 [D197044485]	8/29/1991	LOG-082991	08/29/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-090991 [D197044528]	9/9/1991	LOG-090991	09/09/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-091291 [D197044539]	9/12/1991	LOG-091291	09/12/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-092691 [D197044572]	9/26/1991	LOG-092691	09/26/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-100491 [D197044613]	10/4/1991	LOG-100491	10/04/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-101191 [D197044634]	10/11/1991	LOG-101191	10/11/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-102591 [D197044655]	10/25/1991	LOG-102591	10/25/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
LOG-110791 [D197044671]	11/7/1991	LOG-110791	11/07/1991	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE /
NOV 11TH						
NOV 18TH						
NOV 25TH						
LOG-123091 [D197044751]		LOG-123091	12/30/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-120391 [D197044680]		LOG-120391	12/03/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-122791 [D197044725]		LOG-122791	12/27/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-121891 [D197044712]		LOG-121891	12/18/1991	NA	NA	SOLID WASTE T-PLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &

1992 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010692 [D197044757]		LOG-010692	01/06/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS & SATELLITE
LOG-011592 [D197044848]	01/15/1992	LOG-011592	01/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012492 [D197044895]	01/24/1992	LOG-012492	01/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-012892 [D197044914]	01/28/1992	LOG-012892	01/28/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-020492 [D197044917]	02/04/1992	LOG-020492	02/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-021092 [D197044942]	02/10/1992	LOG-021092	02/10/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022192 [D197044953]	02/21/1992	LOG-022192	02/21/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-022492 [D197044955]	02/24/1992	LOG-022492	02/24/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-030492 [D197044964]	03/04/1992	LOG-030492	03/04/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031192 [D197044988]	03/11/1992	LOG-031192	03/11/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-031792 [D197044999]	03/17/1992	LOG-031792	03/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-032592 [D197045021]	03/25/1992	LOG-032592	03/25/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MARCH 30TH						
LOG-041492 [D197045025]	04/14/1992	LOG-041492	04/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-042992 [D197045027]	04/29/1992	LOG-042992	04/29/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
MAY 4TH						
LOG-051592 [D197045032]	05/15/1992	LOG-051592	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-052792 [D197045035]	5/27/1992	LOG-052792	05/15/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060392 [D197044409]	06/03/1992	LOG-060392	06/03/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-060992 [D197044251]	06/09/1992	LOG-060992	06/09/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-061792 [D197044297]	06/17/1992	LOG-061792	06/17/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-062392 [D197044302]	06/23/1992	LOG-062392	06/23/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070192 [D197044341]	07/01/1992	LOG-070192	07/01/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-070892 [D197044353]	07/08/1992	LOG-070892	07/08/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-071492 [D197044373]	07/14/1992	LOG-071492	07/14/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
LOG-072292 [D197044402]	07/22/1992	LOG-072292	07/22/1992	NA	NA	SOLID WASTE TPLANT WEEKLY SURVEILLANCE LOG- <90-DAY STORAGE AREAS &
	1992: JULY 29; AUG: 5, 10, 19, 25, SEPT: 1, 11, 18, 22, 30 OCT: 8, 13, 20, 27, NOV: 4, 11, 19, 25, DEC: 1, 9, 17,					
LOG-072992 [D197044191]	21, 30	LOG-072992	07/29/1992	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG

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1993 Weekly Dangerous Waste Inspections

Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
1993 JANUARY						
LOG-020593 [D197044227]	1993 FEB: 5, 11, 19, 24,	LOG-020593	02/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030393 [D197043351]	1993 MAR: 3, 11, 19, 25	LOG-030393	03/03/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040193 [D197043359]	1993 APRIL: 1, 7, 13, 23, 29	LOG-040193	04/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050693 [D197043361]	1993 MAY: 6, 10, 21, 28	LOG-050693	05/06/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060493 [D197043363]	1993 JUNE: 4, 11, 16, 25,	LOG-060493	06/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070193 [D197043364]	1993 JULY: 1, 8, 15, 22, 29	LOG-070193	07/01/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080593 [D197043369]	1993 AUG: 5, 11, 18, 24,	LOG-080593	08/05/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090293 [D197043390]	1993 SEPT: 2, 10, 16, 22, 30	LOG-090293	09/02/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100793 [D197043401]	1993 OCT: 7, 15, 21, 28,	LOG-100793	10/07/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-110493 [D197043403]	1993 NOV: 4, 10, 19, 23,	LOG-110493	11/04/1993	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-120293 [D197043409]	1993 DEC: 2, 9, 15, 21, 30	LOG-120293	12/02/1993	NA	NA	SOLID WASTE T-PLANT WEEKLY INSPECTION LOG SHEET

1994 Weekly Dangerous Waste Inspections

Object Name	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010694 [D197043414]	1994: JAN: 6, 13, 20, 27	LOG-010694	01/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-020394 [D197043420]	1994 FEB: 3, 9, 17, 23,	LOG-020394	02/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-030394 [D197043423]	1994 MAR: 3, 9, 15, 25	LOG-030394	03/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-040194 [D197043426]	1994 APRIL: 1, 6, 14, 20, 26	LOG-040194	04/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-050594 [D197043430]	1994 MAY: 5, 9, 17, 24, JUNE 1	LOG-050594	05/05/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-060194 [D197043444]	1994 JUNE: 1, 7, 15, 23, 27,	LOG-060194	06/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-070694 [D197043445]	1994 JULY: 6, 14, 19, 27,	LOG-070694	07/06/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-080394 [D197043446]	1994 AUG: 3, 10, 16, 23,	LOG-080394	08/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-090194 [D197043947]	1994 SEPT: 1, 7, 14, 19, 26,	LOG-090194	09/01/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET
LOG-100394 [D197043956]	1994 OCT: 3, 10, 17, 24, 31	LOG-100394	10/03/1994	NA	NA	SOLID WASTE TPLANT WEEKLY INSPECTION LOG SHEET/ T PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MIXED WASTE
LOG-110794 [D197043970]	1994 NOVEMBER: 7, 14, 22, 28	LOG-110794	11/07/1994	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-120594 [D197044093]	1994 DECEMBER: 5, 14, 20, 28	LOG-120594	12/05/1994	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE

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Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-010395 [D197044125]	1995 JANUARY---1992 JAN: 8, 14, 22, 29,	LOG-010395	01/03/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
1995 FEB						
1995 MARCH						
1995 APRIL						
1995 MAY						
LOG-062195 [D197045039]	1995 JUNE: 20	LOG-062195	06/21/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-071995 [D197045042]	1995 JULY: 19, 27	LOG-071995	07/19/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-081595 [D197045045]	1995 AUGUST: 15, 23, 28	LOG-081595	08/15/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-091195 [D197045049]	1995 SEPTEMBER: 7, 11, 14, 19, 27	LOG-091195	09/11/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-100495 [D197045096]	1995 OCTOBER 2, 10, 18, 24	LOG-100495	10/04/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-HAZARDOUS & MIXED WASTE
LOG-110195 [D197045103]	1995 NOVEMBER: 1, 6, 15, 27	LOG-110195	11/01/1995	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-121595 [D197045111]	1995 DECEMBER: 15, 19, 29	LOG-121595	12/15/1995	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE

1996 Weekly Dangerous Waste Inspections

Object Name/MONTH OF	DATE(S)	Document Number	Document Date	Sheet	Revision	Title
LOG-011596 [D197045115]	1996 JANUARY: 15, 22, 30	LOG-011596	01/15/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-020596 [D197045121]	1996 FEBRUARY: 5, 13, 23,	LOG-020596	02/05/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-030396 [D197045126]	1996 MARCH: 1, 8, 15, 20 AND 29	LOG-030396	03/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-040196 [D197045147]	1996 APRIL: 1, 8, 18, 26	LOG-040196	04/01/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-052896 [D197045163]	1996 MAY: 28	LOG-052896	05/28/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
LOG-060696 [D197045179]	1996 JUNE: 6, 12, 27,	LOG-060696	06/06/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 JULY						
1996 AUGUST						
LOG-090396 [D197045193]	1996 SEPTEMBER: 3, 23	LOG-090396	09/03/1996	NA	NA	SOLID WASTE TPLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET-LOW-LEVEL WASTE/HAZARDOUS & MIXED WASTE
1996 OCTOBER						
1996 NOVEMBER						
LOG-122396 [D197045213]	1996 DECEMBER: 23	LOG-122396	12/23/1996	NA	NA	SOLID WASTE T-PLANT WASTE MANAGEMENT AREA WEEKLY INSPECTION LOG SHEET - HAZARDOUS & MISED WASTE/LOW LEVEL WASTE

1997 Weekly Dangerous Waste Inspections

Object Name/WEEK OF	Properties	Open	Document Nu	Document Date	Sheet	Revision	Title
DEC 30 THRU JAN 3							
JAN 6TH							
JAN 13TH							
JAN 20TH							
JAN 27TH							
FEB 3RD							
FEB 10TH							
FEB 27TH							
NA [D8724972]	Properties	Open	NA	02/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724970]	Properties	Open	NA	03/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724967]	Properties	Open	NA	03/11/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724966]	Properties	Open	NA	03/17/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724964]	Properties	Open	NA	03/24/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8724804]	Properties	Open	NA	04/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723959]	Properties	Open	NA	04/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723954]	Properties	Open	NA	04/14/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723949]	Properties	Open	NA	05/01/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723948]	Properties	Open	NA	05/09/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723942]	Properties	Open	NA	05/16/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723941]	Properties	Open	NA	05/19/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723938]	Properties	Open	NA	05/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723935]	Properties	Open	NA	06/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723899]	Properties	Open	NA	06/16/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723902]	Properties	Open	NA	06/09/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723887]	Properties	Open	NA	06/23/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723362]	Properties	Open	NA	07/01/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
7/11/1997				**7/11/1997**			Kym Has - Copied from RHA box number: 149635
7/22/1997				**7/22/1997**			Kym Has - Copied from RHA box number: 149635
7/28/1997				**7/28/1997**			Kym Has - Copied from RHA box number: 149635
8/5/1997				**8/5/1997**			Kym Has - Copied from RHA box number: 149635
8/11/1997				**8/11/1997**			Kym Has - Copied from RHA box number: 149635
NA [D8723338]	Properties	Open	NA	08/18/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723333]	Properties	Open	NA	08/28/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723326]	Properties	Open	NA	09/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723317]	Properties	Open	NA	09/08/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723307]	Properties	Open	NA	09/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723196]	Properties	Open	NA	09/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723189]	Properties	Open	NA	09/30/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723186]	Properties	Open	NA	10/06/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723180]	Properties	Open	NA	10/13/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723174]	Properties	Open	NA	10/20/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723167]	Properties	Open	NA	10/27/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723126]	Properties	Open	NA	11/03/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8723001]	Properties	Open	NA	11/10/97	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8722819]	Properties	Open	NA	11/20/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722815]	Properties	Open	NA	11/26/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722813]	Properties	Open	NA	12/05/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722810]	Properties	Open	NA	12/12/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722806]	Properties	Open	NA	12/19/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722801]	Properties	Open	NA	12/23/1997	NA	NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
DEC 30TH							
NA [D8721807]	Properties	Open	NA	05/01/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	Properties	Open	NA	05/08/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	Properties	Open	NA	05/15/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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Object Name/WEEK OF	Properties	Open	Document Nu	Document Date	Sheet	Revision	Title
NA [D8721798]	Properties	Open	NA	05/22/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	Properties	Open	NA	05/29/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	Properties	Open	NA	06/05/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722692]	Properties	Open	NA	06/12/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722688]	Properties	Open	NA	06/19/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722682]	Properties	Open	NA	06/26/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722670]	Properties	Open	NA	07/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722666]	Properties	Open	NA	07/10/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722659]	Properties	Open	NA	07/17/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722651]	Properties	Open	NA	07/24/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722640]	Properties	Open	NA	07/31/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722637]	Properties	Open	NA	08/07/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722635]	Properties	Open	NA	08/14/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722631]	Properties	Open	NA	08/21/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722627]	Properties	Open	NA	08/28/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8732454]	Properties	Open	NA	09/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	Properties	Open	NA	09/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722618]	Properties	Open	NA	09/18/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722617]	Properties	Open	NA	09/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722614]	Properties	Open	NA	10/02/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	Properties	Open	NA	10/09/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722606]	Properties	Open	NA	10/16/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722594]	Properties	Open	NA	10/23/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	Properties	Open	NA	10/30/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722585]	Properties	Open	NA	11/06/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722577]	Properties	Open	NA	11/13/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722571]	Properties	Open	NA	11/20/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	Properties	Open	NA	11/25/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722345]	Properties	Open	NA	12/04/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	Properties	Open	NA	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 271T
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 271T

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8678087]	01/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678083]	01/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678084]	01/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678082]	01/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678079]	02/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678077]	02/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678073]	02/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678069]	02/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678072]	03/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678068]	03/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678065]	03/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678063]	03/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678061]	03/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678057]	04/07/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678054]	04/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678049]	04/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT HAZARDOUS & MIXED WASTE [ALSO 271T BLDG]
NA [D8678044]	04/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]]
NA [D8721807]	05/01/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678040]	05/04/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722674]	05/08/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8721803]	05/15/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722777]	05/15/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722780]	05/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721798]	05/22/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8678032]	05/26/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8721794]	05/29/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722785]	06/05/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722697]	06/05/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677657]	06/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722692]	06/12/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677652]	06/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/21/1998 [ALSO 271T BLDG]
NA [D8722688]	06/19/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677647]	06/23/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722682]	06/26/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722795]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722789]	07/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722670]	07/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722762]	07/10/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722666]	07/10/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677555]	07/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722659]	07/17/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677545]	07/22/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722651]	07/24/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677539]	07/29/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722640]	07/31/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677530]	08/03/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722637]	08/07/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]

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Object Name/WEEK OF	Document Date	Sheet	Revision	Title
NA [D8677521]	08/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/14/1998 [ALSO 271T BLDG]
NA [D8722635]	08/14/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677514]	08/17/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/21/1998 [ALSO 271T BLDG]
NA [D8722631]	08/21/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677511]	08/24/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/24/1998 [ALSO 271T BLDG]
NA [D8722627]	08/28/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722770]	09/01/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8732454]	09/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T]
NA [D8722620]	09/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722774]	09/11/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677507]	09/14/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/19/1998 [ALSO 271T BLDG]
NA [D8722618]	09/18/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677503]	09/21/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/25/1998 [ALSO 271T BLDG]
NA [D8722617]	09/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677499]	09/28/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/04/1998 [ALSO 271T BLDG]
NA [D8722614]	10/02/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722612]	10/09/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677484]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/18/1998 [ALSO 271T BLDG]
NA [D8677493]	10/12/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/11/1998 [ALSO 271T BLDG]
NA [D8722606]	10/16/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677480]	10/19/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1998 [ALSO 271T BLDG]
NA [D8677475]	10/20/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1998 [ALSO 271T BLDG]
NA [D8722594]	10/23/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722590]	10/30/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677468]	11/02/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1998 [ALSO 271T BLDG]
NA [D8722585]	11/06/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677461]	11/09/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1998 [ALSO 271T BLDG]
NA [D8722577]	11/13/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677448]	11/13/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/23/1998 [ALSO 271T BLDG]
NA [D8677456]	11/16/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1998 [ALSO 271T BLDG]
NA [D8722571]	11/20/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8722558]	11/25/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO BLDG 271T]
NA [D8677440]	11/30/1998		NA	T PLANT WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/05/1998 [ALSO 271T BLDG]
NA [D8722345]	12/04/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677405]	12/08/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998	NA	NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8722168]	12/11/1998		NA	T PLANT WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677348]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677351]	12/14/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/12/1998 [ALSO 27
NA [D8677342]	12/21/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA DAILY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676432]	12/28/1998	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/03/1999 [ALSO 27

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NA [D8676428]	01/04/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/10/1999 [ALSO 271T BLDG]
NA [D8676427]	01/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/17/1999 [ALSO 271T BLDG]
NA [D8676425]	01/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/24/1999 [ALSO 271T BLDG]
NA [D8676424]	01/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 01/31/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676419]	02/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/07/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676416]	02/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/14/1999 [ALSO 271T BLDG]
NA [D8676413]	02/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/21/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676411]	02/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 02/28/1999 [ALSO 271T BLDG]
NA [D8676409]	03/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/07/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676407]	03/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/14/1999 [ALSO 271T BLDG]
NA [D8676404]	03/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/21/1999 [ALSO 271T BLDG]
NA [D8676401]	03/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 03/28/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676397]	03/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/04/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676394]	04/05/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/11/1999 [ALSO 271T BLDG]
NA [D8676390]	04/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/18/1999 [ALSO 271T BLDG]
NA [D8676387]	04/19/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/25/1999 [ALSO 271T BLDG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676381]	04/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 04/30/1999 [ALSO 271T BLDG]DG]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676375]	05/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/09/1999 [ALSO 271T BLDG]]
NA [D8676370]	05/10/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/16/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676366]	05/17/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/23/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676364]	05/24/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 05/30/1999 [ALSO 271T BLDG]
NA [D8676361]	06/01/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676352]	06/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/13/1999 [ALSO 271T BLDG]
NA [D8676336]	06/14/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/20/1999 [ALSO 271T BLDG]
NA [D8676298]	06/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 06/26/1999 [ALSO 271T BLDG]
NA [D8676297]	06/28/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676296]	07/08/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676904]	07/12/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/13/1999 [ALSO 271T BLDG]
NA [D8676292]	07/21/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 07/25/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676291]	07/26/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/01/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]

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NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676290]	08/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/03/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676288]	08/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/15/1999 [ALSO 271T BLDG]
NA [D8676286]	08/16/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/22/1999 [ALSO 271T BLDG]
NA [D8676285]	08/23/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 08/29/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676284]	09/07/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/12/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676281]	09/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 09/24/1999 [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676279]	09/27/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676278]	10/03/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/10/1999 [ALSO 271T BLDG]
NA [D8676277]	10/11/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676276]	10/18/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/24/1999 [ALSO 271T BLDG]
NA [D8676275]	10/25/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 10/31/1999 [ALSO 271T BLDG]
NA [D8676274]	11/02/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/07/1999 [ALSO 271T BLDG]
NA [D8676271]	11/09/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/14/1999 [ALSO 271T BLDG]]
NA [D8676267]	11/15/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 11/21/1999 [ALSO 271T BLDG]
NA [D8676257]	11/22/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676264]	11/29/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676255]	12/06/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676260]	12/13/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]
NA [D8676252]	12/20/1999	NA	NA	TREATMENT FACILITY WASTE MGMT AREA WEEKLY INSPECTION LOG SHT FOR WEEK ENDING 12/25/1999 [ALSO 271T BLDG]

T-Plant Weekly and Daily Dangerous Waste Inspection Checklist Review

Title(s) of Daily Waste Inspection Form:	Treatment Facility Waste Management Area Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T Plant Daily Waste Management Area Inspection Data Sheet
Date of Review:	8/26/2013
Reviewer's Name:	Stephanie Johansen, Don Craig
Waste Management Units:	271-T Cage, 211-T Pad, 221-T Sand Filter Pad, 221-T R-5, 277-T Outdoor Storage Area
Time Frame of Daily Inspections:	January 2000-December 2002, January 2005-December 2007
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒

Items of Concerns:

Attach copies of Daily Inspection sheets noting concern.

Dates of Corrective Actions:

Attach copies of Daily Inspection sheets noting concern.

Reviewer's Signature and Date:

Stephanie H Johansen 08/27/13

Instructions:

Review Daily Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Daily Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of daily waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

T Plant Daily and Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance
Date of Weekly Waste Inspection Review:	8/28/13
Initial Reviewer's Name:	Jeff Bramson
Final Reviewer's Name:	Lana Strickling
Waste Management Units:	271-T Cage, 221T R5, 277-T, 211-T Pad (WSA)

*Note: 277-T not identified on 2004 waste inspection sheets.

Time Frame of Inspections:	2003-2004
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES _X__ NO ___

Items of Concerns (Attach copies of Weekly Inspection sheets noting concern.):

On 6/30/03, a 5-gallon plastic container of product, Insulkote, was identified as leaking in the 271-T Cage. There is no logbook entry denoting amount spilled. A waste designation was performed on 9/10/13 on the product as part of the records review. The waste is designated as a WP03 based on the chemical product designation. Waste designation is attached.

Dates of Corrective Actions (Attach copies of Weekly Inspection sheets noting concern):

On 6/30/03, NCO rewrapped and cleaned up leakage. An MSDS was submitted to the waste management representative for designation and disposal instructions. No information was located on final disposition.

Reviewer's Signature and Date: Lana Strickling 9/10/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.4 Area free of combustible debris (WAC 173-303-340)	✓	✓	✓	X (3)	✓	✓	X (4)	✓	✓	✓	✓	✓
6.1.5 Minimum 20-ft separation with no combustibles between fuel packages (Canyon, Tunnel and 2706-T facility)		✓										
6.1.6 Larger combustible items (> 256 cu. ft.) posted for separation requirements		✓										
6.1.7 Minimum 5-ft separation with no combustibles maintained between fuel packages (Canyon, Tunnel, and 2706-T facility)		✓										
6.1.8 30-ft area around outdoor waste management area free of combustible debris			✓	✓			✓	✓		✓	✓	✓
6.1.9 Fire lanes and inspection aisles ≥ 30" wide and free of obstruction (WAC 173-303-340)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.13 Containment systems dry and free of cracks, gaps, or other deterioration (WAC 173-303-630 (7)(g)(i))	✓	✓	✓	✓	✓	✓	X (4)	✓	✓	✓	✓	
6.1.15Containers elevated or otherwise protected from accumulated liquids (WAC 173-303-630 (7)(c)(ii)	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.16 Barricades in place and in good condition (WAC 173-303-200 (2)(a))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.18 Area postings in place, legible, and in good condition (WAC 173-303-200(1)(d))	✓	X (1)	X (2)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.19 Containers free of deterioration and show no sign of leakage (WAC 173-303-630 (2))	✓	✓	✓	✓	✓	✓	✓	✓	X (5)	✓	✓	✓
6.1.22 Containers closed and show no evidence of leakage (e.g., moisture, or stains on the side or underneath) (WAC 173-303-630 (5)(a)).	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source Document: DO-040-016
Last Printed 1/24/03 9:17 PM

June 30 thru July 4, 2003

T Plant Waste Management Area Weekly Inspection Data Sheet

Inspection for Week of: 6-30-03

Inspection Item	2706T Facility			2706T	MO433	214T	211T	271T	221T	221T	277T	221T
	Connex	Building & Yard	PAD	TSP	Sample Storage	BLDG	WSA	Cage WAA	Ops Gallery Sample Storage	R5		ETEC Vault
6.1.23 Containers stored in a way that will not result in rupture or damage (WAC 173-303-630 (5)(b))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.25 Container labeling and markings are intact, unobscured, legible, complete, and in good condition (WAC 173-303-630 (3))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.26 TSCA regulated PCB containers labeled with a PCB label and a "Removed from Service" date (40 CFR 761)	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	N/A	N/A	✓	✓
6.1.31 Incompatible wastes segregated (WAC 173-303-630 (9)(c))	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1.32 Waste accumulation container has inventory attached or available	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.33 Drums stored in rows no more than 2 drums wide with an aisle space ≥ 30 inches (WAC 173-303-630 (5)(c))	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
6.1.35 Inspector's initials and date and time area inspected	RJB 7-1-03 0840	RJB 6-30-03 1040	RJB 6-30-03 1140	RJB 6-30-03 1100	RJB 6-30-03 1540	RJB 6-30-03 0940	RJB 6-30-03 0900	RJB 6-30-03 0830	RJB 6-30-03 1500	RJB 6-30-03 0915	RJB 6-30-03 1110	RJB 6-30-03 1120
6.1.37 General facility housekeeping of areas where waste is stored.	✓	✓	✓	(X) ①	✓	✓	(X) ①	(X) ①	✓	✓	✓	✓

★ NOTE: Any items marked with an "X", on the above checklist, require corrective action. Document corrective action(s) on inspection finding and corrective action data sheet.

RJB 7-1-03

Pat Brummett Pat Brummett
Inspector's Printed Name and Signature

6-30-03 7-1-03
Date

NA
Inspector's Printed Name and Signature

Date

NA
Inspector's Printed Name and Signature

Date

Supervisor Printed Name and Signature

7-2-03
Date

Source Document: DO-040-016
Last Printed 1/24/03 6:17 PM

Waste Management Area Inspection Finding and Corrective Action Sheet

Inspection for Week of: 6-30-03

Findings for (circle one): Daily Inspection (Weekly Inspection)

	INSPECTION FINDING	CORRECTIVE ACTION/DATE
①	6.1.37. 5gal Plastic Container with MSDS 11339 ~~req.~~ need to be put away.	NCO rewrapped & cleaned up leakage. Submitting MSDS to WMR for designation and disposal instructions. JMC
②	6.1.4 Turnable weeds in area 6.1.37 need sweep up	to Housekeeping shall be assigned. JMC
③	6.1.18 2706 T Yard 0007144 need 3 inch ~~to~~ red material ~~Sticker~~ on box	new red material sticker put on box ✓
④	6.1.4. ~~over~~ the pipe box together at the T Pad and Plastic ~~over~~ on ground.	NCO corrected these issues. JMC
⑤	6.1.18 label need replace and removed on drum 221T-01-000147, 9408426, 9403041, 9517101, 221T-01-000150 98009293, 97000410 on 2706 T Pad	NCO completed next business day JMC

Comments continue on back →

Patrick S Brummett
Operator Signature

Patrick L Brummett
Printed Name

6-30-03 & 6-1-03
Date

Supervisor Signature

Tina M. Crane
Printed Name

7-2-03
Date

Source Document DO-040-018
Last printed 1/2/01 7:28 AM

H0040830

MSDS WORKSHEET
For MSDS # 11339

SWIR606

Product Name: INSULKOTE ET; INSULKOTE PRIMER "E"
Manufacturer: SCHULLER INTERNATIONAL INC.
MSDS Date: 06/14/95
Input By: GC TRINER
Revised By: SM STEELE
Entry Date: 02/26/91
Revised Date: 08/07/01
Physical State: Liquid
Density: 1
Active?: Y
pH: 7
Flashpoint: N/A C
Reactivity: STABLE, INCOMPATIBLE WITH STRONG OXIDIZERS
Description:
Product Usage: COATING (AN EMULSION PRODUCT), ASPHALT

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
1302-78-9	BENTONITE	3.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
67-63-0	ISOPROPYL ALCOHOL	2.0000000	.0002000	D	~~FL~~	NA	NA	N		

Listed/TC Codes(limit mg/l)

~~D001~~; ~~WT02~~ JMK 9/10/13

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
7732-18-5	WATER	48.0000000	.0000000	N	NA	NA	NA	N		

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
8052-42-4	ASPHALT	50.0000000	.0000000	N	NA	NA	PAH	N		

Listed/TC Codes(limit mg/l)

WP03

Reactivity

CAS#	Chemical Name	Weight %	EC %	TOX	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	4.0000000	.0000000	N	NA	NA	NA	N		

(1) Does not exhibit dangerous waste characteristic per MSDS.
(2) Does not meet dangerous waste criteria due to insufficient concentration.
JMK 9/10/13

09/10/2013 07:45:10 AM

Sum of Weight%: 107.0000000

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	NA
* OXIDIZER	D001 DW	
pH <=2 or >= 12.5 (Liquids)	D002 DW	
(Solids Only)	WSC2 DW	
Reactive	D003 DW	

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .0002000

No data or EC% < .001	Non-Reg	NA
EC% >=.001 & <1	WT02 DW	
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .0000000 **Total PAH%:** 50.0000000

No HOC/PAH or below limits	Non-Reg	NA
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	
PAH% > 1%	WP03 EHW	✓

Toxicity Characteristic WAC 173-303-090-8

TC CODES: NA

MATERIAL USED AS SOLVENTS: NA

APPLICABLE WASTE CODES: WP03

APPLICABLE LDR CODES:

WASTE CLASS: EHW

COMMENTS: Designation provided at ECO request, from suspected leak at TPlant in 2003. No other information provided. Book designation based on MSDS.

Designation Specialist: JM Kisielnicki (Print Name) JM Kisielnicki (Signature) 9/10/13 (Date)

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 2706-T TSP, 221-T Pad, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	October 18, 2007 - December 31, 2007
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 30, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2008 - December 28, 2008
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 8, 2009 - December 31, 2009
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/9/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2010 - December 30, 2010
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page 1 of 1

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 7, 2011 - December 29, 2011
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	July 31, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 4, 2012 - December 28, 2012
Items of Concern Noted (Circle) If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES☐ NO☒
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	NA
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	NA
Reviewer's Signature and Date:	Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

T Plant Weekly Dangerous Waste Inspection Checklist Review

Title of Weekly Waste Inspection Form:	T Plant Weekly Waste Management Area Inspection Data Sheet
Date of Review:	September 4, 2013
Reviewer's Name:	Paul W. Martin
Waste Management Units:	2706-T Conex, 2706-T Facility, 2706-T Yard, 2706-T Pad, 243-T, Tunnel Cut, MO-433 Sample Storage, 214-T, 211-T Cage, 271-T Cage, Boneyard Waste Storage, 271-T Mezzanine Tank, 221-T Ops Gallery Sample Storage, 221-T Pipe Gallery Storage, 221-T R5, 277-T and 221-T SF
Time Frame of Weekly Inspections:	January 3, 2013 - June 12, 2013*

*June 12, 2013 was the last complete weekly inspection record on IDMS as of September 4, 2013.

Items of Concern Noted (Circle) YES☐ NO☒

If "YES", complete entire checklist.
If "NO", skip to Reviewer's signature and date.

Items of Concerns: NA
Attach copies of Weekly Inspection sheets noting concern.

Dates of Corrective Actions: NA
Attach copies of Weekly Inspection sheets noting concern.

Reviewer's Signature and Date: Paul W. Martin 9/4/13

Instructions:

Review Weekly Waste Inspection checklists for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable. Sign and date form and deliver to Stephanie Johansen.

Page **1** of **1**

Attachment B
T-Plant 277 Outdoor Storage Area Sampling Plan Supporting Documentation

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

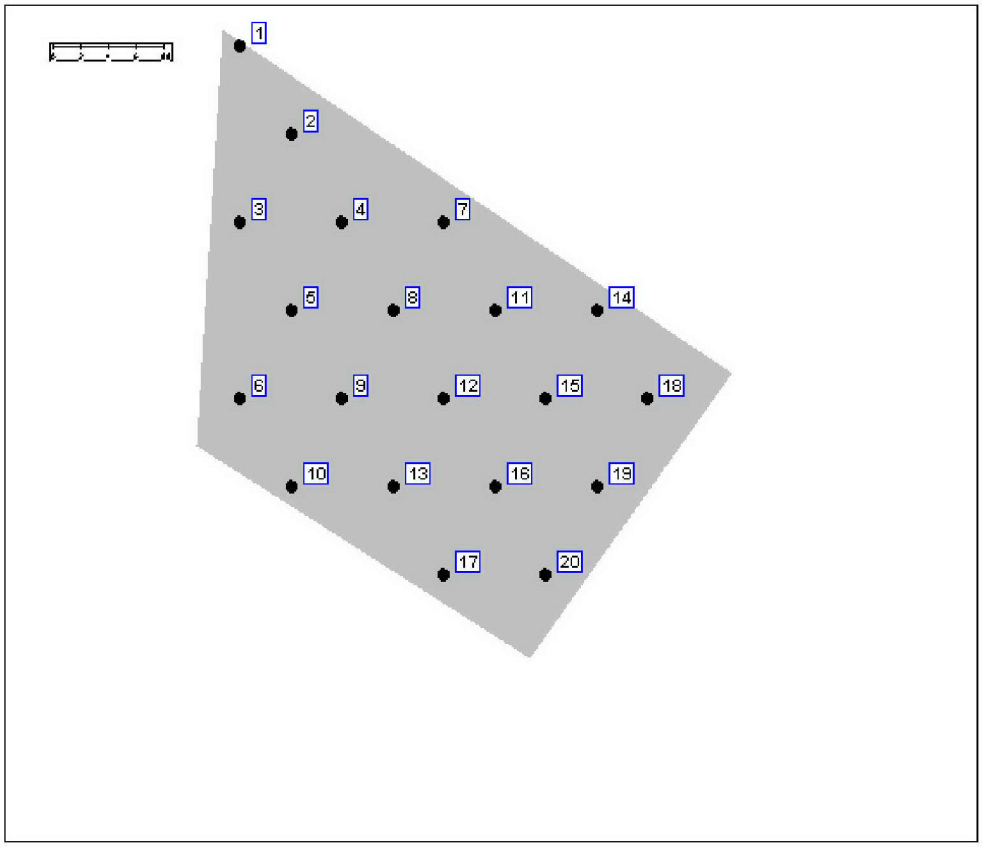
SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	919.53 ft^2
Size of grid / Area of grid cell [d]	7.28624 feet / 45.9767 ft^2
Grid pattern	Triangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.

[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.

[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.

[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.



Area: 277-T Storage					
X Coord	Y Coord	Label	Value	Type	Historical
567615.5439	136951.7482	17		Systematic	
567622.8302	136951.7482	20		Systematic	
567604.6146	136958.0582	10		Systematic	
567611.9008	136958.0582	13		Systematic	
567619.1871	136958.0582	16		Systematic	
567626.4733	136958.0582	19		Systematic	
567600.9715	136964.3683	6		Systematic	
567608.2577	136964.3683	9		Systematic	
567615.5439	136964.3683	12		Systematic	
567622.8302	136964.3683	15		Systematic	
567630.1164	136964.3683	18		Systematic	
567604.6146	136970.6784	5		Systematic	
567611.9008	136970.6784	8		Systematic	
567619.1871	136970.6784	11		Systematic	
567626.4733	136970.6784	14		Systematic	
567600.9715	136976.9885	3		Systematic	
567608.2577	136976.9885	4		Systematic	
567615.5439	136976.9885	7		Systematic	
567604.6146	136983.2985	2		Systematic	
567600.9715	136989.6086	1		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

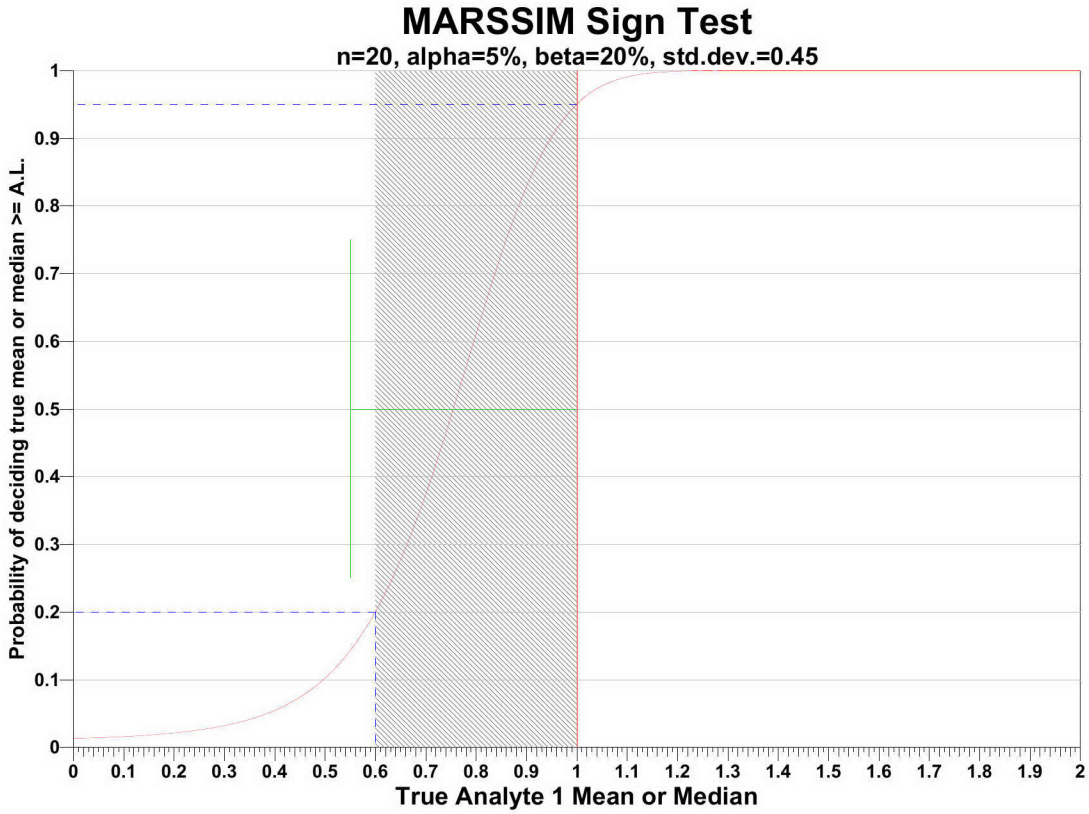
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of

gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities

Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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* - The report contents may have been modified or reformatted by end-user of software.

Addendum H2

Closure Plans

T-Plant Complex

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Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.F Appendix F – 221-T Tank System

F1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 221-T Tank System dangerous waste management unit (DWMU), hereinafter referred to as the 221-T Tank System. The 221-T Tank System has been out of operation since 1999. The Permittee has concluded that the 221-T Tank System will no longer be utilized for future receipts of dangerous waste and has, therefore, decided to coordinate closure of the DWMU with final closure of the T-Plant Complex OUG. Closure will be performed in accordance with the included schedule.

This closure plan complies with WAC 173-303-640(8), "Dangerous Waste Regulations," "Tank Systems," "Closure and Post-Closure Care," and WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

F1.1 Unit Description

The 221-T Tank System is a non-operational tank system located inside of the 221-T Canyon Building. The 221-T Tank System previously contained multi-phasic waste originally comprised of liquids and sludge. The liquid portion was primarily rainwater mixed with dilute decontamination solutions. The sludge portion contained highly radioactive solids that were primarily dirt, sandblasting grit, oil, and grease from T-Plant decontamination operations. Liquids have naturally evaporated from the tank waste, leaving only dry waste residues below the level of detection by the tank level indicators; therefore, the level is effectively zero. The last addition of waste to the tank system occurred in June 1999 when the tank system was isolated and permanently removed from service. Further acceptance of dangerous or mixed waste is not authorized.

The 221-T Tank System consists of six tanks (Tank 5-6, Tank 5-7, Tank 5-9, Tank 6-1, Tank 11-R, and Tank 15-1), the 211-T Sump, the 5-8 sump, associated piping, and ancillary equipment. The six tanks are stainless steel, closed bottom tanks of varying size that have been isolated from further waste addition and are, therefore, considered non-operational (Figure F-1). The 5-8 sump is located in 221-T Cell 5R below Tank 5-7. The 211-T Sump is located between the 2706-T Building and the 221-T Building and has been isolated and is awaiting closure. The six tanks, 211-T Sump, 5-8 sump, and waste transfer piping and ancillary equipment leading from the tanks to the first isolation point will be closed under this plan.

The 221-T Tank System pre-dates the effective date of mixed waste (August 19, 1987) and the subsequent secondary containment and tank control requirements required by 40 CFR 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," Subpart J, "Tank Systems," and WAC 173-303-640. No individual secondary containment is provided for each tank. Any overflow or leakage from Tanks 5-6, 5-9, 6-1, 11-R, or 15-1 would have been collected in the 24 inch cell drain header then flowed to cell 5-R and collected in the 5-8 sump at the bottom of cell 5R. Any leaks or overflow from Tank 5-7 would have been collected in the 5-8 sump. The 5-8 sump is equipped with level indication and a remote display and alarm panel in the 221-T Operating Gallery.

The 221-T Tank System is located inside the 221-T Canyon facility, no liquid waste remains within the tank system, and the 221-T Tank System has been isolated from any further waste addition. Therefore, the 221-T Tank System is concluded to be in a safe configuration for an extended closure period. The 221-T Canyon facility is part of the Canyon Disposition Initiative (CDI). In addition, the T-Plant Complex OUG is included in the Tri-Party Agreement (TPA) (*Hanford Federal Facility Agreement and Consent Order* [Ecology et al., 1989a]) Action Plan (*Hanford Federal Facility Agreement and Consent Order Action Plan* [Ecology et al., 1989b]), Section 6, "Treatment Storage and Disposal Unit Process," and Section 8, "Facility Disposition Process."

> TPA Action Plan Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e. g. removal of structural components).*

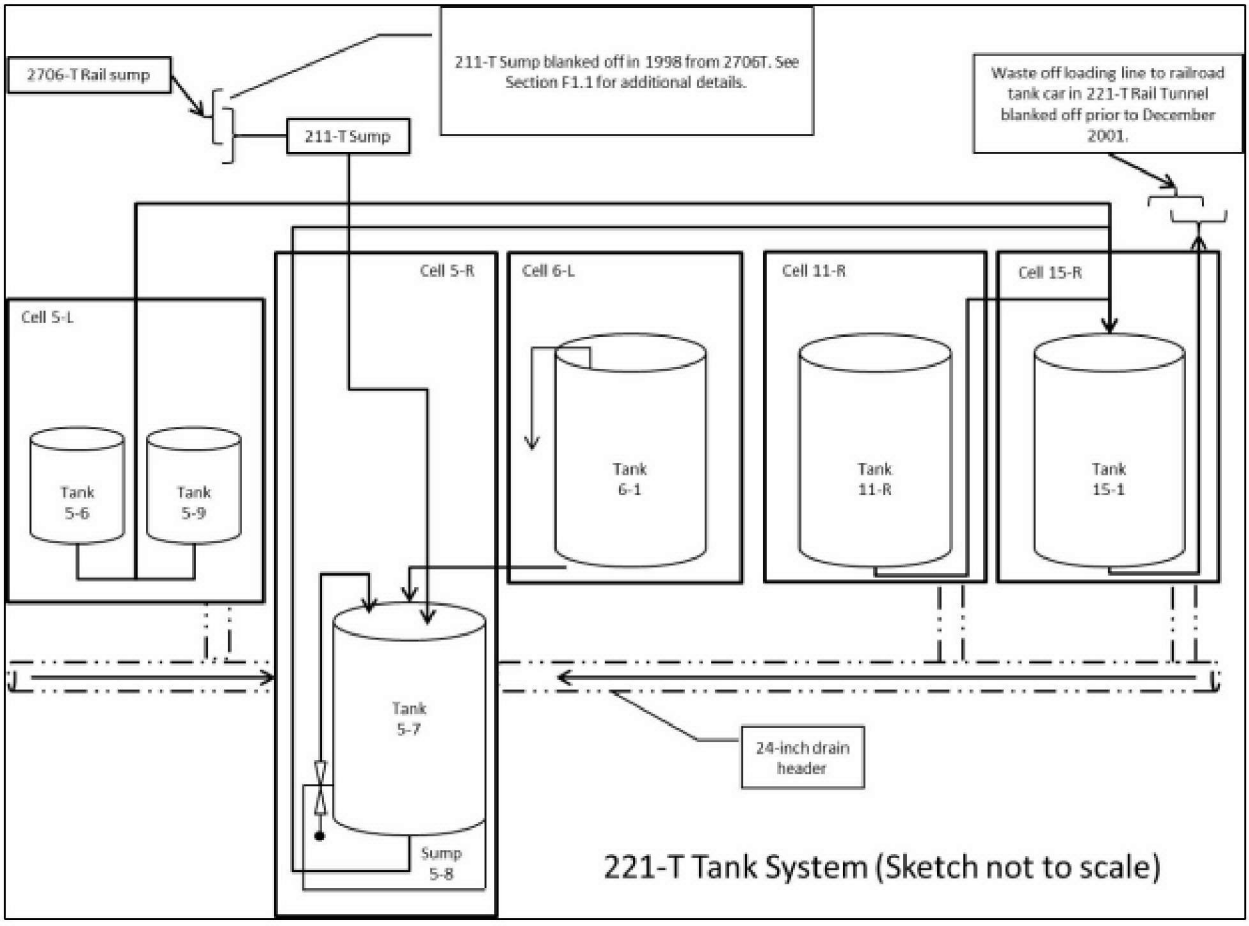

Figure F-1. T-Plant Complex 221-T Tank System

The strategy for the entire T-Plant Complex is a coordinated closure for both the RCRA closing units and CDI activities. When the 221-T Canyon Building is closed, the TPA (Ecology et al., 1989a) is anticipated to contain a milestone related to a past practice and treatment, storage, and disposal (TSD) unit disposition similar to what has been established for B-Plant and the Plutonium-Uranium Extraction Plant. Post-closure requirements for DWMUs in the 221-T Canyon Building will be required. The Permittees

will submit a permit modification to amend Addendum H that will coincide with coordination activities and past practice disposition under the TPA (Ecology et al., 1989a). Final closure of the tanks, sump, piping, and ancillary equipment will occur during the CDI activities for the T-Plant Complex.

F1.1.1 Maximum Waste Inventory

No incompatible wastes have been stored in the 221-T Tank System, and the last addition of waste to these tanks occurred on June 3, 1999. The maximum waste inventory of the 221-T Tank System is the maximum capacity of the 221-T Tank System as identified in Table F-1.

Table F-1. Maximum Waste Inventory of the 221-T Tank System

Tank Number	Maximum Waste Inventory
5-6	19,305 Liters (5,100 Gallons)
5-9	18,170 Liters (4,800 Gallons)
5-7	52,995 Liters (14,000 Gallons)
6-1	52,995 Liters (14,000 Gallons)
11-R	52,995 Liters (14,000 Gallons)
15-1	52,995 Liters (14,000 Gallons)
Sump 5-8	187,000 Liters (49,400 Gallons)

F2 Closure Performance Standard

Closure performance standards for the 221-T Tank System will be based on requirements found in WAC 173-303-640(8), "Tank Systems", "Closure and Post-Closure Care," and WAC 173-303-610(2), "Dangerous Waste Regulations," "Closure and Post-Closure." WAC 173-303-610(2) requires closure of the facility in a manner that:

- Minimizes the need for further maintenance
- Controls, minimizes or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere
- Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity

Waste residue is not anticipated to be removed from the 221-T Tank System during final closure activities under T-Plant CDI activities. Therefore, 221-T Tank System closure performance standards will include the requirements outlined in WAC-173-303-610(b) concerning post-closure care for units where waste will remain after closure.

These performance standards are addressed in the Sections F2.1 and F3.11 of this closure plan.

F2.1 Closure Levels

The 221-T Tank System will be closed to the performance standards identified in WAC 173-303-610 in coordination with T-Plant CDI activities. The waste residue is anticipated to be left within the 221-T Tank System tanks; therefore, the DWMU will close as a landfill in accordance with requirements outlined in WAC 173-303-645(6), "Dangerous Waste Regulations," "Releases from Regulated Units," and will require post-closure care. Location of the 221-T Tank System inside of the 221-T Canyon Building and any post-closure care coordinated with T-Plant CDI activities will control, minimize, or eliminate the potential release of any dangerous waste constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or atmosphere. Final closure of the 221-T Tank System will be achieved in conjunction with T-Plant Complex CDI activities.

F3 Closure Activities

Anticipated closure activities for the 221-T Tank System include grouting of the tanks and the associated T-Plant Canyon cells and placement of a final cover in coordination with T-Plant Complex CDI activities. Knowledge of historical operations, the current non-operational configuration of the 221-T Tank System, and the isolated location of the tanks within the 221-T Canyon cells, leads to the conclusion that the 221-T Tank System is in a safe configuration for an extended closure period. The 221-T Tank System will undergo final RCRA closure as a landfill in conjunction with the CDI activities. Should these closure activities change, a permit modification request will be submitted to amend this closure plan to coincide with past practice disposition under the TPA (Ecology et al., 1989a).

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

Near-term closure activities are as follows:

- Identify known operating history for the 221-T Tank System (completed; see Section F1.1).
- Review the most recent visual inspection of the 221-T Tank System (completed; see Attachment A).
- Continue inspection of the 221-T Tank System in accordance with the requirements in Addendum I, "Inspection Plan."

Extended closure activities include the following:

- The 221-T Tank System will remain in place and be managed under the final T-Plant Complex CDI activities.
- Waste residue will be sampled (if necessary).
- Tanks and surrounding cells will be filled with grout in coordination with the T-Plant Complex CDI.
- A cover will be placed in coordination with the T-Plant Complex CDI.

F3.1 Health and Safety Requirements

Closure will be performed to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex T-Plant, Addendum G, "Personnel Training," and will have

appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided that includes the following:

- Training will provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with quality assurance requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering the following factors:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

F3.2 Removal of Wastes and Waste Residues

No liquid waste remains in the 221-T Tank System, and removal of solid waste residues is not anticipated. Therefore, this section is not applicable.

F3.3 Unit Components, Parts, and Ancillary Equipment

The 221-T Tank System tanks, sumps, piping, and ancillary equipment will remain in place pending final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG.

F3.4 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 221-T Tank System.

F3.5 Decontamination

Decontamination activities are not planned for the 221-T Tank System.

F3.6 Identifying and Managing Contaminated Environmental Media

The 221-T Tank System is located inside the 221-T Canyon. Contaminated environmental media is not anticipated.

F3.7 Confirming Closure

The 221-T Tank System will be closed in conjunction with T-Plant CDI activities. All dangerous or mixed waste has been removed using the practices commonly employed to remove waste from the tanks (i.e., pumping), although solid residue remains in an amount undetectable by the level detection system of the tank. The 221-T Tank System is located inside the 221-T Canyon Building; therefore, any potential releases of dangerous or mixed waste will be contained within the 221-T Canyon Building. The 221-T Tank System has been isolated preventing addition of waste. Post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated. Post-closure care of the 221-T Tank System will be identified for the 221-T Canyon Building during the T-Plant Complex CDI.

F3.8 Sampling and Analysis and Constituents to Be Analyzed

F3.8.1 Sampling and Analysis Plan

Sampling and analysis of the 221-T Tank System residue, if deemed necessary, will be identified and performed in conjunction with T-Plant CDI activities. As part of the CDI, a data quality objectives (DQO) process will be conducted to determine any data needs necessary to support final disposition of the 221-T Canyon Building. The T-Plant Complex OUG Part A Form identifies potential characteristics of the waste in the tanks, using waste numbers for the chemicals potentially received, and will be used during the DQO process.

F3.9 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered, professional engineer will be retained to provide certification of the closure and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

F3.10 Closure Certification

In accordance with WAC 173-303-610(6), certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to Ecology by registered mail within 60 days of completion of 221-T Tank System DWMU closure. The certification will be signed by the owner or operator and by an independent, qualified, registered, professional engineer.

F3.11 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 221-T Tank System will remain in an "as-is" state. Post-closure requirements for DWMUs in the 221-T Canyon Building will be required.
The Permittees will submit a permit modification to amend this closure plan to coincide with coordination activities with past practice disposition under the TPA Action Plan (Ecology et al., 1989b), Chapter 8.0, "Facility Disposition Process." The 221-T Tank System will undergo final closure under the CDI activities associated with the T-Plant Complex OUG.

F4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan.
This DWMU is located within the 221-T Canyon building, a large operating facility that currently serves as both waste treatment and storage at the Hanford Site for multiple waste streams. The TPA Action Plan (Ecology et al., 1989b) identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. Those units have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Chapter 8.0, "Facility Disposition Process," of the TPA Action Plan (Ecology et al., 1989b), contains the process for determining final disposition of facilities like the T-Plant Complex. An extended closure period is required for closure of the 221-T Tank System to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989a) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of extended closure activities in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed.

F5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

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Attachment A

HNF-8812, Revision 1, T Plant Cell Investigation Phase II Report

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HNF-EDC- 02 - 13921

Page 1 of 2

ENGINEERING DOCUMENT CHANGE CONTROL

Change Identification

21. Release:

DEC 18 2002
DATE:
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HANFORD RELEASE
ID: 12

1. Change Category:
☒ Direct Revision ☐ Supplemental Change ☐ Page Change
☐ Supersedure ☐ Cancel/Void ☐ New

2. Classification of Change: dp 12/18/02
☒ Major ☒ Minor ☐ Conf Baseline

3. Date: 12/09/02

4. Originator's Name, Organization, MSIN, and Telephone No.:
K.L. Hladek, FH Waste Managment Planning and Projects, 372-3201

5. USQ Required? ☐ Yes ☒ No USQ No.: _____ CX No.: _____

6. Technical Authority:
K.L. Hladek

7. Project/Program (WMP, FFTF, etc.): WMP

8. Area: ~~200W~~ RCHN dp 12/18/02

9. Building: ~~221-T~~ 2420 Stvne dp 12/18/02

10. Reviewer Designator: N/A

11. Plan:
N/A

12. Criteria:
N/A

13. Change Description:
General update of text and revision of cell content data sheets.

14. Documents Issued or Changed by this EDC:

Document	Page	Revision	Comments
HNF-8812	all	0	

15. Technical Justification (Need):
Update required due to changing cell contents at T Plant. Updated due to cell cleanout progress.

Evaluation and Coordination

16. Change Impact:
None

17. Affected Documents:

Document Number	Page	Revision	Person Notified/Comments
N/A			

A-6003-282 (10/01)

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ENGINEERING DOCUMENT CHANGE CONTROL (continued)

Verification

18. Verification:
Peer review

19. Approvals/Reviews:

Initials, Last Name, Date, MSIN	Initials, Last Name, Date, MSIN
Technical Authority: K.L. Hladek H8-44 12/18/02	Technical Authority Manager: D.E. McKenney H8-44 12/17/02
Reviewer (Title): M.D. Ellefson, Tech. Services 12/18/02	Reviewer (Title):
Reviewer (Title):	Reviewer (Title):
Reviewer (Title):	Reviewer (Title):
Reviewer (Title):	Reviewer (Title):

Solution

20. Change Description (Solution) - Continuation Sheet:
Report updates due to changing cell contents at T Plant. Updated due to cell cleanout progress.

A-6003-282 (10/01)

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	KL Hladek	Date 12/13/02
Project Title/Work Order: HNF-EDC-02-13921, T-Plant Cell Investigation Phase II Report		EDT No. NA
		ECN No. NA

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
WS Ayers	T3-28	x			
DG Black	H8-44	x			
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DE McKenney	H8-44	x			
BV Barnes	T3-28	x			
MD Ellefson	T3-05	x			
NJ Sullivan	T3-28	x			
JE Geary	T3-28	x			
Central Files	B1-07	x			

A-6000-135 (10/97)

HNF-8812
1

T Plant Cell Investigation Phase II Report

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

Fluor Hanford
P.O. Box 1000
Richland, Washington

Contractor for the U.S. Department of Energy
Richland Operations Office under Contract DE-AC06-96RL13200

Approved for Public Release
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HNF-8812
1

T Plant Cell Investigation Phase II Report

KL Hladek

Fluor Hanford

December 2002

Prepared for the U.S. Department of Energy
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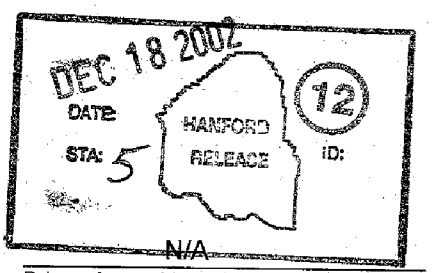

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HNF-8812
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For use with Technical Documents (when appropriate)	
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RECORD OF REVISION	(1) Document Number HNF-ECN-02-13921	Page 1

(2) Title
T Plant Cell Investigation Phase II Report

Change Control Record

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
RS 1	(7) Replaces HNF-8812, Rev. 0 completely per HNF-ECN-02-13921	DG Black 12-13-02	DJ 12/17/02

A-7320-005 (10/97)

HNF-8812, Rev. 1

T PLANT CELL INVESTIGATION PHASE II REPORT

December 13, 2002

INTRODUCTION

Activities associated with the clean up of the T Plant Canyon (221-T) include process cell clean out. During the planning and evaluation phase of that effort, some apparently unknown conditions were found in one of the process cells. A task team was formed to develop a database of available information about each of the process cells to review the information and make recommendations based upon that review regarding the potential hazards that might be encountered in proceeding with cell clean out activities. This database will be used to evaluate the hazards associated with each cell in future cell clean out activities.

Operations, procedures, and cell clean out techniques are not included within the scope of the task team investigation.

A copy of the information included in the database and the current format is attached. To facilitate use of the database, a "Data Field Definitions," listing is also provided in this report.

CONCLUSIONS AND RECOMMENDATIONS

No information was found by the task team that would indicate that there could be significant unexpected hazards in any of the process cells in the 221-T facility.

Table 1 is a summary table of the current cell database.

Table 1. Summary of Cell Investigation Data

Cell Number	Current Contents [1]	Cell Last Opened	Investigation Status [2]
Head End Cell A	Cell filled with grout	NA	NA
Head End Cell B	Cell filled with grout	NA	NA
1L & 1R	Now part of head end – not accessible	NA	NA
2L	Railroad tunnel – not a cell	NA	NA
2R	PWR pool – contains remaining PWR Core 2 blanket assemblies, racks and ancillary equipment.	Open	Complete
3L	Sludge storage rack – cell ready to receive KE Basin sludge containers	2002	Complete
3R	Open cell with pump storage rack that contains pumps and an agitator; miscellaneous debris on floor	Open	Complete
4L	Open cell with pump storage rack that contains pumps and mixers	Open	Complete
4R	Many jumpers; possibly other equipment	1986	Need permission to open cell
5L	Two large tanks and many installed jumpers. (Appears to be original cell equipment)	2001	Complete
5R	Tank 5-7 (contains liquid and sludge) and installed jumpers	2001	Complete
6L	Tank 6-1 (contains liquid and sludge), transfer pump and installed jumper	1999	Complete
6R	Open cell with pump storage rack that contains pumps and mixers	Open	Complete
7L	Two Purex tube bundles, thin tank (identity unknown), large tank (moved from 9L), centrifuge (moved from 8R) and 9 jumpers (2 originally in 7L, 7 moved from 8R)	2002	Complete
7R	Two Purex pulsar agitators, jumpers and miscellaneous debris.	Open	Complete
8L	Large tank, small tank and many jumpers installed. (Appears to be original process equipment)	1986	Need permission to open cell
8R	Cell is empty	2002	Complete
9L	Cell is empty	2002	Complete
9R	Large tank, centrifuge pedestal block and many jumpers (appears to be original process equipment)	1986	Need permission to open cell
10L	Sludge storage rack – cell ready to receive KE Basin sludge containers	2002	Complete
10R	Vent pipe, 3 small tanks, and 1 large process vessel (unknown identity)	1986	Need permission to open cell
11L	Large open top tank containing liquid and solid (salt cake) residues; transfer jet installed	2002	Complete
11R	Large open top tank	Unknown	Complete
12L	Open cell with large tank and silver reactor	Open	Complete
12R	Open cell with 4 girders (across top of cell), decontamination cage sprayer, and large amount of sandblast grit and small debris on bottom	Open	Complete

Cell Number	Current Contents [1]	Cell Last Opened	Investigation Status [2]
13L	Sludge storage rack – cell ready to receive KE Basin sludge containers	2002	Complete
13R	Skiff with residues, large tank (moved from 13L) and centrifuge (moved from 14R)	2002	Complete
14L	One large tank, 1 small tank; significant amount of sandblast grit and vibratory finisher media. (Tanks appear to be original process equipment.)	2001	Complete
14R	Cell is empty	2002	Complete
15L	Sludge storage rack – cell ready to receive KE Basin sludge containers	2002	Complete
15R	Tank 15-1 (contains liquid and sludge); installed jumpers and transfer jet	1999	Complete
16L	Believed to contain original process equipment: 2 tanks and associated jumpers (no video available)	Unknown	Need permission to open cell
16R	Cell is empty	2002	Complete
17L	One large tank, 1 small tank and many installed jumpers (appears to be original cell equipment); 2 drums of parts.	2001	Complete
17R	Large tank with jumpers attached (appears to be original equipment), centrifuge pedestal block (from cell 14R), centrifuge base (from cell 16R), 9'x5'x5' box with centrifuge lid (from cell 16R) and silver reactor (from cell 16R)	2002	Complete
18L	One large tank, 1 small tank, many jumpers still connected (appears to be original cell equipment.)	2001	Complete
18R	Centrifuge, centrifuge pedestal block, and catch tank (appears to be original cell equipment; all jumpers have been removed.)	2001	Complete
19L	One large tank with agitator, 1 small tank and many jumpers installed (appears to be original cell equipment)	2001	Complete
19R	Pump run-in tank, piping, pump test equipment	2001	Complete
20L	Unknown; crane cannot reach this cell to open	Unknown	Need permission to open cell
20R	Unknown; crane cannot reach this cell to open	Unknown	Need permission to open cell

Table notes:

[1] Cell contents as of December 1, 2002.

[2] "Complete" means that the cell contents have been confirmed and there are no issues requiring resolution before opening the cell in the future.

The T Plant organization will maintain the 221-T Cell Inventory and Status database under configuration control for use as a reference.

ACTIVITIES

The task team developed a preliminary database of information; the results were issued in a Phase I report, HNF-8812, Rev. 0. That information has been updated in this Phase II report. This report is planned to be the final phase of the investigation effort prior to turnover of future updates to the T Plant staff.

This information about cell contents and status was gathered on an initiative of Fluor Hanford in order to help reduce uncertainties regarding cell contents during future work in and around T Plant process cells. The Phase I team consisted of representatives inside and outside of FH, and team members are listed below. A limited number of the team members participated in the Phase II effort of updating the database.

Members of the T Plant Cell Investigation Team and the organization that they represented:

John Atwood	Waste Programs
Roberts Barcot	Waste Programs
Dale Black	Waste Programs
Bill Bowen	Quality Assurance
Ken Hladek – Team Lead	Waste Programs
Jack Kasper	Parsons
Mark Kerns	Waste Programs
Bryan Kidder	Communications
Art Lee	Systems Engineering
Jim Maupin	Quality Assurance
Pam Olsen	ES&H
Lee Roberts	Engineering
Hans Showalter	Rad Con
Dale McKenney	Waste Programs

The task team searched readily available documentation and compiled the results into a cell-by-cell listing. These documented data were not always consistent. This investigation only provided the information and sources. Resolution of conflicting information or comments on gaps in the data were not intended to be addressed in this investigation effort, nor were operational procedures and techniques. The second phase of the investigation, although limited in scope, updated the database to reflect current information, including which cells have been cleaned out to date.

Interviews of workers with specific knowledge of process and maintenance activities in the T Plant are an additional source of information about process cell contents. Scheduling around current work at T Plant did not permit this activity to be included in the Phase I or Phase II efforts. Such interviews would be expected to provide additional information on cell content and history, and are, therefore, a recommended follow-on activity. A list of personnel that would be potential interviewees was compiled. The following names have been suggested as good

interview candidates or sources of additional information or names of other candidates. The list is not in any order or preference or importance. Name, spelling, titles, locations, and "status" are not guaranteed.

Mike Doyle	Former Operations Manager
J. D. Anderson	Engineer
Mike Yencopal	
Howard Sharnock	
Jerry Entrop	Now at PFP
Maria Ortega	Engineer at T Plant 10-12 years ago
Izzy Zavala	
Jim Dudley	
Howard Muira	Could help provide other names
Roger Szelmeczka	
Doug Smith	
Brad Brannon	
Carol Davidson	Now retired
Ron Everham	
Dan Dabbs	
Curtis Richards	
Bill Frisbee	
Don White	
Gary Altmiller	
Tom Orgill	Could help provide other names
Russ Knight	
Bernie Serezik	
Wayne Killen	
Marta Cabellero	
Ed Adams	Could help provide other names
Don Ham	
William (Bill) Tyler	Currently at the HAMMER Facility
Wayne Gentry	
Steve Fryer	Retired but in the area, 627-5726
Pat Baynes	Currently with FH
Mike E. Johnson	
Blaine Barton	Currently with CHG
Roger Hulgrem	Retired but in the area
Note: Michele Gerber suggested we also contact Russ Knight and Bernie Saueressig.	

Further information that may be useful in any future investigations of cell contents and process facility timelines were developed for T Plant, PUREX, and B Plant. The timelines for T Plant and PUREX are attached to this report. The timeline for B Plant is available in the Record Management Information System as accession number D196845935, "B Plant Operations."

T PLANT ACTIVITIES

Following the Phase I effort of the task team, cell clean out activities at T Plant continued. Based upon the results of these activities, no anomalies or unexpected observations were experienced when compared to the Phase I report. The cells that were cleaned out, and their current status, is included in the updated database of this Phase II report.

Attachment 2 consists of copies of the most recent photos of cells in 221-T. Used in conjunction with the database information, they can be valuable in providing both validation of the interpretation of the data and in perspective of the size, shape, and nature of the material/equipment contained within the individual cells.

FUTURE WORK

When the Phase I report was commissioned, certain cells were not to be opened without permission from the Cell Investigation Team. At the time of the report, seven cells had not been opened: 4R, 8L, 9R, 10R, 16L, 20L, and 20R, and have not been opened since 1986, or earlier, and are still listed as "permission required to open." Since the publication of this Phase II report concludes the team's charter, authority to grant permission to open these cells should revert to the VP in charge of the project for T Plant. Plans to open these cells will be developed and implemented when funding and direction are provided by DOE.

DATA FIELD DEFINITIONS

The T Plant cell database contains various data fields. They are defined below. Note that not all of the fields are currently used for this Phase II product. It is expected that follow-on activities will provide more additional information; the additional (currently unused fields) would accommodate some of this expansion.

New Cell No. – The current cell designation (alphanumeric, e.g., 10L)

Old Cell No. – Previously used cell designation (numeric)

HNF-1982 Info. – Historical info from the HNF-1982 document, *Historical Records for 221-T Facility*.

MR-0452 Info. – Historical info. from the WHC-MR-0452 document, *A Brief History of the T Plant Facility at the Hanford Site*.

HNF-1982 Recent – Consists of "current" data from HNF-1982. It may or may not still represent what is in the cell today.

ISB and LTDES – Information from the Interim Safety Basis, HNF-SD-WM-ISB-006, Rev. 2, *Interim Safety Basis for Solid Waste Facilities (T Plant)*, and the Long-Term Decontamination Engineering Study, WHC-SD-WM-ES-283, *Long-Term Decontamination Engineering Study*. This field is includes data extracted from these two documents. Where the data agrees between the two documents, just a single entry is made. Where there is a difference, "[ISB]" or "[LTDES]" is used after the applicable data.

Video Info. – Includes information from review of the 1986 and 2001 video of the cells; information is designated by date.

Chemical Info. – Includes available information on what chemicals were used in the cell, and therefore may possibly still exist in the cell. The source of the information is cited, where applicable.

Plant Interface – Information on what equipment/chemicals may have been or were transmitted to or from other plants.

Radiological Info. – Available radiation field info from any available source. The source of the data (e.g., "[HNF-1982]" or "[1986 survey data]") is cited.

Interview 1 – (Also Interview 2). The three Interview fields are for documentation of personnel interview results. The name of the interviewee is cited.

Current Contents – As applicable, the current contents of the cell as verified by physical inspection and review of other data.

Property List – Contains data from the "T Plant Tracked Property" list, which is a Fluor Hanford database of government-tracked equipment. Pieces of equipment on this list that appear to be clearly identified to a cell are added to this field.

Investigation Status – Includes notes regarding the cell investigation status regarding the specific cell. For example, when it has been concluded that there is sufficient data on a cell to determine that no unusual hazards are likely to be present, the investigation would be noted as complete for this cell.

ATTACHMENT 1

T Plant Cell Investigation Database Sheets
Numbered Pages 1-42

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	Head End Cell A
Old Cell No	Head End Cell A
HNF-1982 Info	Radiochemical process improvement semi-works for the Hanford Engineering Works as well as other subsequent uses. A 7 foot separation wall from the rest of the canyon has been removed and the cell has been filled with grout, providing deck space.
MR-0452 Info	Radiochemical process improvement semi-works for the Hanford Engineering Works as well as other subsequent uses.
HNF-1982 Recent	NA. Filled with grout. No longer a cell.
ISB and LTDES	NA (Head End) Note: For all cells, info in the two references matches unless noted by [ISB] or [LTDES] after specific information.
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Cell filled with grout
Property List	
Investigation Status	NA

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	Head End Cell B
Old Cell No	Head End Cell B
HNF-1982 Info	Radiochemical process improvement semi-works for the Hanford Engineering Works as well as other subsequent uses. A 7 foot separation wall from the rest of the canyon has been removed and the cell has been filled with grout, providing deck space.
MR-0452 Info	Radiochemical process improvement semi-works for the Hanford Engineering Works as well as other subsequent uses.
HNF-1982 Recent	NA. Filled with grout. No longer a cell.
ISB and LTDES	NA (Railroad Tunnel)
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Cell filled with grout
Property List	
Investigation Status	NA

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	1L
Old Cell No	1
HNF-1982 Info	Storage of contaminated, discarded equipment. Separated by a sheet metal wall from rest of canyon. A wall separating the cells has been removed making one large single cell out of 1L and 1R. Houses the Containment System Test Facility, now abandoned.
MR-0452 Info	Storage of contaminated, discarded equipment.
HNF-1982 Recent	Used as storage for approximately 1800 kg of sodium. No info. Canyon crane cannot reach this cell due to partition. Cell blocks not installed and cannot be reinstalled.
ISB and LTDES	
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	None
Property List	
Investigation Status	NA

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	1R
Old Cell No	2
HNF-1982 Info	Storage of contaminated, discarded equipment. Separated by a sheet metal wall from rest of canyon. A wall separating the cells has been removed making one large single cell out of 1L and 1R. Houses the Containment System Test Facility, now abandoned.
MR-0452 Info	Storage of contaminated, discarded equipment.
HNF-1982 Recent	Used as storage for approximately 1800 kg of sodium. No info. Canyon crane cannot reach this cell due to partition. Cell blocks not installed and cannot be reinstalled.
ISB and LTDES	
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	None
Property List	
Investigation Status	NA

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	2L
Old Cell No	3
HNF-1982 Info	Railroad tunnel for bringing in irradiated fuel.
MR-0452 Info	Railroad tunnel for bringing in irradiated fuel.
HNF-1982 Recent	Today this is not considered a process cell. Cell has 6 cover blocks, rather than 4 as with other cells.
ISB and LTDES	N/A (Railroad Tunnel)
Video Info	None
Chemical Info	Charcoal mesh, synthetic ion exchange resin, and ion exhange resin may be present [LTDES Table C-5]
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	None
Property List	
Investigation Status	NA

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	2R
Old Cell No	4
HNF-1982 Info	Storage of slugs with ruptured jackets. This cell was kept filled with water.
MR-0452 Info	Storage of slugs with ruptured jackets. This cell was kept filled with water.
HNF-1982 Recent	Today this cell is used to store the PWR Core 2 blanket fuel assemblies under water. 72, 12' long fuel elements stored underwater in a 13' high by 27.5' long by 28' wide cell. Today this is not considered a process cell. Cell has 6 cover blocks, rather than 4 as with other cells.
ISB and LTDES	PWR Spent Fuel Storage Pool, 72 Elements
Video Info	None
Chemical Info	Charcoal mesh, synthetic ion exchange resin, and ion exhange resin may be present [LTDES Table C-5]
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	PWR Core 2 blanket assemblies; racks and ancillary equipment.
Property List	
Investigation Status	Complete

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	3L
Old Cell No	5
HNF-1982 Info	Coating removal, metal dissolving, and reduction.
MR-0452 Info	Coating removal, metal dissolving, and reduction.
HNF-1982 Recent	Essentially empty except for a few pieces of junk at the bottom. Exceptionally clean compared with the other cells.
ISB and LTDES	Misc. Equipment
Video Info	1986 - relatively empty. Small debris, hose, step off pad, tubing, misc. junk. [1:05:47 - 1:06:53] 4/23/01 - As above. Dry. Orange-stained, unchipped walls. No large items. Wrapped items, concrete chunks, tools/other metal items, many chokers, plastic.
Chemical Info	
Plant Interface	
Radiological Info	100-200 mR/hr shallow dose, 0 deep dose, cell bottom prior to cell cleanout (T Plant handout)
Interview1	
Interview2	
Current Contents	Sludge storage rack - cell ready to receive KE Basin sludge containers
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	3R
Old Cell No	6
HNF-1982 Info	Coating removal, metal dissolving, and reduction.
MR-0452 Info	Coating removal, metal dissolving, and reduction.
HNF-1982 Recent	A "hot" cell in which some highly radioactive pumps from B Plant and PUREX have been stored in a pump rack. About 16 pumps on rack. These pumps were originally stored in anticipation of being refurbished for reuse.
ISB and LTDES	Pumps from PUREX and B Plants
Video Info	1986 - Pump rack with pumps. Cell looks fairly clean otherwise. [59:23 - 1:04:29] 4/23/01 - As above. Dry. ~13 - 20 pumps plus several more that have fallen below rack. No visible liquid or moisture. From photos, no ID visible on pumps except two have illegible (PA-262 or -282) identification.
Chemical Info	
Plant Interface	
Radiological Info	Radioactivity levels two feet back from the lip of the cell in the canyon are about 100 mR/hr when the cell blocks are removed. Activity at the walkway is about 1 R/hr. (HNF-1982) 800-3500 shallow dose, 400-600 deep dose, top of pumps (T Plant handout)
Interview1	
Interview2	
Current Contents	Open cell with pump stroage rack that contains pumps and an agitator; miscellaneous debris on floor
Property List	
Investigation Status	Complete - open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	4L
Old Cell No	7
HNF-1982 Info	Coating removal, metal dissolving, and reduction.
MR-0452 Info	Coating removal, metal dissolving, and reduction.
HNF-1982 Recent	Contains an open pump rack. No cell blocks installed. Pumps on rack: 22-1, PC 52, 8P-001, 1P-521 (wrapped), 6P55 (wrapped), X-02 (wrapped), 36PF-13 (wrapped), H-2-74417 (wrapped),), 2 pumps w/o I.D. or motors, 4 pumps w/motors no I.D. Two large jumpers. Pump 40 PF10 on deck along side 4L.
ISB and LTDES	Rack 1 PUREX XC-1 Pump 1 B Plant 22-1 Pump 1 PUREX J-21 Pump 1 PUREX 6P-J5 Pump 1 PUREX (no ID) Pump 1 PUREX (no ID) Pump 1 PUREX (no ID) Pump 1 PUREX XD-2 Pump 2 PUREX F-13 Pumps w/o motors 1 PUREX JG4173 Pump 1 PC52 Pump 2 Tank Farm Sluicer Assemblies
Video Info	No video. From photos, pump rack with various pumps and mixers on rack. Verified pumps: 22-1, 6P-J5.
Chemical Info	
Plant Interface	
Radiological Info	Dose rate 10 mR/hr (HNF-1982)
Interview1	
Interview2	
Current Contents	Open cell with pump storage rack that contains pumps and mixers
Property List	All of these items are listed for Cell 4 - not distinguished between 4L and 4R: Monitoring System (Cohu), 2 chillers (Dunham Bush), 2 condensers (Parmec Aire), electrical station equipment (Hanford), grappler (shop made), hoist (Yale), work platform (shop made), columns (shop made), column (unknown).
Investigation Status	Complete - open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	4R
Old Cell No	8
HNF-1982 Info	Metal solution storage.
MR-0452 Info	Metal solution storage.
HNF-1982 Recent	Has a 14 inch diameter vent pipe resting in one corner. It is about 17 ft. long, and has an elbow ("hockey stick") on top. The bottom of the cell is covered with many abandoned jumpers (~25). The jumpers are not connected, but are "dump packed" in the bottom of the cell. Misc. equipment, jumpers, and parts. Pump.
ISB and LTDES	1 Misc. Jumper Assembly 1 Pulser 2 Contaminated Filter Assemblies
Video Info	1986 - Vent pipe in corner. Many discarded jumpers. [1:11:47 - 1:13:59]
Chemical Info	
Plant Interface	
Radiological Info	Dose rate 300 to 450 mR/hr. (HNF-1982)
Interview1	
Interview2	
Current Contents	Many jumpers; possibly other equipment.
Property List	All of these items are listed for Cell 4 - not distinguished between 4L and 4R: Monitoring System (Cohu), 2 chillers (Dunham Bush), 2 condensers (Parmec Aire), electrical station equipment (Hanford), grappler (shop made), hoist (Yale), work platform (shop made), columns (shop made), column (unknown).
Investigation Status	Need permission to open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	5L
Old Cell No	9
HNF-1982 Info	Sewage disposal, holding tanks.
MR-0452 Info	Sewage disposal, holding tanks. [Note that this does not mean sanitary sewage, but process sewage].
HNF-1982 Recent	Has two closed tanks in operation, tanks 5-6 and 5-9, both of which are about 10 ft. in diameter and about 10 ft. high, several jumpers between tanks. A jumper from tank 5-9 to tank 5-6, a jumper from tank 5-6 to 5-7, and a jumper from tank 5-9 to tank 5-7. 3 jumpers on top of tanks not connected. No water on floor, very little sludge.
ISB and LTDES	Two tanks in use: - 5-6 (4800 gal [LTDES], 19,000 L, 5100 gal [ISB]) - 5-9 (4600 gal [LTDES], 18,000 L, 4800 gal [ISB]) LTDES Decon function: Radioactive liquid waste storage. Enclosed Tank 5-6 noted as 4600 gal. Enclosed Tank 5-9 4808 gal.
Video Info	1986 - Two tanks with lids. Connected and disconnected jumpers. Tanks may have been added as part of decon. system, but look similar to original equipment. [26:23 - 29:46] 2001 - As above. Lots of corrosion, staining. Dry. (But tank contents unknown). Corroded and yellow-stained paint above connectors, clean bottom except for glove and crescent wrench. ~1/2 jumpers still connected.
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Two large tanks and many installed jumpers. (Appears to be original cell equipment).
Property List	2 Tanks (Struthers Wells)
Investigation Status	Complete - Opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	5R
Old Cell No	10
HNF-1982 Info	Sewage disposal, sewer cell.
MR-0452 Info	Sewage disposal, sewer cell. [Note that this does not mean sanitary sewage, but process sewage].
HNF-1982 Recent	Deepest cell in the plant. Full cell rectangular open-top tank (5-7 tank). The cell is called the 5-8 tank, no longer in use as a tank. It is possible to jet the contents of tank 5-7 to tank 5-9, also 5-7 to 5-6. Jumpers on the wall (~6), and a number of junk jumpers (~4) in the bottom of the cell. One 40' jumper, high [?] side, not connected. Back wall five 40' jumpers to 5-7, one loose. Low side eight 4-' jumpers. 24" drain - front corners. Flooded, much sludge.
ISB and LTDES	Original Equipment Tank 5-7 (38,000 L [10,000 gal]) LTDES Decon Function: Radioactive liquid waste storage. Open tank 5-7 (SS, 14,000 gal) and sumps 508 (14' X 16' X 22') The radioactive drain lines from all other cell floors drains in tank 5-7
Video Info	1986 - Almost full-size tank in cell with liquid. Liquid was over the level of the top of the tank at this time (tank not visible). Pipes, jumpers. Tank appears to be constructed with a "flared out bottom" (cell widens out in deeper areas). 2001 - Liquid within tank. Cracked sludge on side walls. No jumpers, 45' deep receiver tank, two 24" headers terminate above tank, active bubbling (probably from "nozzle 47 - liquid level and pressure"), rack and pump above water, >2" cracked overflow sludge adjacent to tank, rad sign, plastic bottle, orange stain on walls. (Video footage 19:19-26:23 and 29:46-33:47)
Chemical Info	F001-F005 from tank 5-7 contents; PCBs >500 ppm in waste
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Tank 5-7 (contains liquid and sludge) and installed jumpers.
Property List	Tank (Struthers Wells).
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	6L
Old Cell No	11
HNF-1982 Info	Spare. Sometimes was used for a by-product precipitation before extraction.
MR-0452 Info	Spare. Sometimes was used for a by-product precipitation before extraction. Section 6 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Semi-rectangular tank w/rounded corners. Has openings in top for agitators, long since removed leaving no covers on the openings. The tank is full of liquid. Both the cell and the tank drain into tank 5-7. There are ~4 jumpers stored in the cell. There are two cover blocks installed. [Handwritten comments unreadable, includes comment about approx. 3 jumpers].
ISB and LTDES	Tank 6-1 (53,000 L [14,000 gal]), misc. jumpers [ISB]
Video Info	1986 - Oval-shaped large tank. Open access ports. Full of liquid. Like tank in 11L, but with lid rather than open top. Two to three jumpers connected. [57:36 -
Chemical Info	Assume F001-F005 from Tank 6-1 contents. PCBs found in sludge (sample number 221T-99-022)
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Tank 6-1 (contains liquid and sludge), transfer pump and installed jumper
Property List	Tank (Hanford)
Investigation Status	Complete - opened 1999

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	6R
Old Cell No	12
HNF-1982 Info	Spare. Sometimes was used for a by-product precipitation before extraction.
MR-0452 Info	Spare. Sometimes was used for a by-product precipitation before extraction. Section 6 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains an open pump rack. Beneath the pump rack is an open tank that is used to cool and test the pumps. It is believed that this is the original equipment tank in the original cell. There are no cover blocks on this cell. Pumps on rack: A 20-1, P-17-2, P-22-1, PA-22-1, P-13-1, P-14-2-1, A11-1-1, 2A-31-1, P-26-3, PA-18-1, P-25-1, JG 4173. 1 pump w/motor no I.D. 4 pumps w/o motor or I.D. 1 BA 46400 jumper. In cell - 1 open top bath tub.
ISB and LTDES	Tank 6-1 [LTDES] 1 Agitator 18-1 1 Pump 25-1 1 Agitator 2A-31-1 1 Pump P2P-F13 1 Pump P-22-1 1 Agitator A20-1 1 Agitator (philly gears agitator) 1 Pump PA-22-1 1 Pump 45P-F13 1 Pump P26-3 1 Agitator A11-1-1 1 Pump P17-2 1 Pump P-13-1 3 High-Speed B Plant Agitators 1 (no ID) PUREX Pump LTDES Decon Function: Radioactive liquid waste storage from Building 2706-T. Empty Cell (~18' X 13' X 22')
Video Info	No video. From photos: Pump rack, many pumps, mixers, and other parts. Verified: P-25-1, P-26-3, P-22-1, PA-22-1, A-11-1-1, P-14-2-1
Chemical Info	
Plant Interface	
Radiological Info	High radiation area on deck adjacent to cell
Interview1	
Interview2	
Current Contents	Open cell with pump storage rack that contains pumps and mixers.
Property List	Tank (Hanford)
Investigation Status	Complete - cell open

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	7L
Old Cell No	13
HNF-1982 Info	Extraction (spare).
MR-0452 Info	Extraction (spare). Section 7 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	There are two PUREX tube bundles stored. These are not connected. There is some junk stored in the bottom of the cell, including a PUREX tank vent and a pulser rack.
ISB and LTDES	2 PUREX Ti-Tube Bundles 1 PUREX Tower Vent Line Pulser Stand
Video Info	1986 - Two unknown cylindrical objects. Added to cell rather than original. Referred to as PUREX tube bundles elsewhere, but may or may not be these. Smaller vessel dumped, angled into corner, hot water heater sized and shaped, w/red label. Jumpers in cell. [52:03 - 55:13]
Chemical Info	
Plant Interface	
Radiological Info	Dose rate 300 - 18,000 mR/hr window open; 200 - 3500 mR/hr window closed (survey report TC001039) Equipment contamination surveys performed (survey report TC001040)
Interview1	
Interview2	
Current Contents	Two Purex tube bundles, 1 thin tank (identity unknown), large tank (moved from 9L), centrifuge (moved from 8R), 9 jumpers (2 originally in 7L, 9 moved from 8R).
Property List	Tank (Hanford)
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	7R
Old Cell No	14
HNF-1982 Info	Extraction (spare).
MR-0452 Info	Extraction (spare). Section 7 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains stored junk, including two pulsers on stands (this is sort of a pump) and a jumper pan. One jumper is connected. There is also a work platform. The cell has two cover blocks installed.
ISB and LTDES	2 Pulser 001 AR Agitator 2 Jumpers
Video Info	1986 - ~5-gal bucket upside down covering top of large piece of unknown equipment (motor?) . 2nd piece of equipment on other side of cell. These may be REDOX pulsers. Small jumper pan with jumpers, connectors, misc. metal in bottom ~3' of cell. Only one connector still attached near coverblocks. [1:04:29 - 1:05:27]
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Two Purex pulsar agitators, jumpers and miscellaneous debris.
Property List	
Investigation Status	Complete - open

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	8L
Old Cell No	15
HNF-1982 Info	Extraction.
MR-0452 Info	Extraction. Section 8 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains two tanks: one 9' by 9' and one 4' by 9'. These items appear to be still connected. Original tanks and jumpers.
ISB and LTDES	Original Equipment Tanks and Jumpers
Video Info	1986 - Centrifuge or pump on top of tank (covered). Smaller tank. Jumpers connected. [50:24 - 52:03]
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Large tank, small tank and many jumpers installed. (Appears to be original process equipment)
Property List	
Investigation Status	Need permission to open.

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	8R
Old Cell No	16
HNF-1982 Info	Extraction
MR-0452 Info	Extraction. Section 8 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains centrifuge pedestal, and a centrifuge that is stored (dumped) into cell. Some jumpers stored in bottom of cell. Centrifuge appears disconnected, but there are some jumpers still connected to the wall nozzles. Centrifuge w/o motor. Misc. jumpers. Sand on bottom. Drains - OK.
ISB and LTDES	Original Equipment Jumpers and Centrifuges
Video Info	1986 - Centrifuge, appears somewhat disassembled, on concrete pedestal. Large tank removed. [55:13 - 57:15]
Chemical Info	
Plant Interface	
Radiological Info	Dose rate 100 - 700 mR/hr window open and <100 - 200 mR/hr window closed, before equipment removal (survey report TC001039) Contamination surveys performed on equipment removed from cell (survey report TC001040)
Interview1	
Interview2	
Current Contents	Cell is empty
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	9L
Old Cell No	17
HNF-1982 Info	Treatment of waste metal solution.
MR-0452 Info	Treatment of waste metal solution. Section 9 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Tank in the bottom of cell. Appears to be about 9' dia. by 9' high. One jumper connected. A small amount of junk is dumped in bottom of cell. One jumper from first head on low side to 6th head on high side. One large open top tank (empty). One short SS pipe (10') flange on one end.
ISB and LTDES	Original Equipment Tanks, Jumpers, Etc.
Video Info	1986 - Single tank, reflection of "water" inside. <16" of water in cell bottom. (Washdown water from activities ongoing during video). Drain likely plugged? Paint chips and concrete chunks. [11:29 - 19:44]
Chemical Info	
Plant Interface	
Radiological Info	Dose rate 100 - 85,000 mR/hr window open, 100 - 5,200 mR/hr window closed before tank was removed from cell (Survey report TC001039) Contamination survey performed on tank prior to removal from cell (survey report TC001040)
Interview1	
Interview2	
Current Contents	Cell is empty
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	9R
Old Cell No	18
HNF-1982 Info	Treatment of waste metal solution.
MR-0452 Info	Treatment of waste metal solution. Section 9 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains an installed centrifuge pedestal in the bottom of the cell. A few installed jumpers. Many (~18) are disconnected and are lying on the bottom of the cell. The cell also contains a 6' dia. by 6' high tank. Three installed jumpers were identified. There is a connected jumper from nozzle 55 to nozzle 70.
ISB and LTDES	Original Equipment Tanks, Jumpers, Centrifuges
Video Info	1986 - Centrifuge pedestal. One tank w/unknown contents. Connected jumpers. [7:43 - 11:29]
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Large tank, centrifuge pedestal and many jumpers (appears to be original process equipment)
Property List	
Investigation Status	Need permission to open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	10L
Old Cell No	19
HNF-1982 Info	Treatment of waste metal solution (spare).
MR-0452 Info	Treatment of waste metal solution (spare). Section 10 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	There are no jumpers still connected. There is a 55-gallon drum of connector heads stored in the bottom of the cell. There are also four jumpers stored in the bottom of the cell. 55-gal drum with misc. junk, connector heads.
ISB and LTDES	Misc. T Plant Jumpers, Drums of Connector Heads
Video Info	1986 - Jumpers/junk on bottom of cell.. No drums at this time. [6:47 - 7 ;43]
Chemical Info	
Plant Interface	
Radiological Info	Dose rate 40 mR/hr. (HNF-1982)
Interview1	
Interview2	
Current Contents	Sludge storage rack - cell ready to receive KE Basin sludge contaienrs
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	10R
Old Cell No	20
HNF-1982 Info	Treatment of waste metal solution (spare).
MR-0452 Info	Treatment of waste metal solution (spare). Section 10 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Vert. tank ~4' dia. by 8' tall in cell bottom. Four smaller cylindrical tanks mounted on single base in bottom of cell. Vent pipe ~12' long by ~14" dia. lying in corner of cell. Does not appear that there are any jumpers connected. SS tube 2' [?] dia. standing on end [?]. 8' dia. tank opening on top. Small [???] on bottom of cell. 4 small to medium tanks interconnected on single base.
ISB and LTDES	Open Top Decon Tank (14'x16'x10')
Video Info	1986 - Vent pipe in corner. Cylindrical object, like a tank, in corner, unknown source, 4 to 5 ft diameter. Four tanks in cell in addition to this object. Rounded-top appearing object (bowling ball size?) with 3 visible round indentations on upper side (for picking up or turning?). Nothing in cell looks like original equipment. [14:44 - 19:19]
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Vent pipe, 3 small tanks and 1 large process vessel (unknown identity).
Property List	
Investigation Status	Need permission to open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	11L
Old Cell No	21
HNF-1982 Info	Spare (unequipped, as of 1945).
MR-0452 Info	Spare (unequipped, as of 1945).
HNF-1982 Recent	A full-cell open-top tank. (The cell acts as a tank). There are no apparent connected jumpers. 1 large catch tank.
ISB and LTDES	Open Top (full cell) Decon Tank (14'x16'x10'; 14,000gal) Open Top Waste Tank (14'x16'x10'; 14,000gal)
Video Info	1986 - Open top oval tank with liquid. [00:00 - 00:07] 2001 - Open top oval tank (14,000 gal SS) with greenish liquid and whitish crystals. Evidence of significant evaporation on tank sides, ~2" liquid and ~4" residuals level is current estimate. Assumed to be a potassium permanganate and caustic solution used as a dip tank for decon purposes.
Chemical Info	Liquid and solid samples obtained in 2002. pH of liquid is 13.3, solid is 12.1. Contains regulated qtys. of Cd, Cr, Pb, and Se. PCBs below regulatory thresholds. F001-F005 due to decontamination activities performed in the tank. (T Plant sample numbers 221T-02-014 through 019)
Plant Interface	
Radiological Info	Dose rate around cell 40 mR/hr. (HNF-1982) 215 mR/hr open window, 5 mRem/hr closed window. (T Plant handout)
Interview1	
Interview2	
Current Contents	14000 gallon open top tank containing liquid and solid (salt cake) residues; transfer jet installed.
Property List	Tank (Hanford)
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	11R
Old Cell No	22
HNF-1982 Info	Spare (unequipped, as of 1945).
MR-0452 Info	Spare (unequipped, as of 1945).
HNF-1982 Recent	Cover block is steel and concrete (all other cells not noted are concrete). Contains 1 large, open-top oval tank. No known connected jumpers. There is one jumper, the transfer jumper from tank 11R to tank 15R. Believed to be orig. tank in the cell.
ISB and LTDES	Open-top SS waste tank (4.3 m [14 ft] deep; 53,000 L [14,000 gal]) [ISB] LTDES Decon. Equip.: Decon Thimbles. Immersion tank for chemical decon purposes. Piping includes air, steam, caustic, acid, and water. 68" deep by 50" diameter, SS, 2128 gal capacity, immersion tank for chemical decon purposes. Piping includes air, steam, caustic, acid, and water. 4 to 1 and 5 to 1 Portable Chemical Spray Pumps. Location Where Needed (i.e., 11R, 13R, 15R). Beta-gamma decon using chemicals or water. Pressure at nozzle four times greater than air pressure applied. SS pump section. Outlet discharge pressure is four or five times greater than inlet pressure. LTDES Decon Function: Radioactive liquid waste storage. Open tank 11-L [typo?] (SS, 14,000 gal capacity)
Video Info	None
Chemical Info	Assume F001-F005 from decontamination activities performed in the cell.
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	14000 gal open top tank.
Property List	Tank (Hanford)
Investigation Status	Complete

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	12L
Old Cell No	23
HNF-1982 Info	Storage and oxidation of metal solution.
MR-0452 Info	Storage and oxidation of metal solution.
HNF-1982 Recent	Contains a silver reactor. There is a 10' high by 10' dia. tank and a second tank ~4' by 6' oval. There is one cover block installed.
ISB and LTDES	Decon Cell (Empty) [LTDES] Silver reactor, 2 tanks [ISB] LTDES Decon Function: Decon cell. Open cell (no cover block, ~18' X 13' X 22')
Video Info	None
Chemical Info	Assume F001-F005 from decontamination activities performed in the cell.
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Large tank and silver reactor.
Property List	
Investigation Status	Complete - open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	12R
Old Cell No	24
HNF-1982 Info	Storage and oxidation of metal solution.
MR-0452 Info	Storage and oxidation of metal solution..
HNF-1982 Recent	The cell is open, and contains a small number of misc. jumpers. There is one block installed. The block has a large crack, and must be inspected carefully before lifting.
ISB and LTDES	Decon Cell (Empty) [LTDES] Misc. jumpers. In use as decon. cell. [ISB] LTDES Decon Function: Decon cell. Open cell (no cover block, ~18' X 13' X 22')
Video Info	2001 - Lots of junk. Dry and dirty. Cage used for grit blasting, lots of grit. Aerosol can, plywood, car tire, metal items, chokers, decon cage sprayer, general debris.
Chemical Info	Assume F001-F005 from decontamination activities performed in the cell.
Plant Interface	
Radiological Info	Bottom of cell, 30 - 4700 shallow dose, 5 - 500 deep dose (T Plant handout). 500 mR/hr penetrating dose rate, within 2 feet of bottom of cell. (T Plant video meeting).
Interview1	
Interview2	
Current Contents	Open cell with 4 girders (across top of cell), decontamination cage sprayer, large amount of sandblast grit and miscellaneous small debris including aerosol cans.
Property List	Tank (Struthers Wells)
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	13L
Old Cell No	25
HNF-1982 Info	First decontamination cycle, by-product precipitation.
MR-0452 Info	First decontamination cycle, by-product precipitation. Section 13 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains a large 8' dia. tank in the bottom of the cell. There are no connected jumpers. 1 9 x 9 tank. Some sand at bottom of cell. Drain not plugged. Key block has crack.
ISB and LTDES	PUREX Off-Gas Silver Reactor [LTDES] Tank [ISB]
Video Info	1986 - one large vessel with lid. [5:23 - 6:47] 2001 - as above. Lots of small debris, like paint chips. No silver reactor. Lots of grit (from 12R sandblasting). Tank has small openings from disconnected jumpers, can't see bottom.
Chemical Info	No equipment remaining, but any floor residues removed would be assumed F001-F005 due to decontamination activities performed in the cell.
Plant Interface	
Radiological Info	Dose rate: 40 mR/hr at front of cell. 120 mR/hr towards back of cell. (HNF-1982) 100 - 2000 uncorrected ~6' from cell bottom (T Plant handout). 2R/hr about 2 feet from bottom of cell. Dose rate in the tanks dropped off. 350 mR/hr around perimeter of cell. (T Plant video meeting).
Interview1	
Interview2	
Current Contents	Sludge storage rack - cell ready to receive KE Basin sludge containers
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	13R
Old Cell No	26
HNF-1982 Info	First decontamination cycle, by-product precipitation.
MR-0452 Info	First decontamination cycle, by-product precipitation. Section 13 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	One 9' by 9' tank. Misc. junk is stored in one corner. Silver reactor formerly stored in this cell was moved to cell 12L. No connected jumpers. 1 jumper pan w/liquid. 4 drums of jumper heads and misc. junk. Cell bottom has ~3" of sand, drain plugged.
ISB and LTDES	Jumpers and Connector Heads Tank [ISB] LTDES Decon Equipment: 4 to 1 and 5 to 1 Portable Chemical Spray Pumps. Location Where Needed (i.e., 11R, 13R, 15R). Beta-gamma decon using chemicals or water. Pressure at nozzle four times greater than air pressure applied. SS pump section. Outlet discharge pressure is four or five times greater than inlet pressure. LTDES Decon Function: Radioactive liquid waste drainage for SS decon pad. Empty cell (~18' X 13' X 22')
Video Info	1986 - Liquid in rectangular tank (skiff) [00:08 - 05:23] 2001 - 3' x 8' x 10' skiff w/~6" crust (paint chips, grit, decon. detergent, concrete?) Looks dry. Discarded bucket in skiff. Bailed drum containing connector heads, adjacent to skiff. Jumper connectors, paint chips, sand blast grit.
Chemical Info	Assume F001-F005 from decontamination activities performed in the cell.
Plant Interface	
Radiological Info	Dose rate 1,000 - 15,200 mR/hr window open, 100 - 2,000 mR/hr window closed prior to addition of 14R centrifuge (survey report TC-001061) Contamination surveys performed on equipment (survey report TC-001083)
Interview1	
Interview2	
Current Contents	Skiff with residues, large tank (moved from 13L) and centrifuge (moved from 14R).
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	14L
Old Cell No	27
HNF-1982 Info	First decontamination cycle, product precipitation.
MR-0452 Info	First decontamination cycle, product precipitation. Section 14 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains a centrifuge and a centrifuge base.
ISB and LTDES	12 Centrifuges; Centrifuge Block [LTDES] Misc. centrifuge parts [ISB]
Video Info	2001 - Two tanks with open tops. Larger tank contains ~4" of dry, powdery/crusty whitish material (possibly ground vibratory finisher pellets). Smaller tank appears empty. Paint chips and small-sized junk in cell. Dry.
Chemical Info	Assume F001-F005 from decontamination activities performed in or above cell.
Plant Interface	
Radiological Info	Up to 350 Rad/400 mrem 6" outside vessel (drops to <100 mrem/hr, zero inside). (T Plant handout)
Interview1	
Interview2	
Current Contents	One large tank; 1 small tank; significant amount of sandblast grit and vibratory finisher media. (Tanks appear to be original process equipment.)
Property List	
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	14R
Old Cell No	28
HNF-1982 Info	First decontamination cycle, product precipitation.
MR-0452 Info	First decontamination cycle, product precipitation. Section 14 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains one concrete centrifuge base and a complete centrifuge from B Plant. The centrifuge is not hooked up, and there are no known jumpers connected.
ISB and LTDES	Original Equipment [LTDES] Misc. centrifuge parts [ISB] LTDES Decon. Equip.: Electrochemical Decon Equipment. Alpha and beta-gamma decon using reverse electroplating processes in phosphoric chromic acid bath. 4' X 4' X 6', SS, 700 gal. capacity. Rectified input power requirement of 25 A for 3-phase 440 VAC; produces 1000 A at 0 to 12 V.
Video Info	1986 - Centrifuge (not on pedestal) on cell bottom. Angled centrifuge pedestal with nothing on top. [1:08:35 - 1:11:47 need to confirm] 2001 - As above. Lots of grit in bottom. Greenish stain on 1/3 of floor and part of pedestal. Suspected residual chromic acid from electropolisher.
Chemical Info	Assume F001-F005 from decontamination activities performed in cell. Green staining, probably from electropolisher chromic acid solutions, can be seen.
Plant Interface	
Radiological Info	Dose rates 400 - 84,000 mR/hr window open, 0 - 400 mR/hr window closed, before removal of equipment (survey report TC-001061) Contamination surveys performed on equipment before removal (survey report TC-001083)
Interview1	
Interview2	
Current Contents	Cell is empty
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	15L
Old Cell No	29
HNF-1982 Info	Treatment of decontamination wastes.
MR-0452 Info	Treatment of decontamination wastes. Section 15 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Cover block is steel and concrete (all other cells not noted are concrete). 3 empty fuel racks stored in bottom of cell. Also two fuel canisters. A few of the cell connections are blanked. There are no installed jumpers.
ISB and LTDES	Waste Tanks 15-6 and 15-9 (not in use) Misc. equipment [ISB]
Video Info	1986 - Six fuel racks (considered three racks due to configuration?) in bottom. Four (two pairs of two attached canisters) fuel canisters (N Reactor) standing up on side of cell, believed empty. One pair has tops with holes, other pair has no tops. Possibly one jumper installed? [40:05 - 42:04]
Chemical Info	No equipment remaining, but any floor residues removed would be assumed F001-F005 due to decontamination activities performed in the cell.
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Sludge storage rack - ready to receive KE Basin sludge containers
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	15R
Old Cell No	30
HNF-1982 Info	Treatment of decontamination wastes.
MR-0452 Info	Treatment of decontamination wastes. Section 15 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Cover block steel and concrete (all other cells not noted are concrete). Contains large oval open-top tank in bottom of cell, not believed to be original. Installed in 1960 from U or B Plant (?), receives waste from tank 5-7. Some jumpers appear to be connected (~5). 4 jumper heads (no good). Drain not plugged. Flow to drain good. Bottom of cell has little bit of trash.
ISB and LTDES	Waste Tank 15-1 (53,000 L [14,000 gal]) LTDES Decon. Equip.: Decon Thimbles. Immersion tank for chemical decon purposes. Piping includes air, steam, caustic, acid, and water. 48" deep by 30" diameter, SS, 350 gal. Capacity. 48" deep by 36" diameter, SS, 332 gal. Capacity. 4 to 1 and 5 to 1 Portable Chemical Spray Pumps. Location Where Needed (i.e., 11R, 13R, 15R). Beta-gamma decon using chemicals or water. Pressure at nozzle four times greater than air pressure applied. SS pump section. Outlet discharge pressure is four or five times greater than inlet pressure. LTDES Decon Function: Radioactive liquid waste storage. Open tank 15-1 (SS, 14,000 gal. Capacity)
Video Info	1986 - Oval tank without lid full of liquid (same design as tank in 11L and 11R). [1:06:54 - 1:08:35]
Chemical Info	Assume F001-F005 from tank 15-1 contents. PCBs found in tank sludge (T Plant sample 221T-99-023)
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Tank 15-1 (large open-top tank)
Property List	Tank (Hanford)
Investigation Status	Cell is visible.

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	16L
Old Cell No	31
HNF-1982 Info	Second decontamination cycle, by-product precipitation.
MR-0452 Info	Second decontamination cycle, by-product precipitation. Section 16 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Full of misc. junk. One of the cover blocks (the key block) is stuck, and cannot be moved with the crane.
ISB and LTDES	Original Equipment, Tanks, and Jumpers
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Believed to contain original process equipment: 2 tanks and asociated jumpers (no video available)
Property List	
Investigation Status	Need permission to open.

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	16R
Old Cell No	32
HNF-1982 Info	Second decontamination cycle, by-product precipitation.
MR-0452 Info	Second decontamination cycle, by-product precipitation. Section 16 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains one 5' dia. by 6' high tank. Another smaller vessel, the silver reactor off-gas vessel, is stored in the corner of the tank. [Cell?]. There are no known connected jumpers.
ISB and LTDES	Original Equipment, Tank Centrifuges, and Jumpers Silver reactor off-gas vessel [ISB]
Video Info	1986 - Large base for something (or covered tank?). 5' x 5' x 9' metal box containing centrifuge lid wrapped in pink plastic (taken from canyon deck). Smaller tank in corner, possibly the silver reactor. [42:04 - 43:56] 2001- Unknown base as above, ~6' diameter, cylindrical, "2V" with hydraulic lines. One ~2.5" diameter by 5' closed vessel with bail, small metal items outside box. Waste box with wrapped centrifuge lid and also something else wrapped (possible tube bundle). Metal, plastic, junk in box.
Chemical Info	
Plant Interface	
Radiological Info	Dose rate <100 - 3300 mR/hr window open; <100 - 800 mR/hr window closed, prior to removal of equipment Contamination surveys performed on equipment before removal (survey report TC-001071)
Interview1	
Interview2	
Current Contents	Cell is empty
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	17L
Old Cell No	33
HNF-1982 Info	Second decontamination cycle, product precipitation.
MR-0452 Info	Second decontamination cycle, product precipitation. Section 17 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Small amount of junk stored in bottom of cell. Jumpers (~35) are still hooked up. (Most of the jumpers in T plant have 4" heads. Most of the actual pipes are nominal 2" pipes).). Two stored 55-gal. drums of junk are stored. Orig. tanks still in cell.
ISB and LTDES	Original Equipment, Tanks and Jumpers
Video Info	1986 - Appears to be original equipment (two tanks), many jumpers. 55-gallon drum, says Carbon Tetrachloride on side, full of connectors. Another drum which is deformed. Maybe a few jumpers thrown in to the cell. Electrical, piping, and air connections. [33:47 - 36:44] 2001 - "Carbon Tet," drum still there, has bail for lifting. Full of jumper connectors and heads. Second deformed drum with junk contents. Two tanks, many jumpers. Dry. Corroded paint chips abundant, exposed aggregate.
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	One large tank 1 small tank, many installed jumpers; 2 drums of parts. (Except for drums, the cell appears to be original cell equipment.)
Property List	
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	17R
Old Cell No	34
HNF-1982 Info	Second decontamination cycle, product precipitation.
MR-0452 Info	Second decontamination cycle, product precipitation. Section 17 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Contains one concrete centrifuge pedestal. There is also one large tank still connected. A number of jumpers (~25) are stored in this cell. None of the equipment is in service.
ISB and LTDES	Original Equipment Tank, Centrifuges, and Jumpers
Video Info	1986 - Centrifuge pedestal with pickup bail. One covered tank with some jumpers connected, others discarded. [36:58 - 38:12] 2001 - Tank with jumpers, most connected. Centrifuge pedestal. Dry. Bottom of cell pitted and corroded, paint chips.
Chemical Info	
Plant Interface	
Radiological Info	Dose rate less than 100 mR/hr throughout cell except 200 mR/hr measurement near floor drain (2002) Contamination surveys performed on equipment (survey report TC-001071)
Interview1	
Interview2	
Current Contents	Large tank with jumpers attached; centrifuge pedestal block (from 14R); silver reactor, centrifuge bowl and box with centrifuge lid (all from 16R).
Property List	
Investigation Status	Complete - opened 2002

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	18L
Old Cell No	35
HNF-1982 Info	Third decontamination cycle (spare).
MR-0452 Info	Third decontamination cycle (spare). Section 18 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	There are tanks installed and many of the jumpers (~37) are still connected. None of the equipment is in service. In effect the cell is full of junk.
ISB and LTDES	Original Equipment and Tank Jumpers [LTDES] Original Equipment, tanks, and jumpers [ISB]
Video Info	1986 - Large covered tank and small uncovered tank with some liquid content. Centrifuge sitting on top of tank. Lots of water in bottom of cell. ~15-20 jumpers connected. [38:12 - 40:15 need to confirm]
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	One large tank; 1 small tank, many jumpers still connected. (Appears to be original cell equipment.)
Property List	
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	18R
Old Cell No	36
HNF-1982 Info	Third decontamination cycle (spare).
MR-0452 Info	Third decontamination cycle (spare). Section 18 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Centrifuge still installed on base. 9' dia. by 9' high tank stored. Appears there is an agitator in the tank. Original equipment. One tank with jumpers still connected. 1 centrifuge on block, connected to tank.
ISB and LTDES	Original Equipment Centrifuge, Tanks, and Jumpers
Video Info	1986 - Tank connected to centrifuge on pedestal. No jumpers. Pump/agitator installed on top of tank. [47:19 - 50:20] 2001 - Centrifuge on pedestal and tank. Dry. Jumpers mostly disconnected.
Chemical Info	
Plant Interface	
Radiological Info	Dose rate around cell <6 mR/hr.
Interview1	
Interview2	
Current Contents	Centrifuge, centrifuge pedestal block, and catch tank. (Appears to be original cell equipment; all jumpers have been removed.)
Property List	
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	19L
Old Cell No	37
HNF-1982 Info	Third decontamination cycle (spare).
MR-0452 Info	Third decontamination cycle (spare). Section 19 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Full of junk, including 2 large tanks w/pumps. Extra pump stored on top of one of the tanks. Appears this material is still more or less connected. Some jumpers have been discarded into the bottom of the cell (~50). An old agitator is dumped into this cell on top of other debris. Original equipment. 2 tanks with agitators. Misc. equipment. 1 agitator and about 5 jumpers on top of tanks.
ISB and LTDES	Original Equipment Tanks Misc. pumps, jumpers and agitators [ISB]
Video Info	1986 - Looks original. Covered tank, centrifuge or smaller tank, many jumpers. Pump dropped into cell. [43:56 - 47:19] 2001 - As above. Unknown tank content. Smaller tank with open top appears to have some sort of solid inside. Dry. Lots of items.
Chemical Info	
Plant Interface	
Radiological Info	Dose rate around cell <5 mR/hr. (HNF-1982)
Interview1	
Interview2	
Current Contents	One large tank with agitator, 1 small tank and many jumpers installed (appears to be original cell equipment)
Property List	
Investigation Status	Complete - opened 2001

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	19R
Old Cell No	38
HNF-1982 Info	Third decontamination cycle (spare).
MR-0452 Info	Third decontamination cycle (spare). Section 19 contained a standard grouping of process equipment that consisted of four pieces: a precipitator, a catch tank, a centrifuge, and a solution tank.
HNF-1982 Recent	Has been modified such that there are two tanks and a work platform where pumps can be set up and tested (called the pump run-in station.)
ISB and LTDES	Pump Run-In Recirculation Tank LTDES Decon Function: Testing of various pumps. Pump run-in station with tank (SS, 4000 gal capacity)
Video Info	None
Chemical Info	Assume F001-F005 from testing contaminated pumps.
Plant Interface	
Radiological Info	Very low dose
Interview1	
Interview2	
Current Contents	Pump run-in tank, piping, pump test equipment.
Property List	Tank (Southwest Welding)
Investigation Status	Complete - open cell

HNF-8812 Rev. 1

T Plant Cell Investigation Team - Cell Inventory

New Cell No	20L
Old Cell No	39
HNF-1982 Info	Spare (unequipped, as of 1945).
MR-0452 Info	Spare (unequipped, as of 1945).
HNF-1982 Recent	Cells in section 20 can't be reached w/75 ton crane, due to 10 ton crane installed on S end of building using same rails. Cell 20R does not have cell blocks, but has a diamond plate tread cover plate over the hole. May contain pulser parts.
ISB and LTDES	Original Equipment 20-1 Tank
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Contents cannot be verified.
Property List	
Investigation Status	Need permission to open cell

HNF-8812 Rev. 1

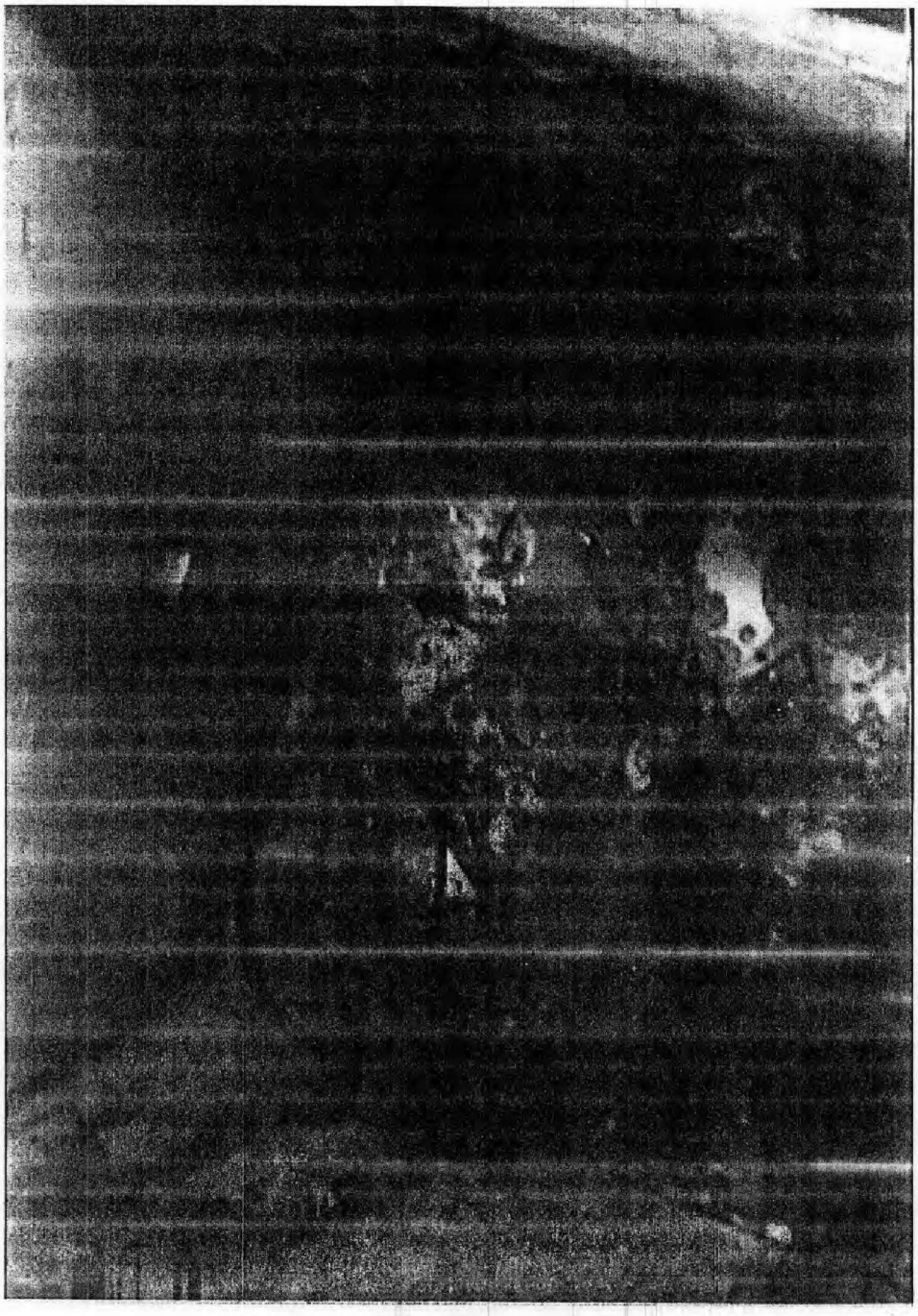
T Plant Cell Investigation Team - Cell Inventory

New Cell No	20R
Old Cell No	40
HNF-1982 Info	Spare (unequipped, as of 1945).
MR-0452 Info	Unequipped.
HNF-1982 Recent	Lack of access as with cell 20L. No separate detail on contents or cover. Pulser parts (large)
ISB and LTDES	Not for Storage; Contains Miscellaneous Centrifuge Parts
Video Info	None
Chemical Info	
Plant Interface	
Radiological Info	
Interview1	
Interview2	
Current Contents	Contents cannot be verified.
Property List	
Investigation Status	Need permission to open cell

ATTACHMENT 2

T Plant Cell Photographs
Numbered pages 2-1 through 2-83

HNF-5812 Rev. 1

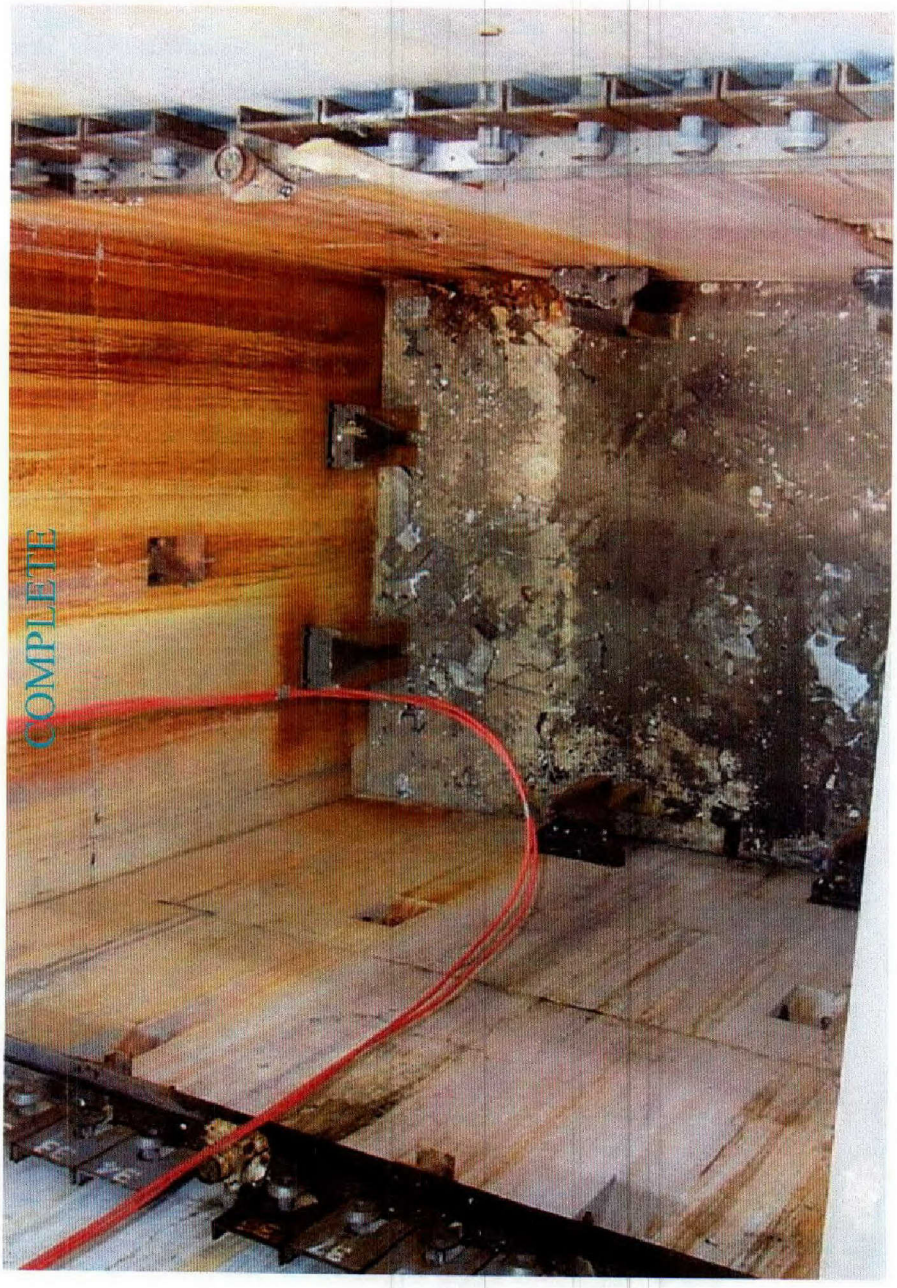


Cell 3L 2001

Attachment 2

2-1

ANF-8312 Rev. 1

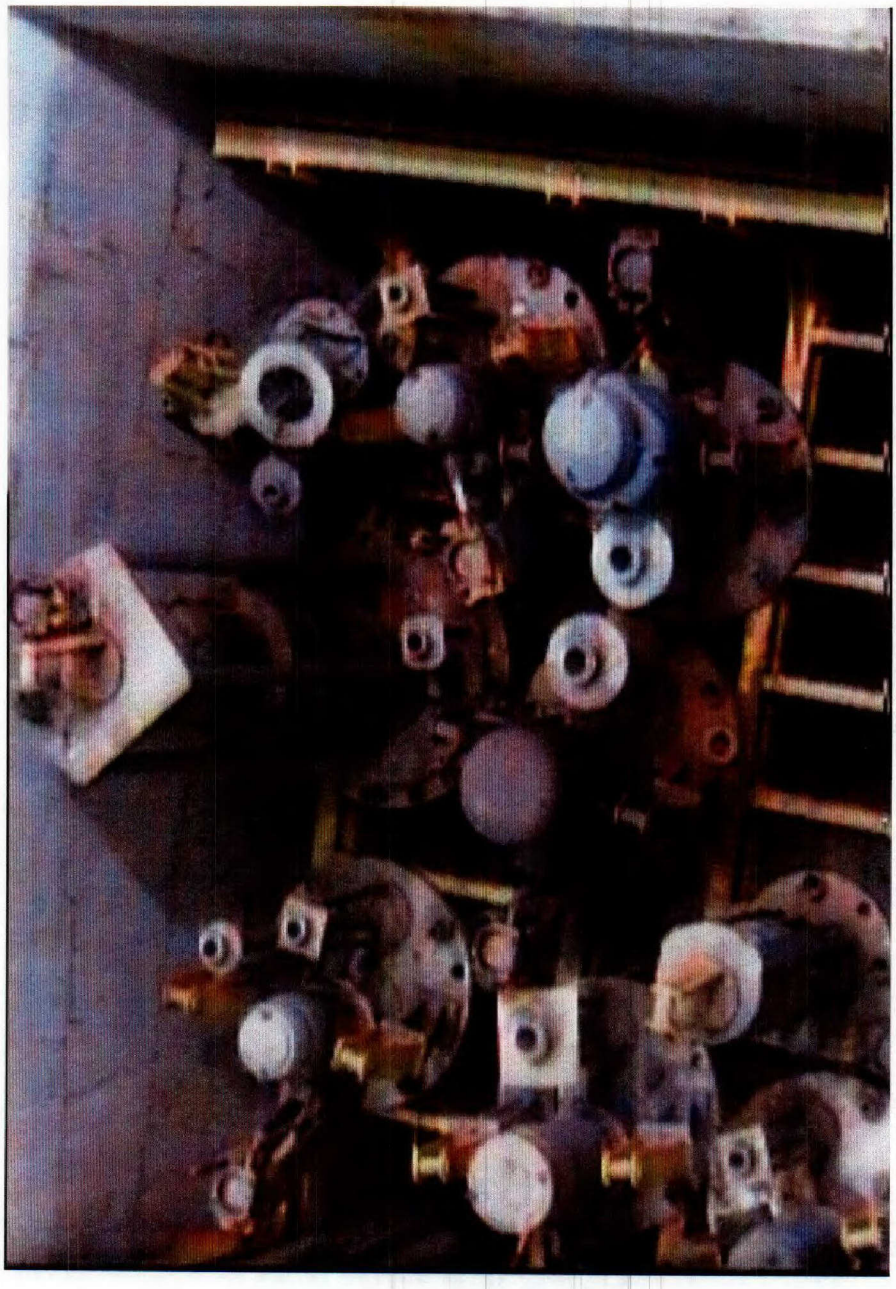


Cell 3L 2002

Attachment 2.

2-2

HNF-8812 Rev 1

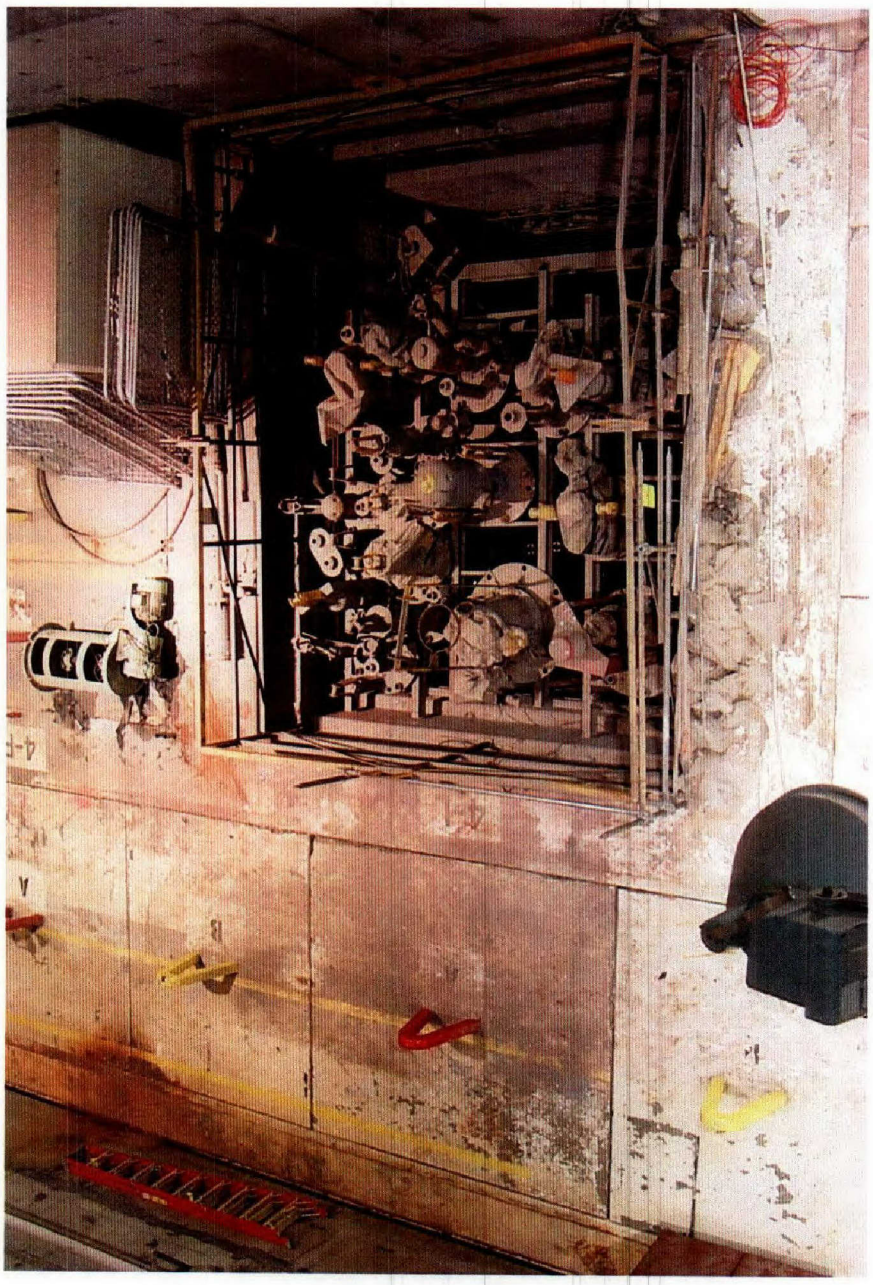


Cell 3R 2001

Attachment 2

2-3

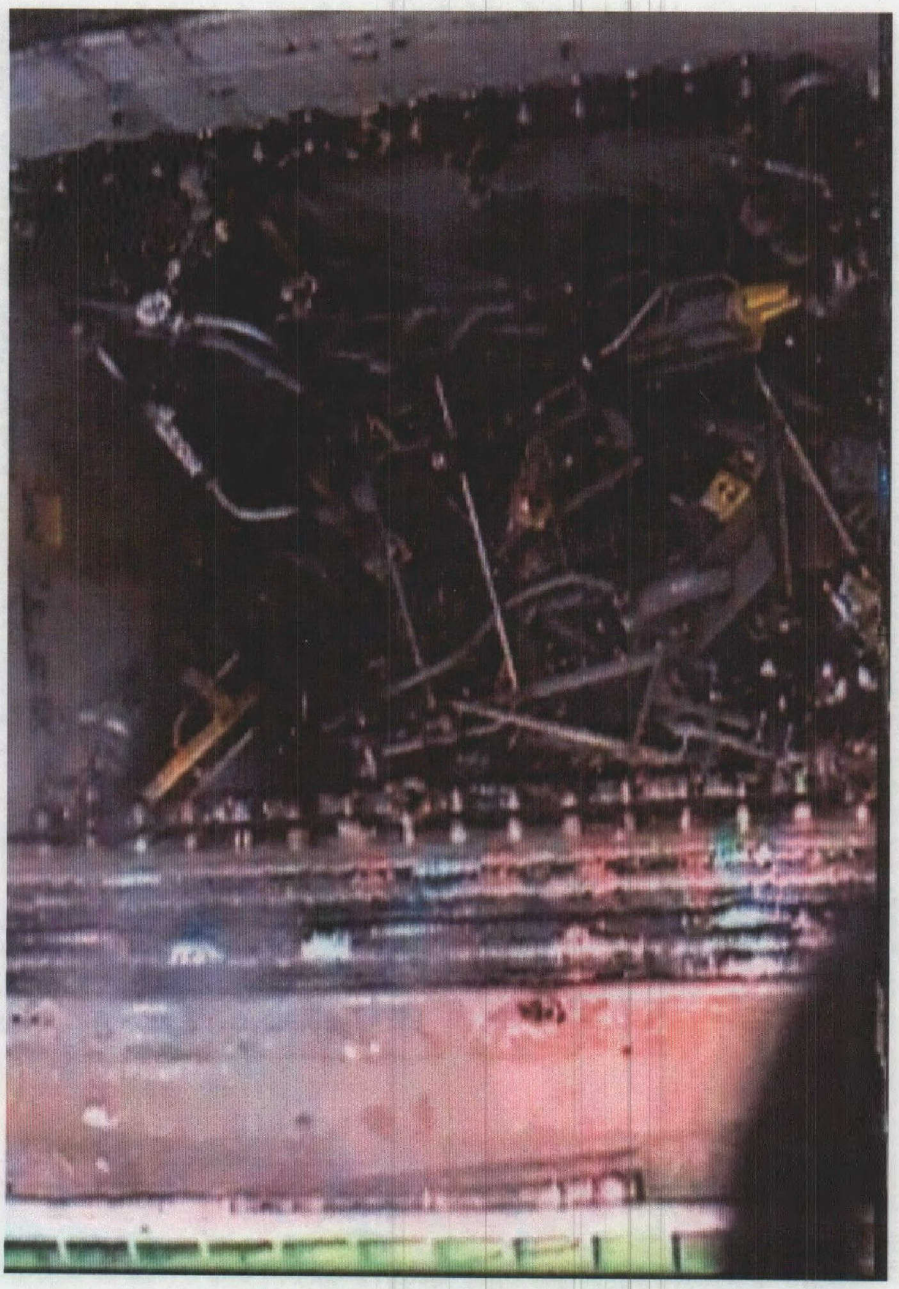
HNF-8312 Rev 1



Cell 4L 2000

Attachment 2 2-4

HNF-8812 Rev 1

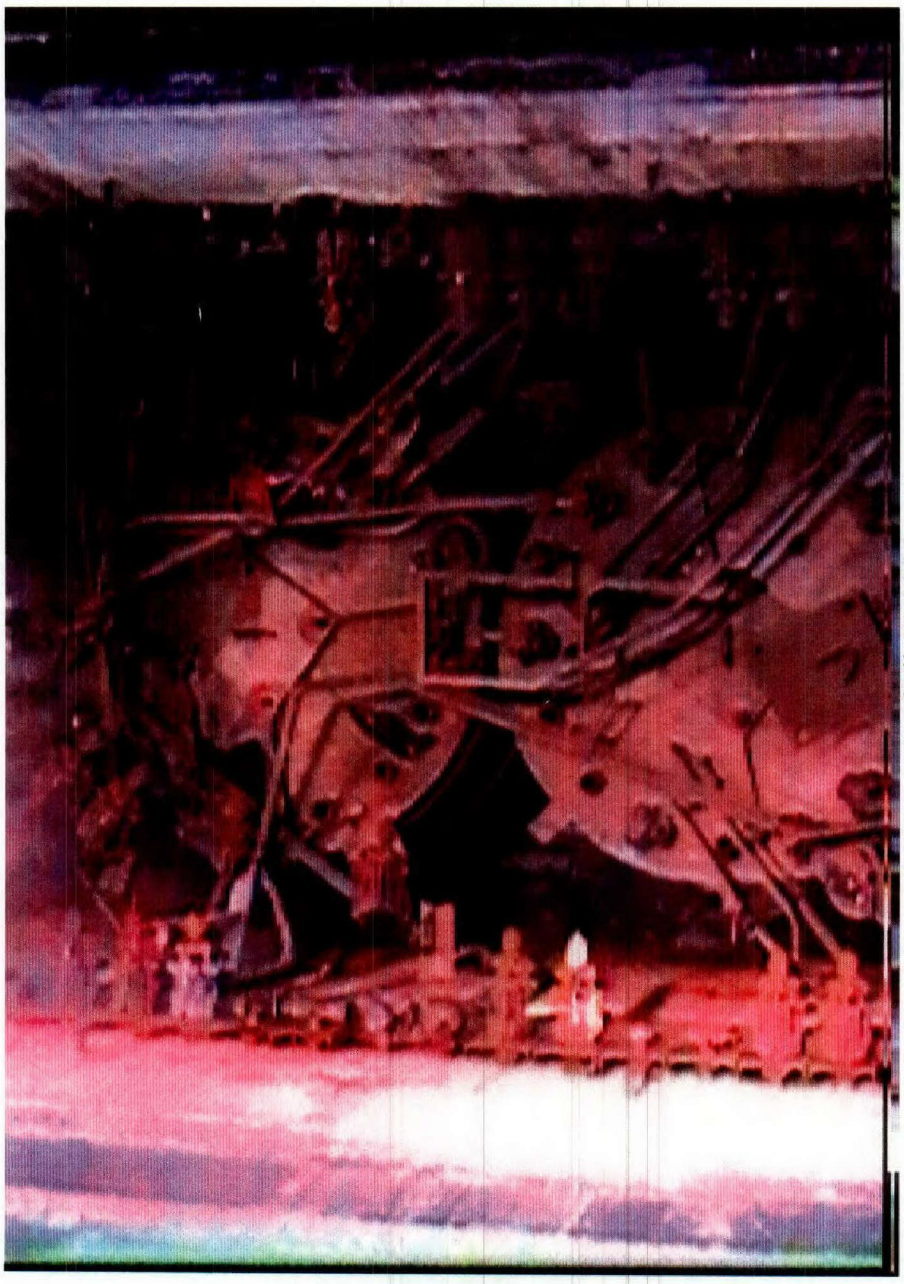


Cell 4R 1986

Attachment 2

2-5

HNF-8812 Rev 1



Cell 5L 1986

Attachment 2

2-6

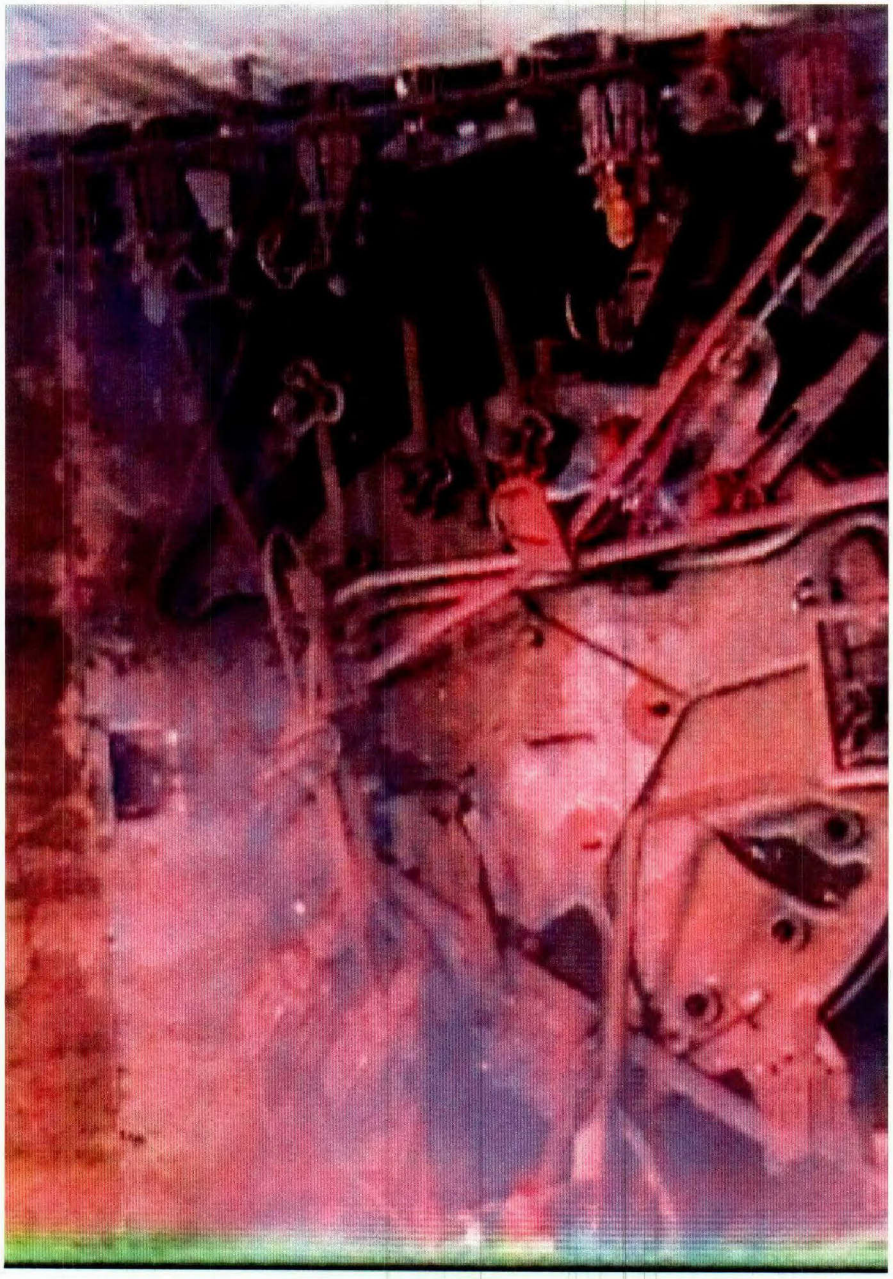
HNF-8812 Rev. 1

Cell 5L 1986

Attachment 2

2-7

HNF-8812, Rev. 1

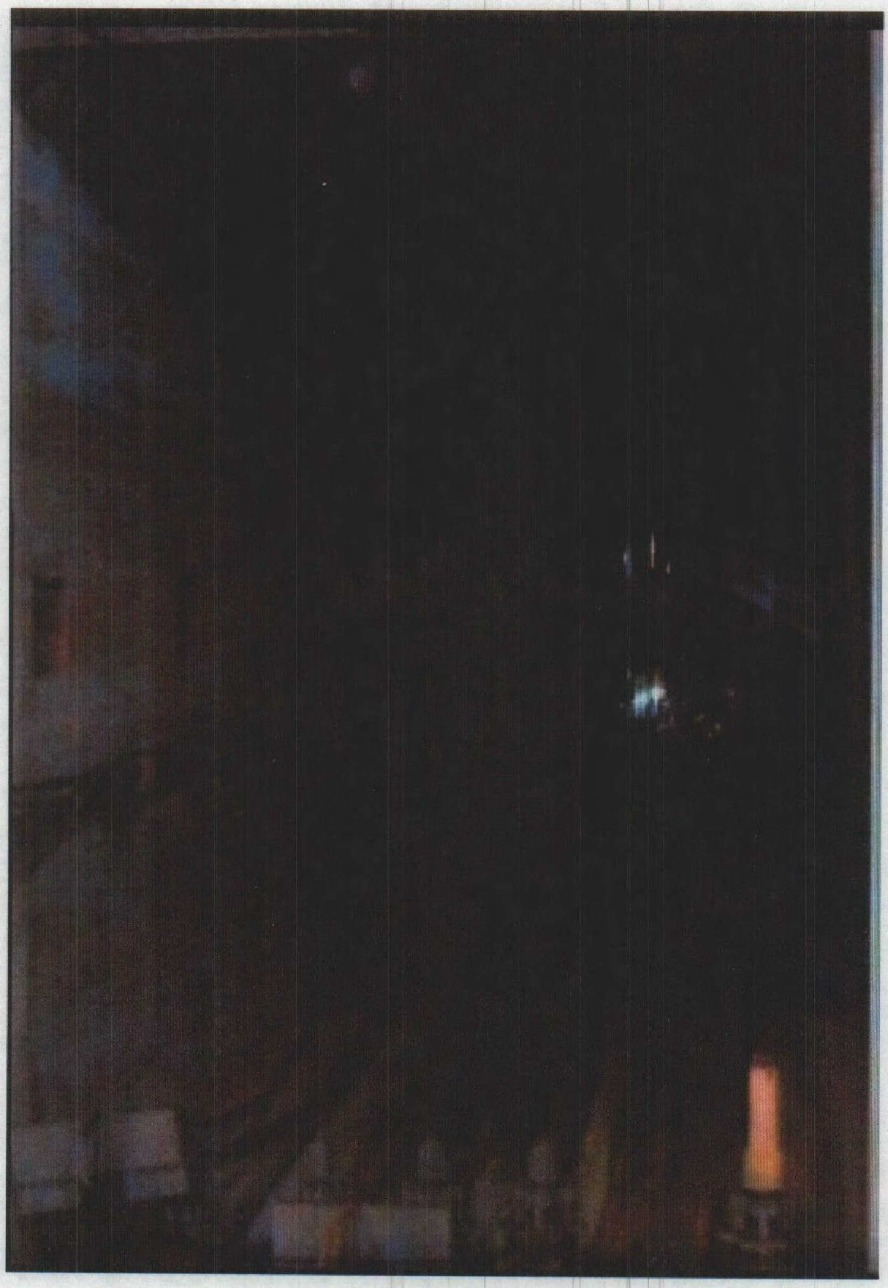


Cell 5L 1986

Attachment 2

2-8

HNF-8812 Rev.1



Cell 5R 2001

Attachment 2

2-9

HNF-3812 Rev. 1

Cell 5R 2001

Attachment 2

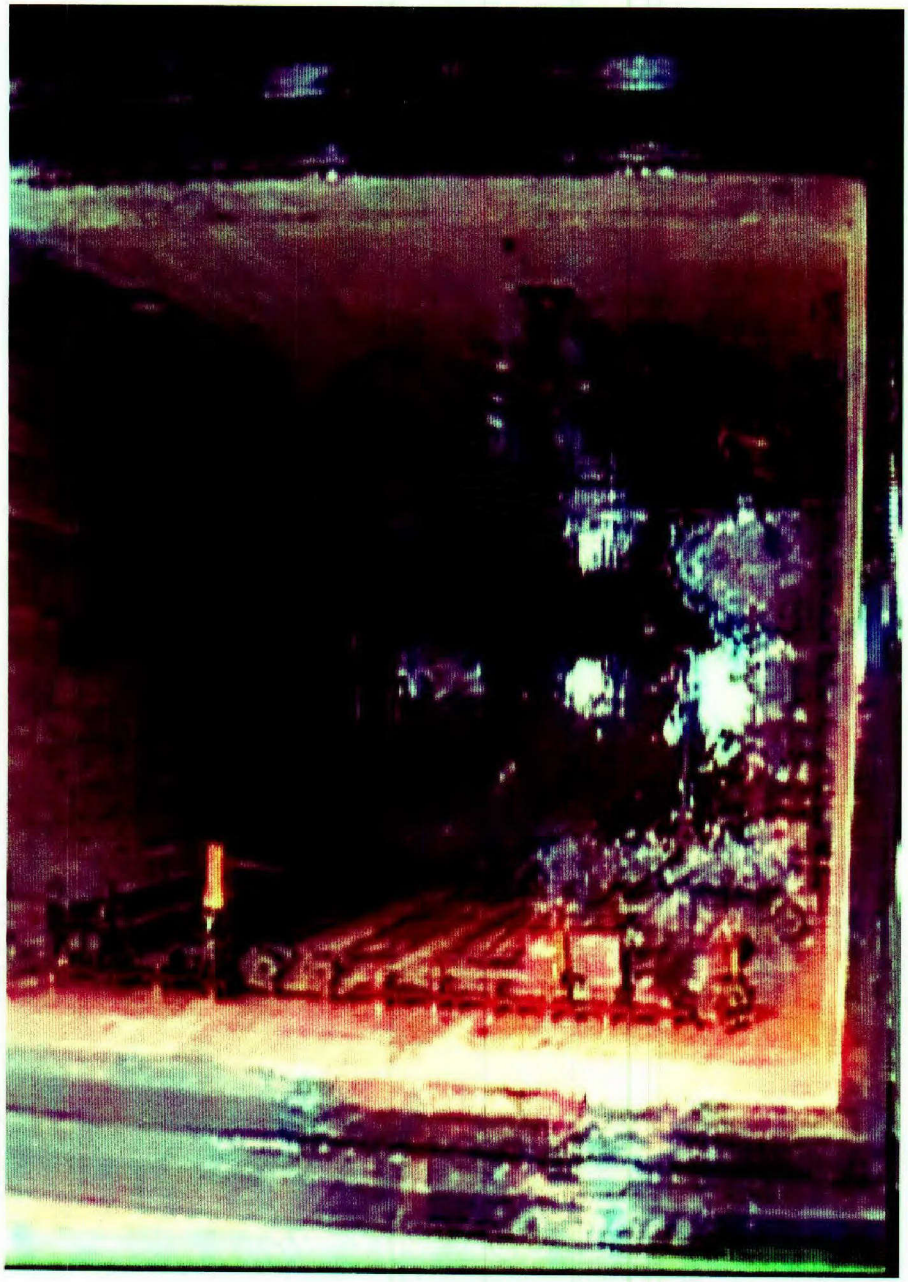
2-10

HNF-8812 Rev 1

Attachment 2

2-11

HNF-~~3812~~ Rev. 1



Cell 5R 1986

Attachment 2

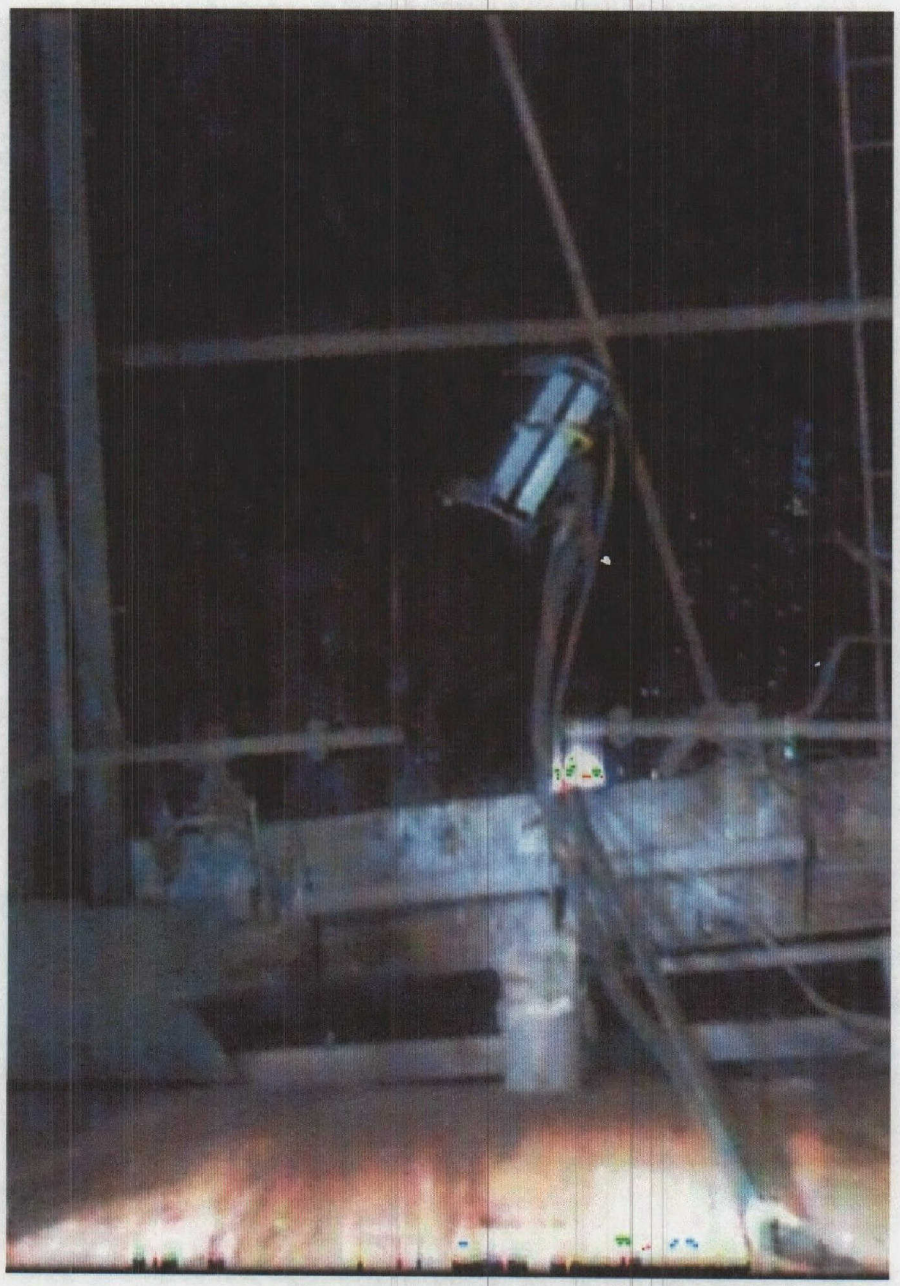
2-12

HNF-8812 Rev 1

Attachment 2

2-13

HNF-8812 Rev. 1

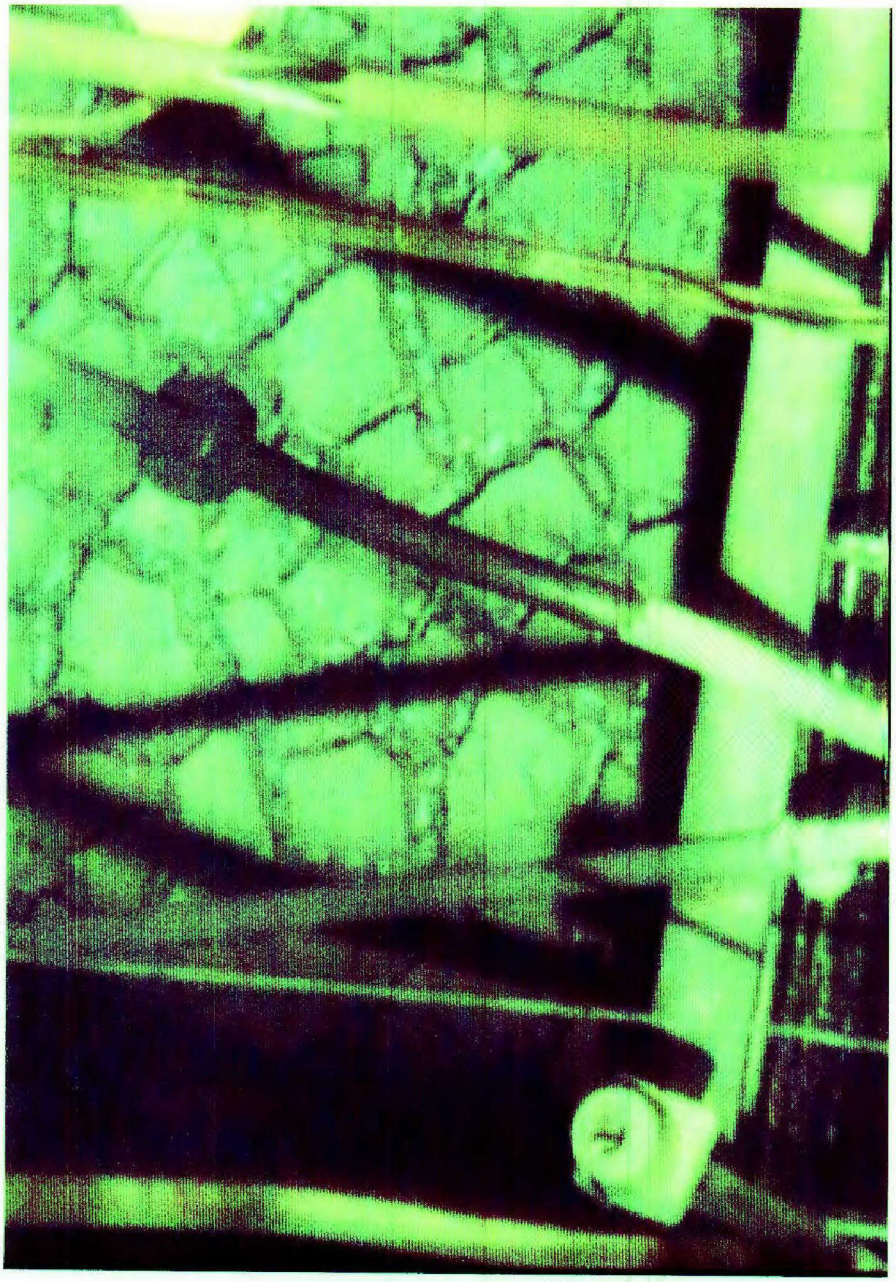


Cell 5R 2001

Attachment 2

2-14

HNF-8812, Rev. 1

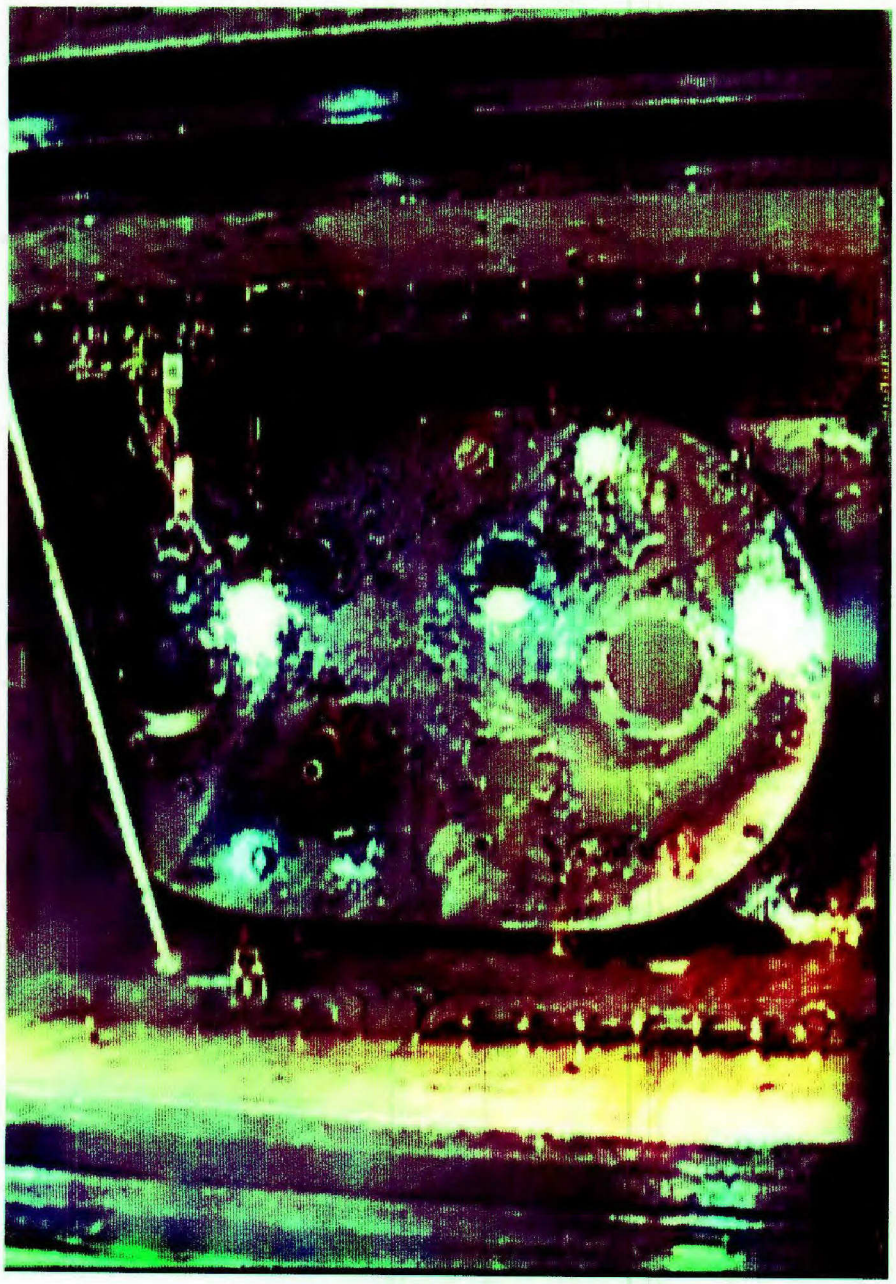


Cell 5R 2001

Attachment 2

2-15

HNF-8812, Rev. 1

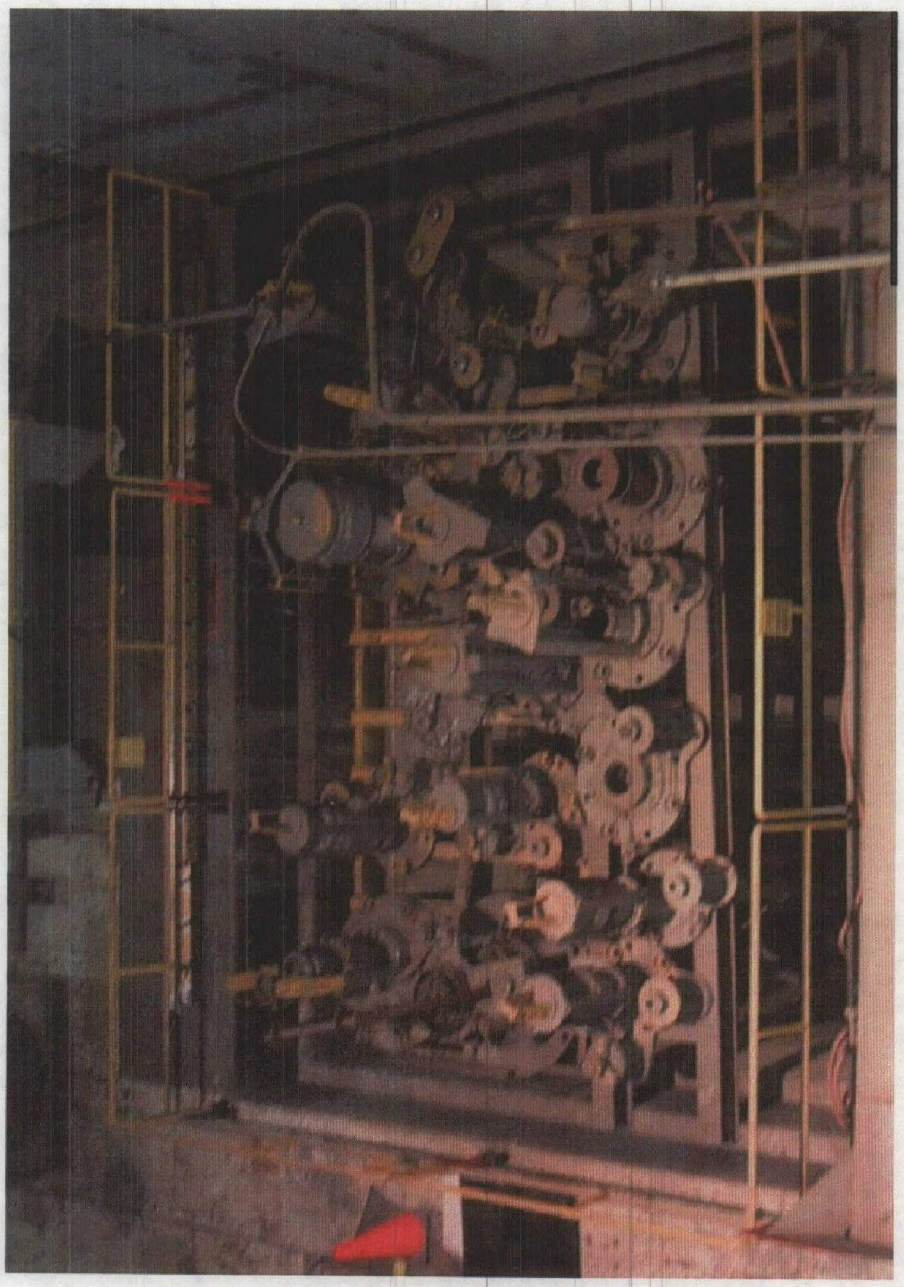


Cell 6L 1986

Attachment 2

2-16

HNF-3812, Rev. 1

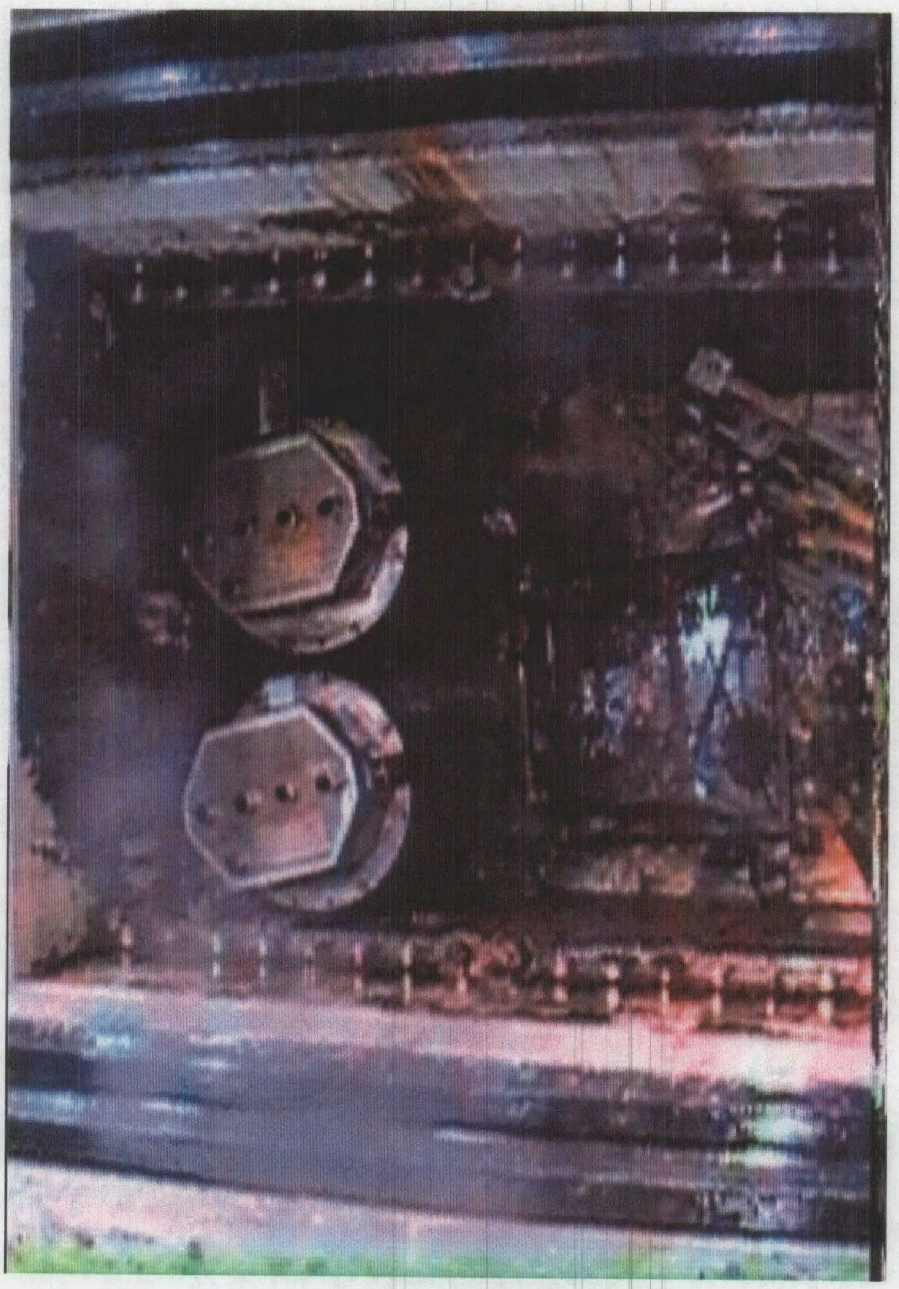


Cell 6R 1986

Attachment 2

2-17

HNF-3812 Rev. 1

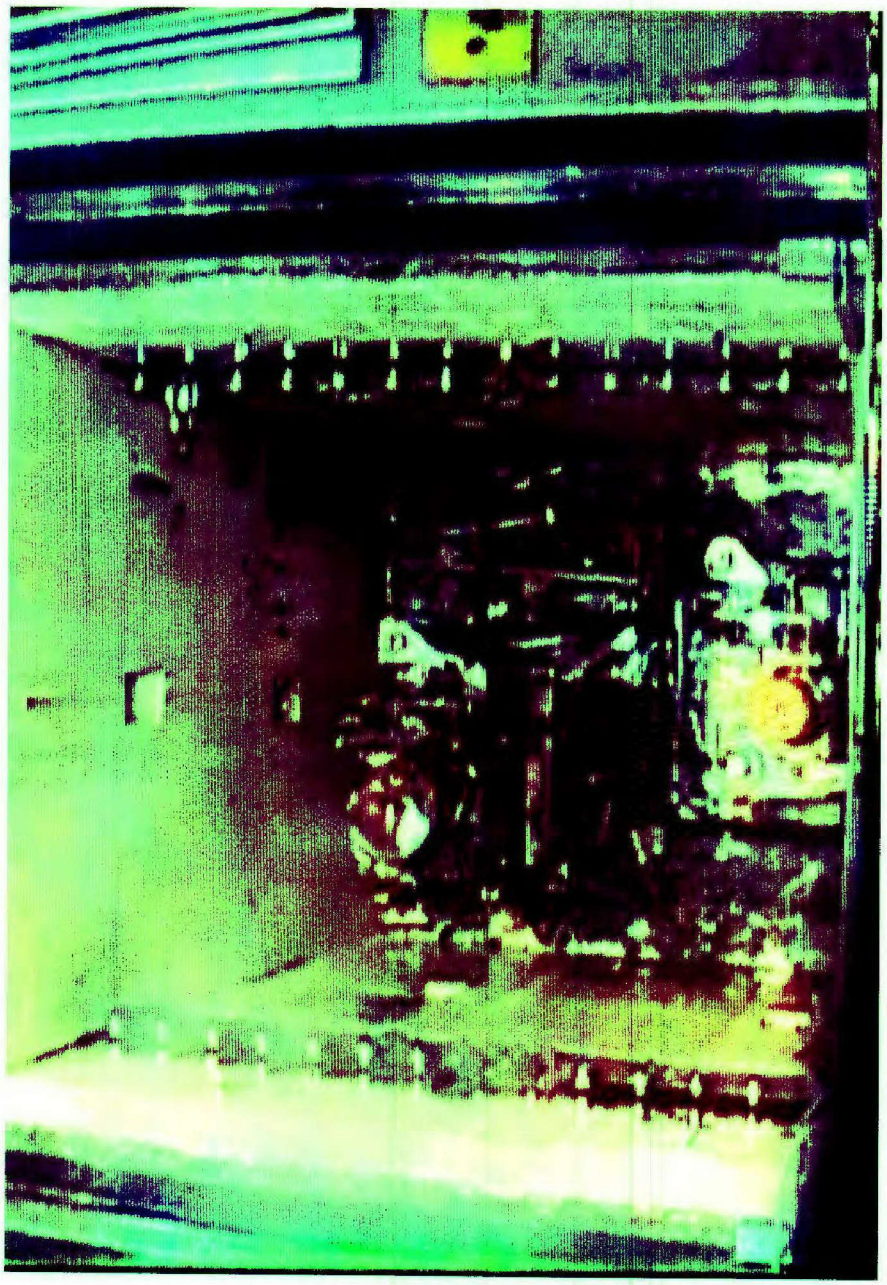


Cell 7L 1986

Attachment 2

2-18

HNF-8812 Rev. 1



Cell 7R 1986

2-19

Attachment 2

HNF-3312 Rev. 1

Cell 7R 1986

Attachment 2

2-20

HNF-8812, Rev. 1

Cell 7R 1986

Attachment 2

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HNF-8812 Rev. 1

Cell 7R 1986

Attachment 2

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HNF-3812 Rev. 1

Cell 8L 1986

Attachment 2

2-23

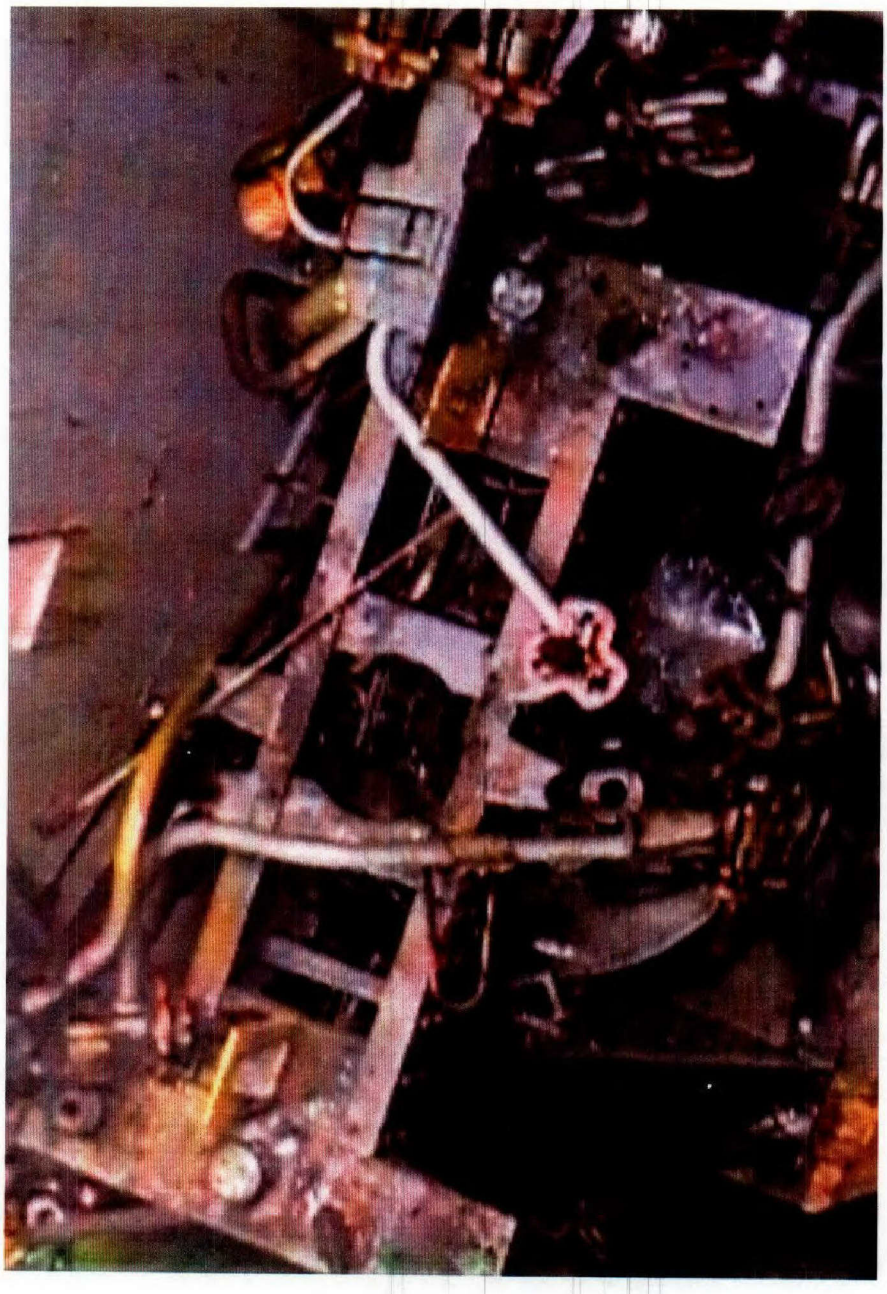
HNF-8812 Rev. 1

Cell 8R 1986

Attachment 2

2-24

HNF-8812 Rev. 1

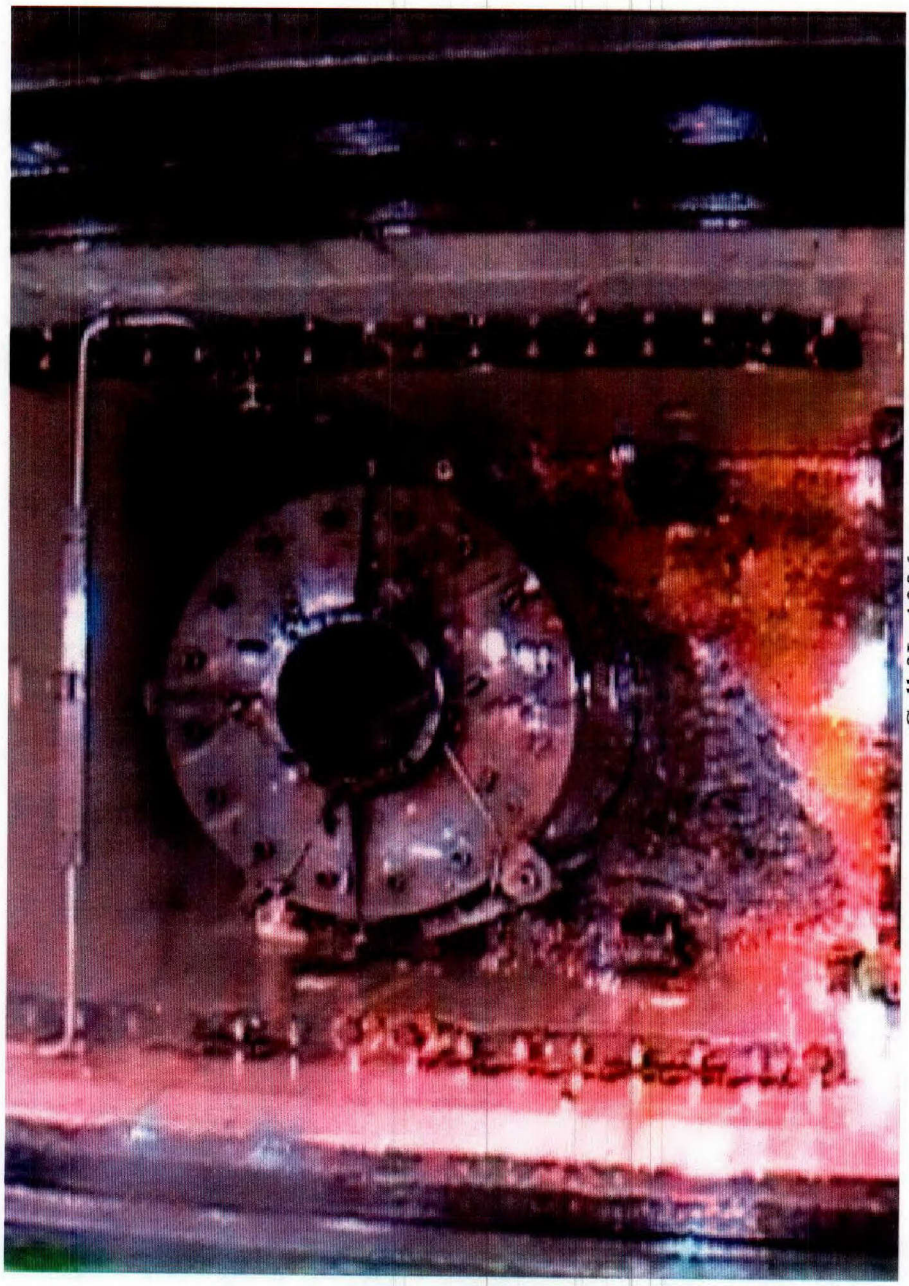


Cell 8R, 1986

2-25

Attachment 2

HNF-8812 Rev. 1

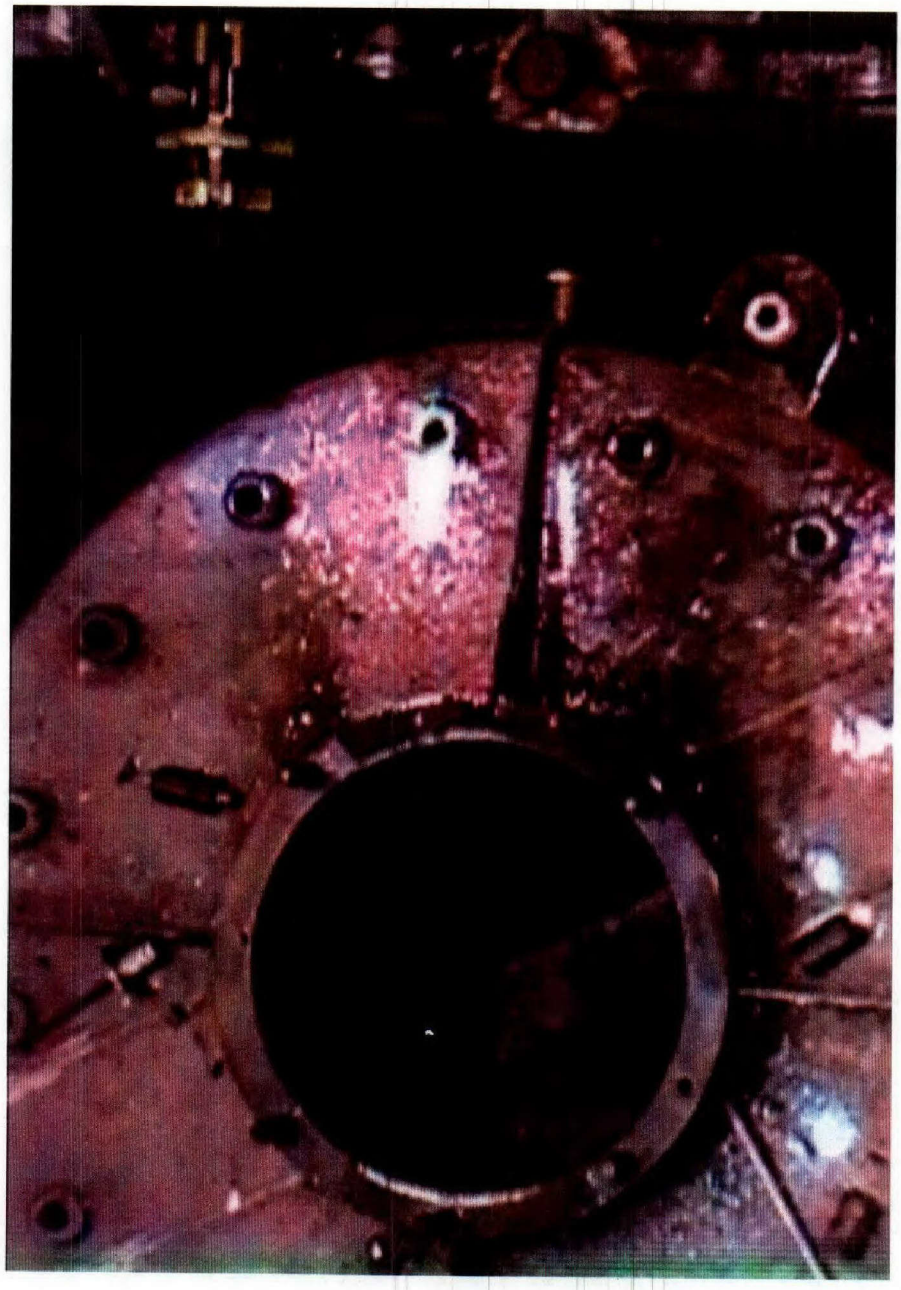


Cell 9L, 1986

Attachment 2

2-26

HNF-8812 Rev. 1

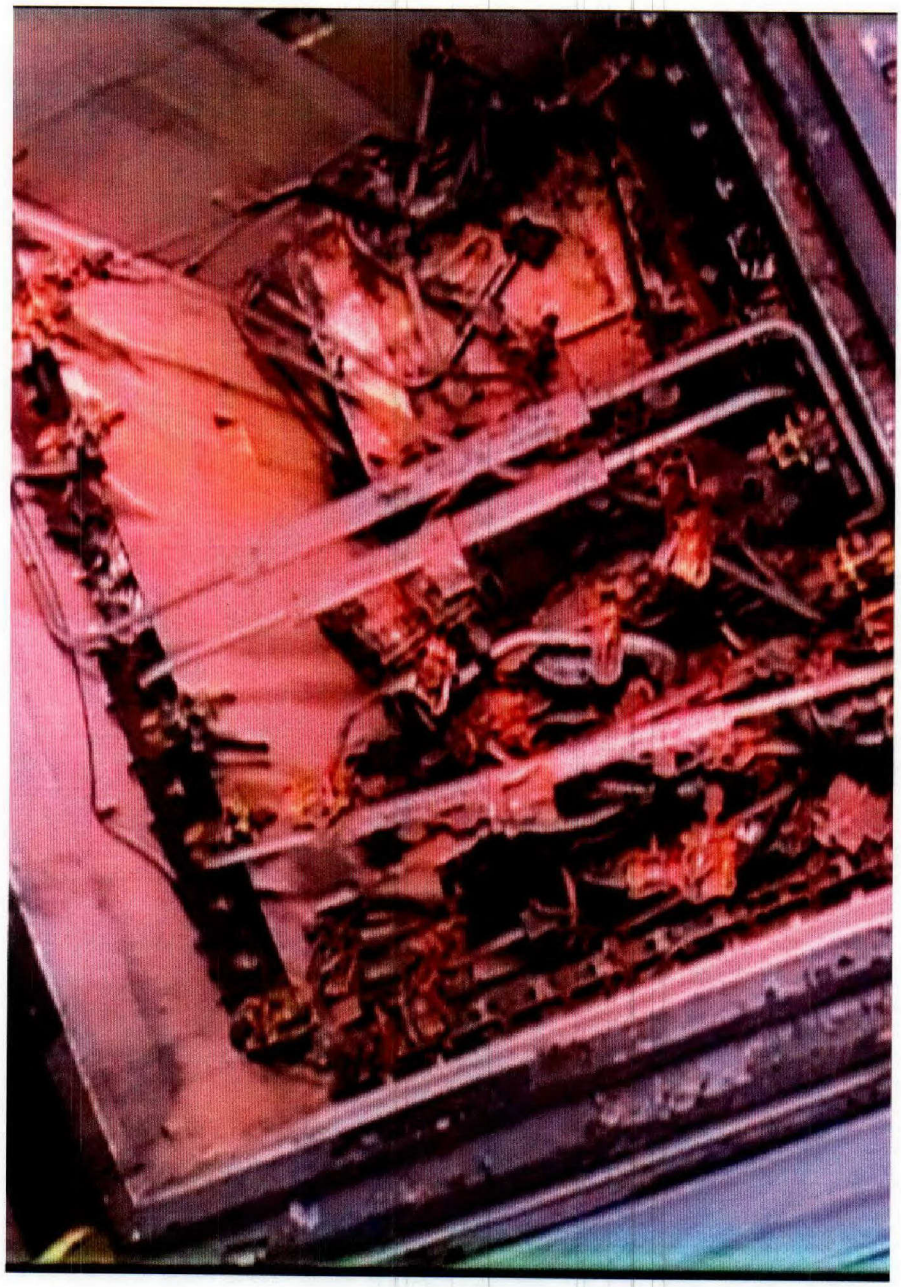


Cell 9L 1986

Attachment 2

2-27

HNF-8812 Rev. 1



Cell 9R 1986

2-28

Attachment 2

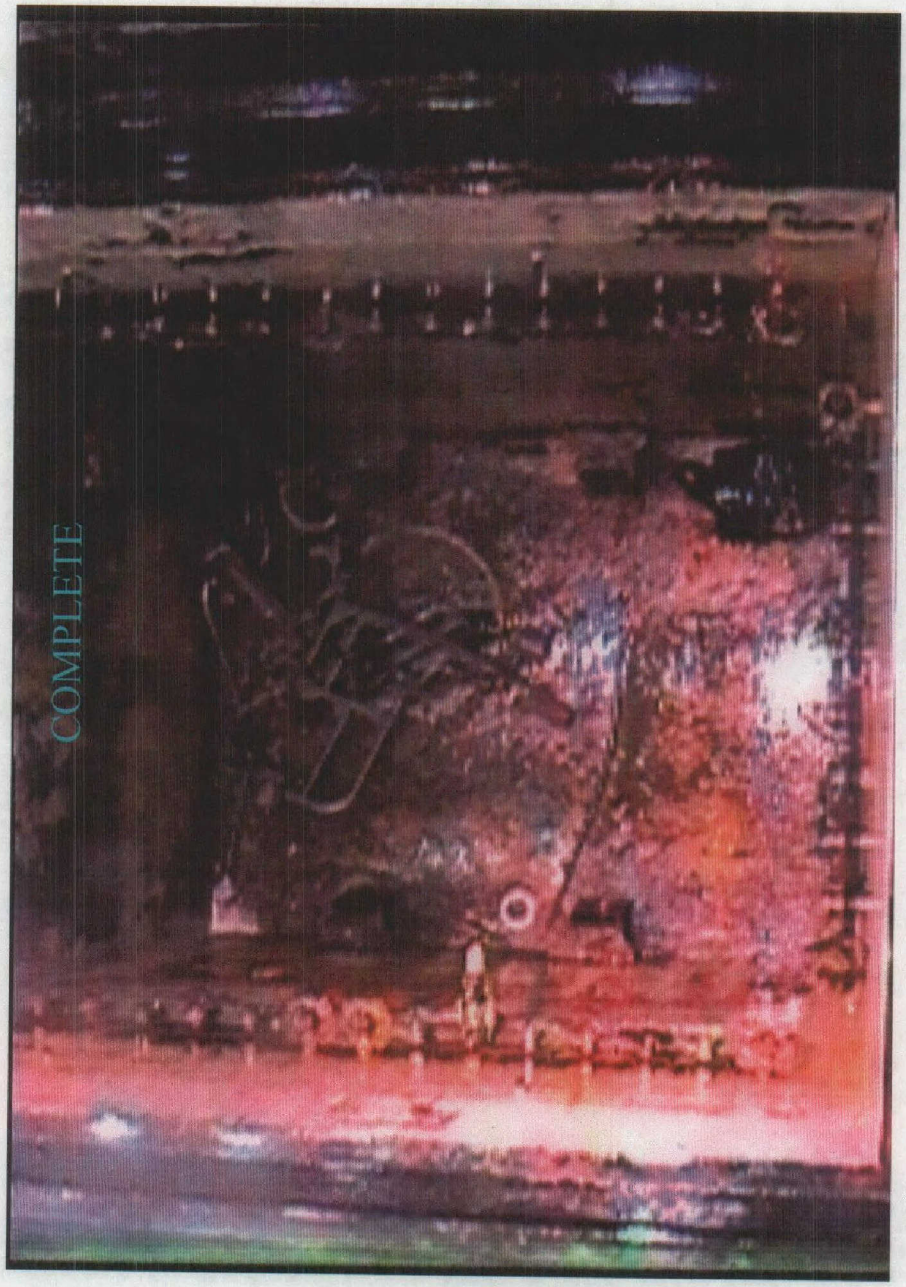
HNF-8812 Rev. 1

Cell 9R 1896

2-29

Attachment 2

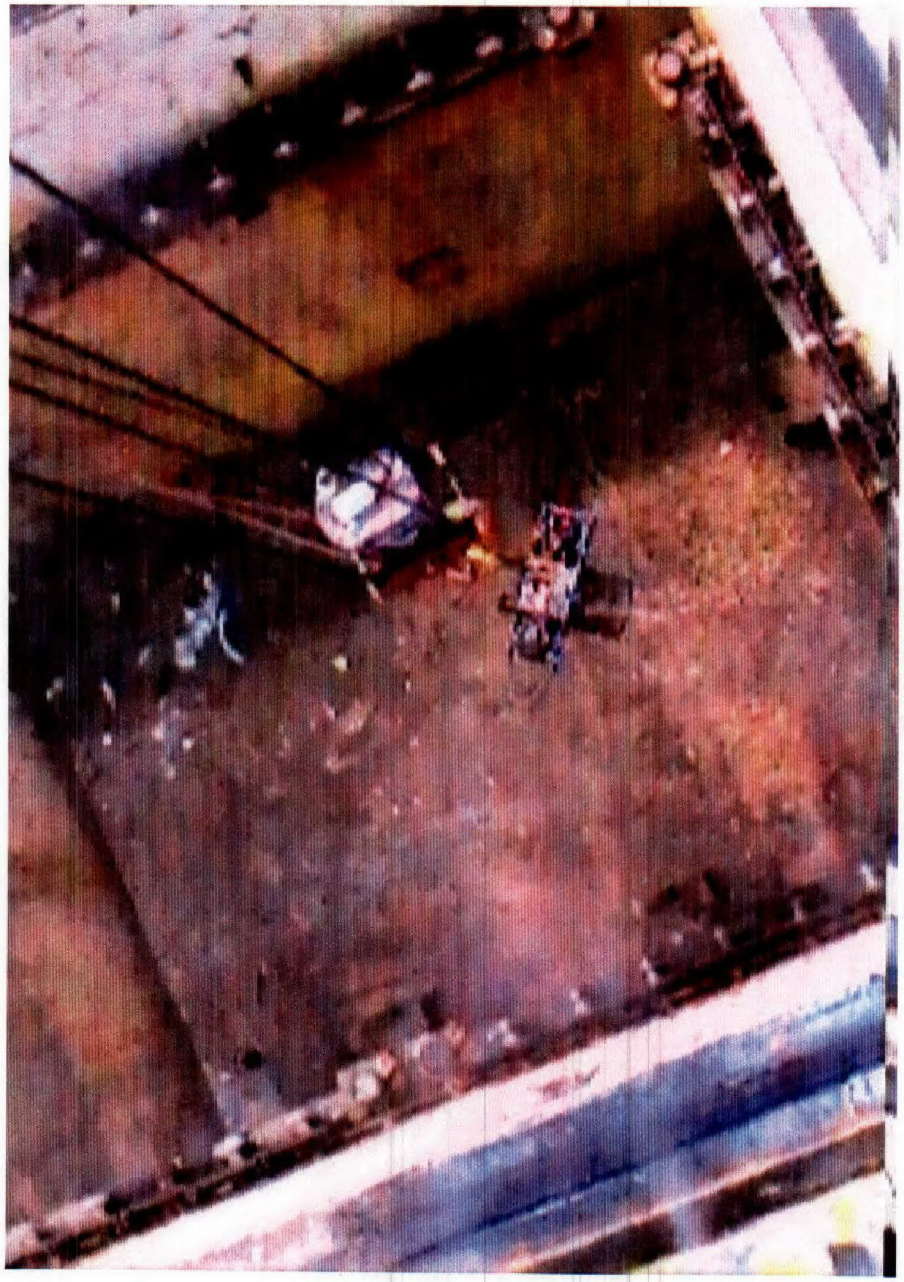
HNF-8812 Rev. 1



Attachment 2

2-30

HNF-8812 Rev 1

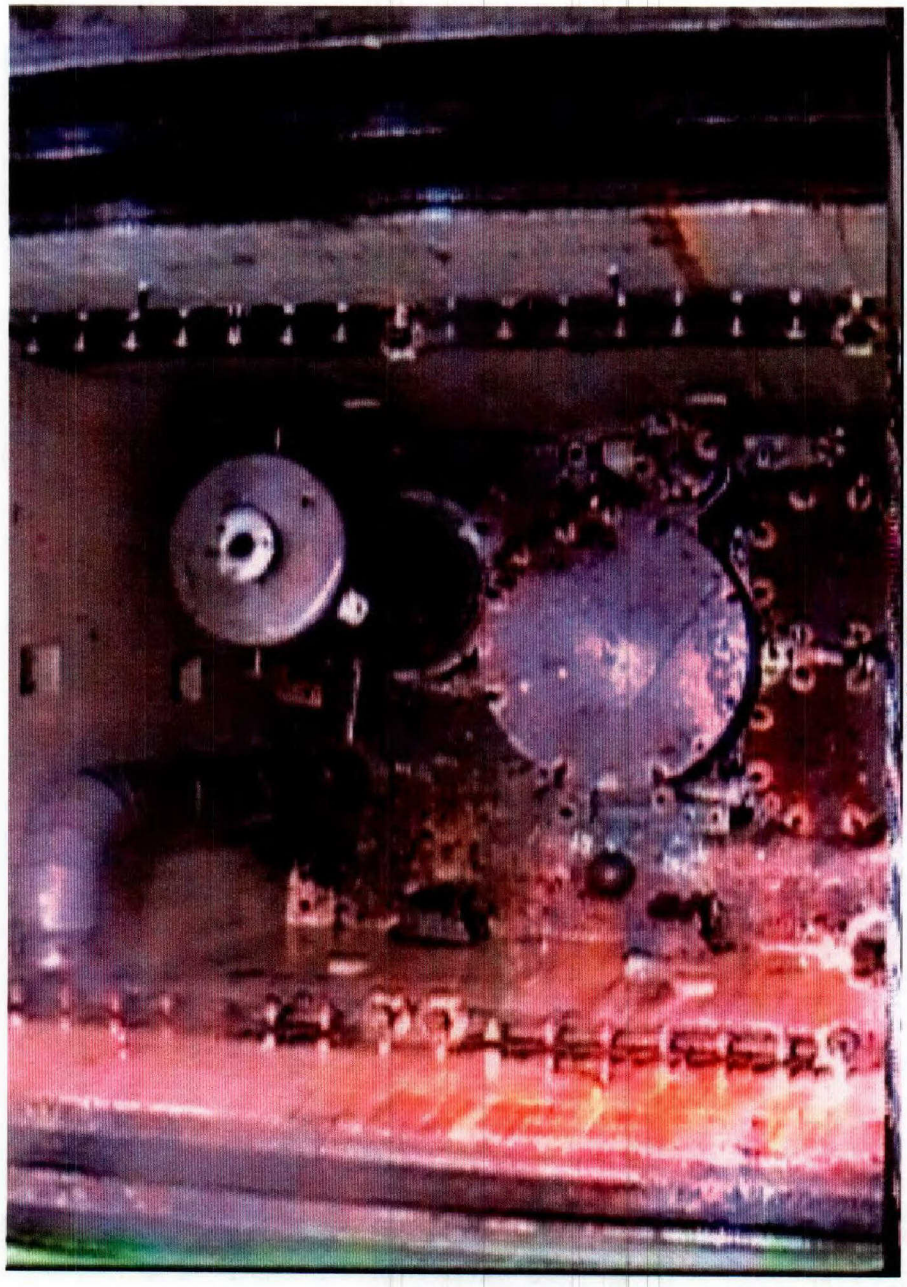


Cell 10L 2002

Attachment 2

2-31

HNF-8812 Rev. 1

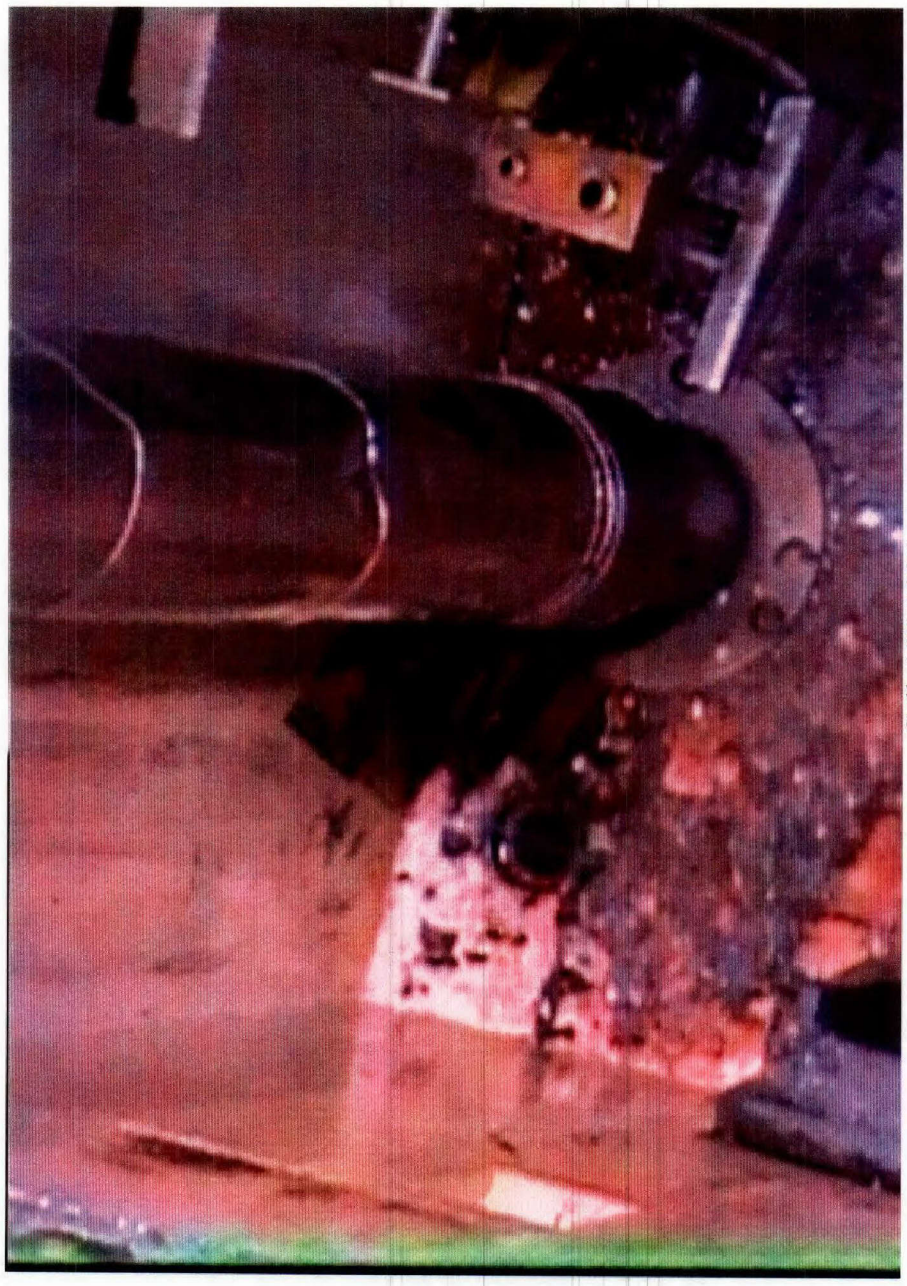


Cell 10R 1986

Attachment 2

2-32

HNF-8812 Rev. 1

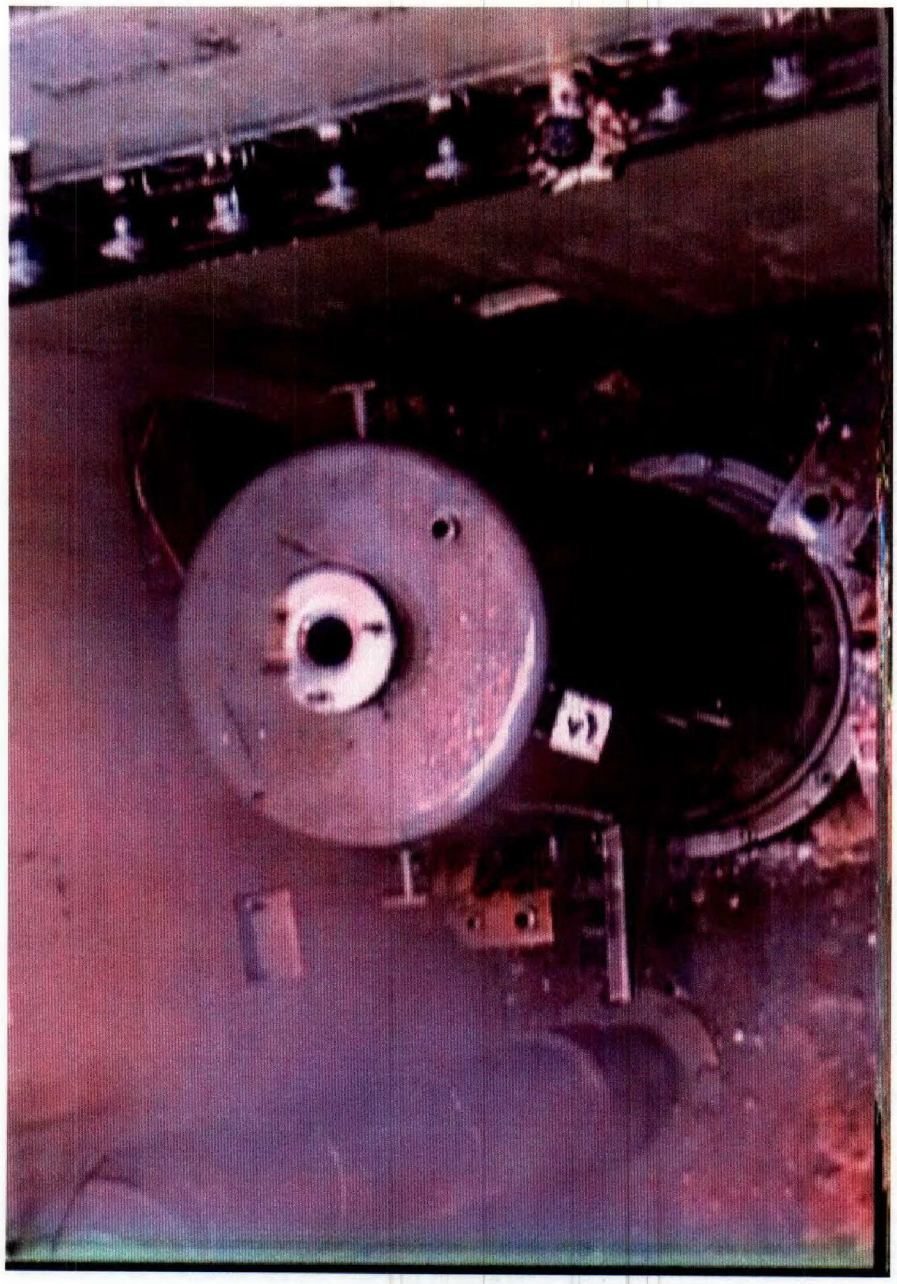


Cell 10R 1986

Attachment 2

2-33

HNF-3812 Rev. 1

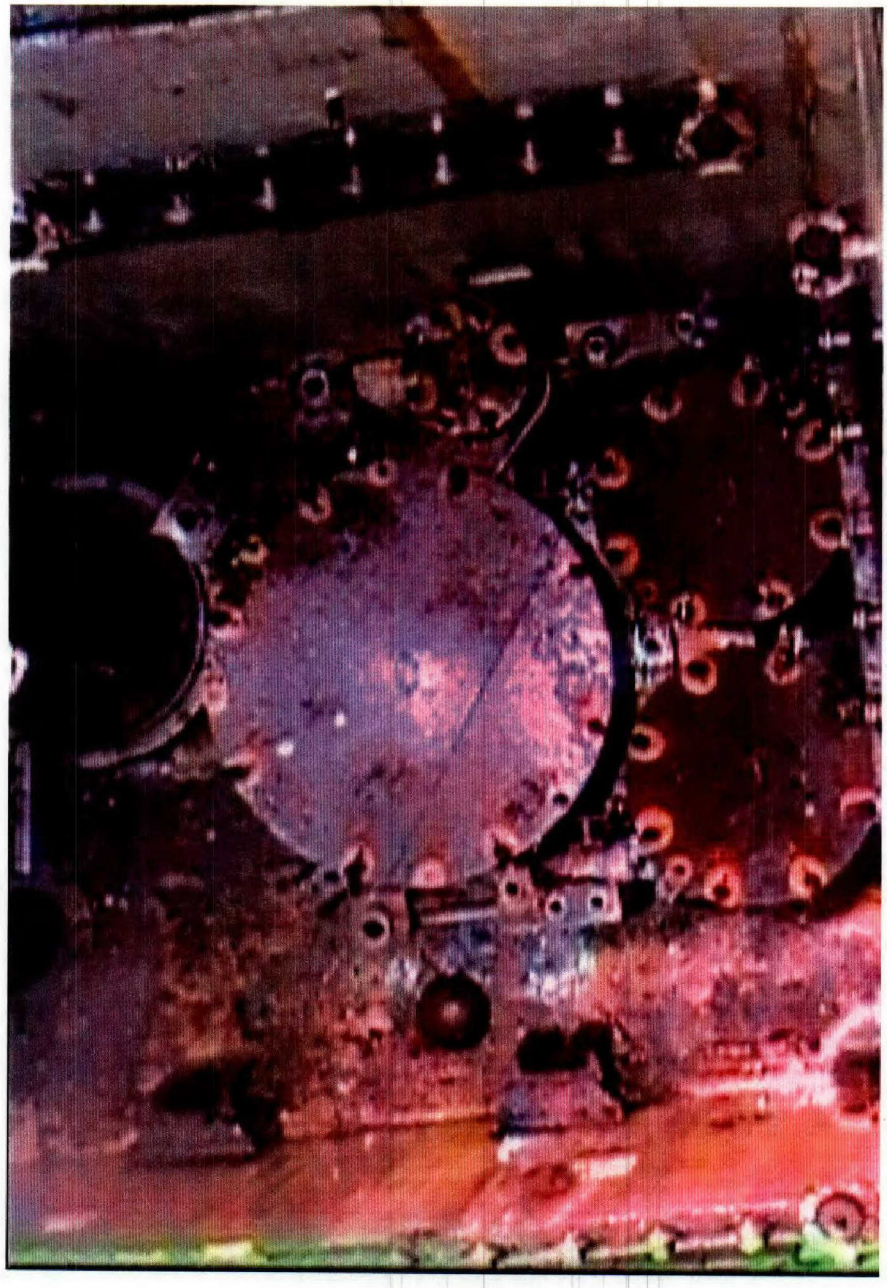


Cell 10R 1986

Attachment 2

2-34

HNF-8812 Rev. 1



Cell 10R 1986

Attachment 2

2-35

HNF-8812 Rev. 1

Cell 10R 1986

Attachment 2 2-36

HNF-8812 Rev. 1

Cell 11L 2001

Attachment 2

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HNF-8812 Rev. 1

Cell 11L 2001

Attachment 2

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HNF-8812 Rev. 1

Cell 11L 2001

Attachment 2

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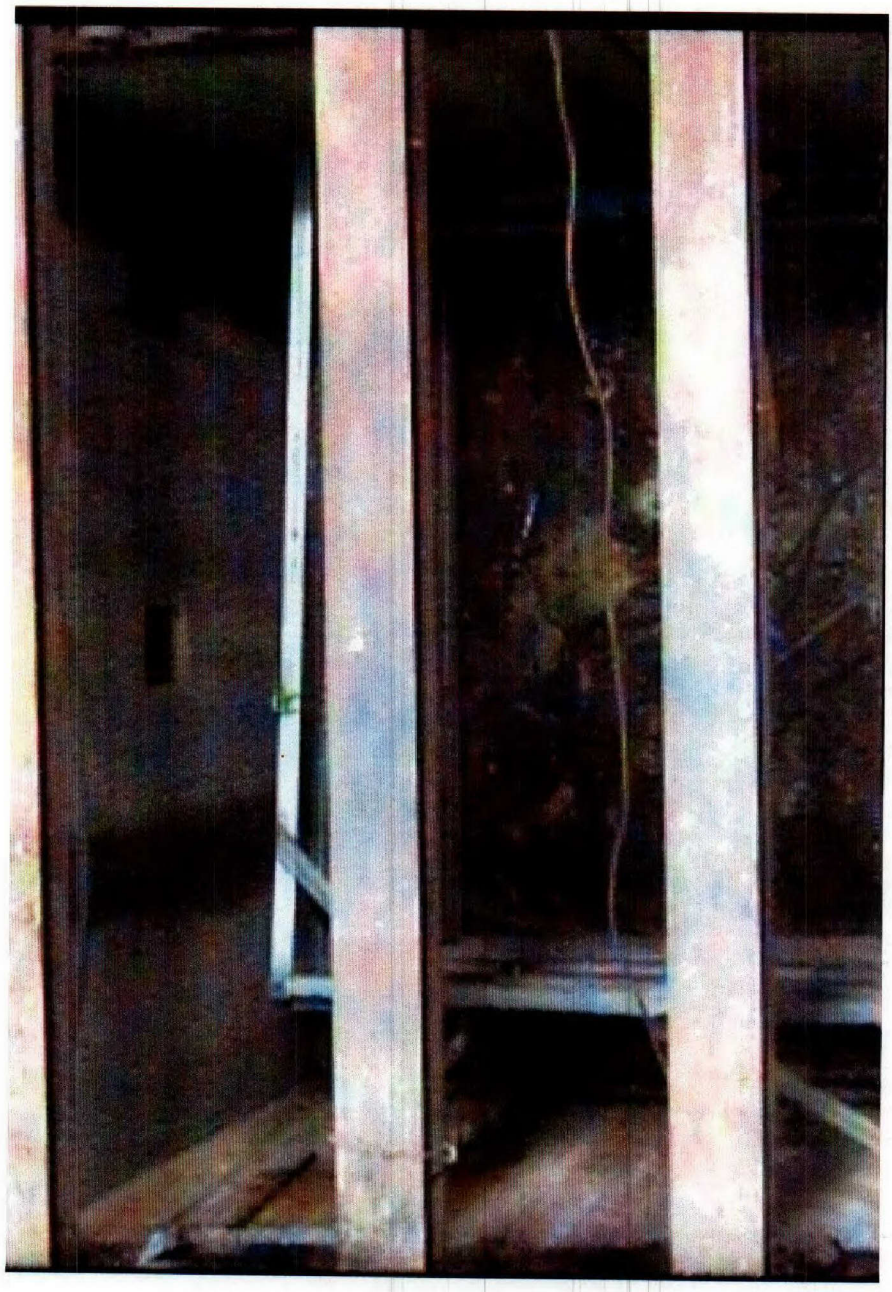
HNF-3812 Rev. 1

Cell 11L 2001

Attachment 2

2-40

HNF-8812 Rev, 1



Cell 12R 2001

Attachment 2

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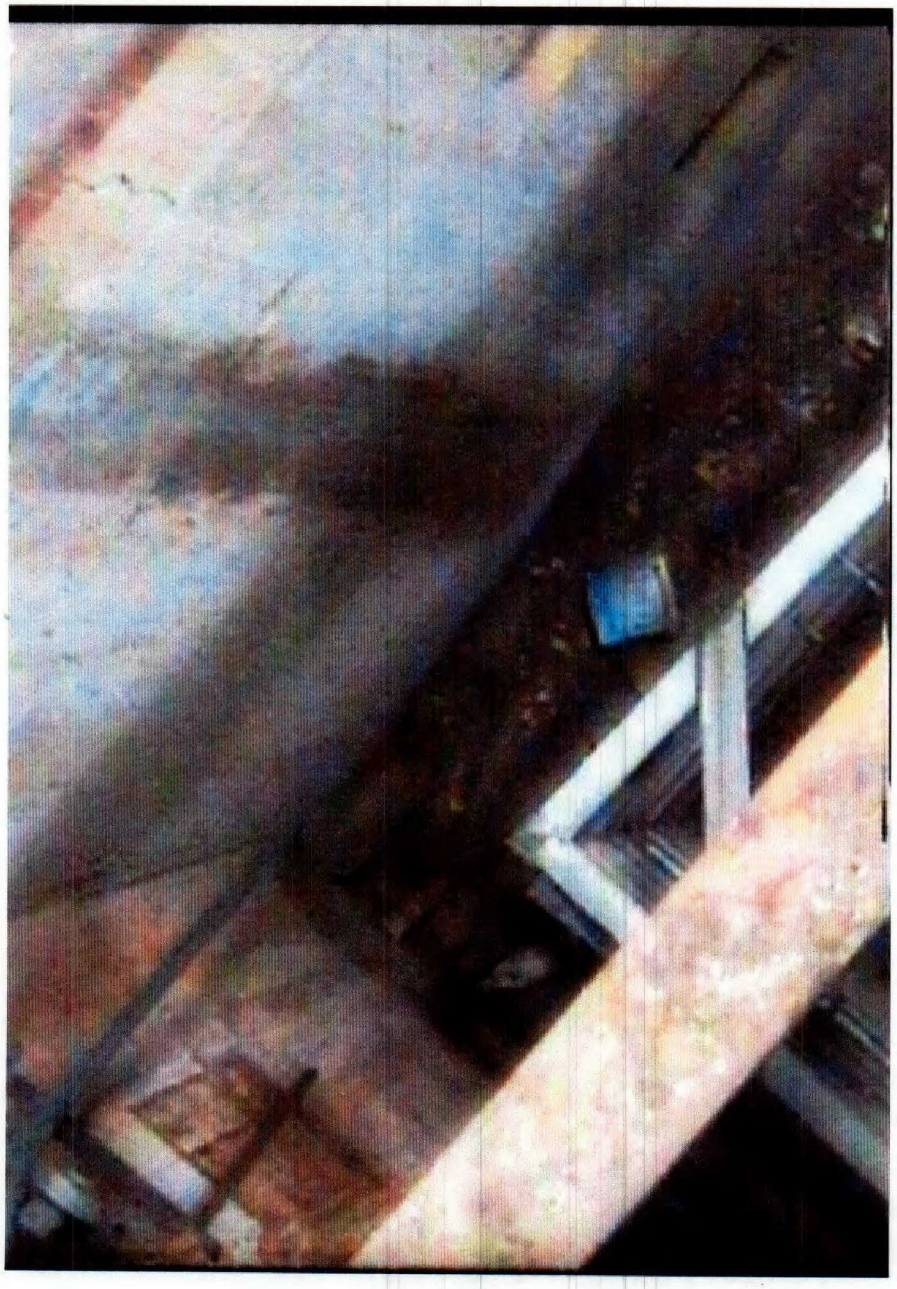

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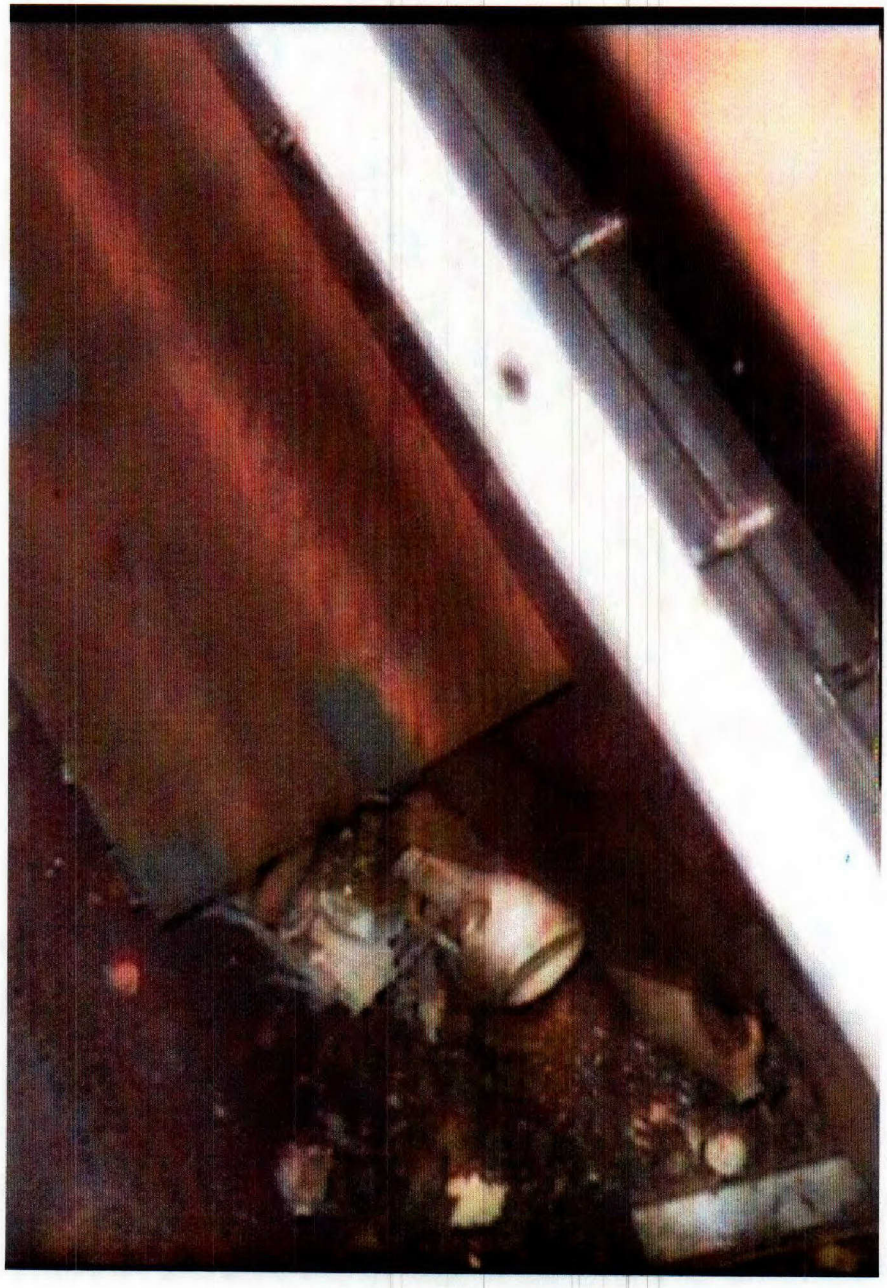

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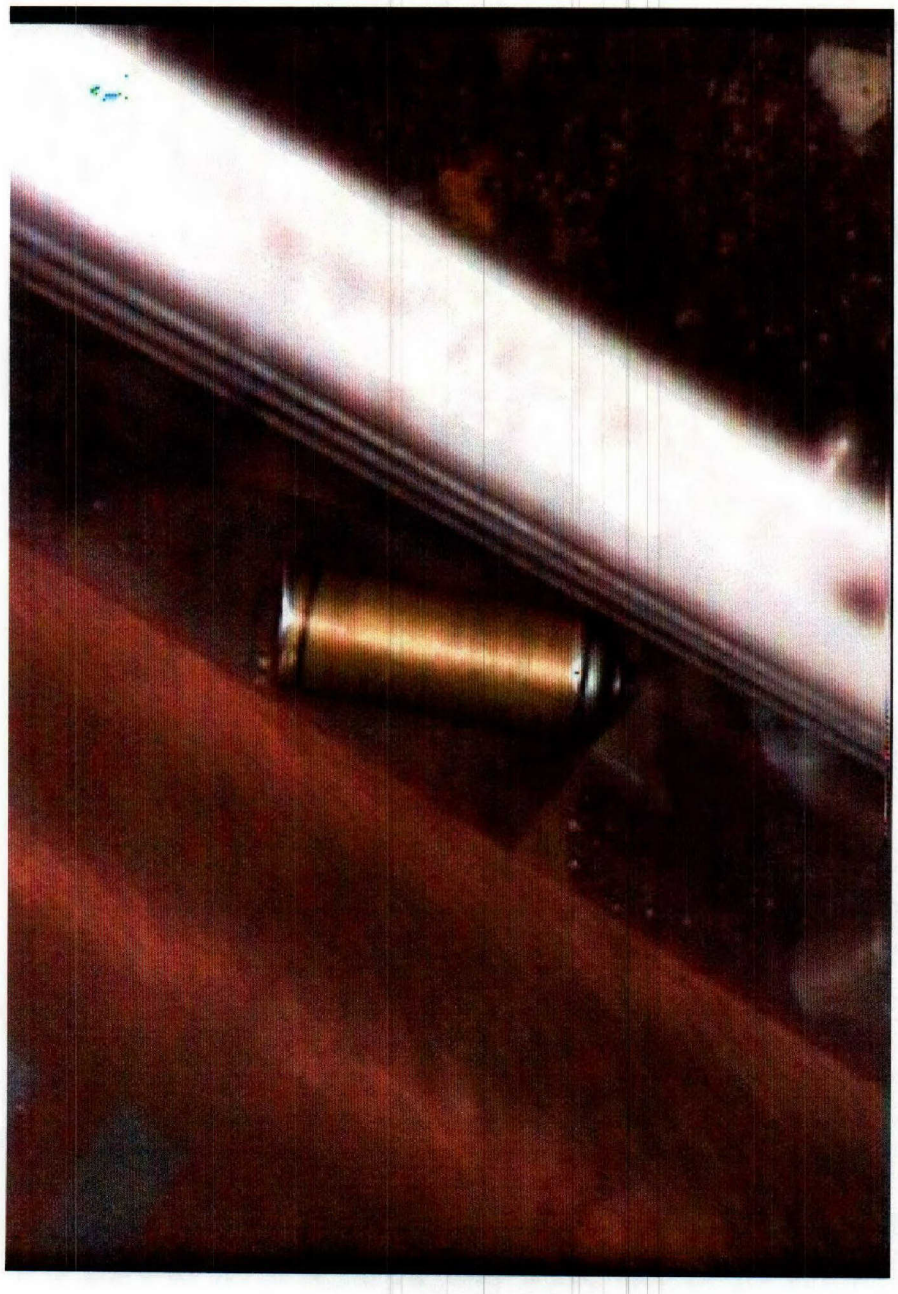

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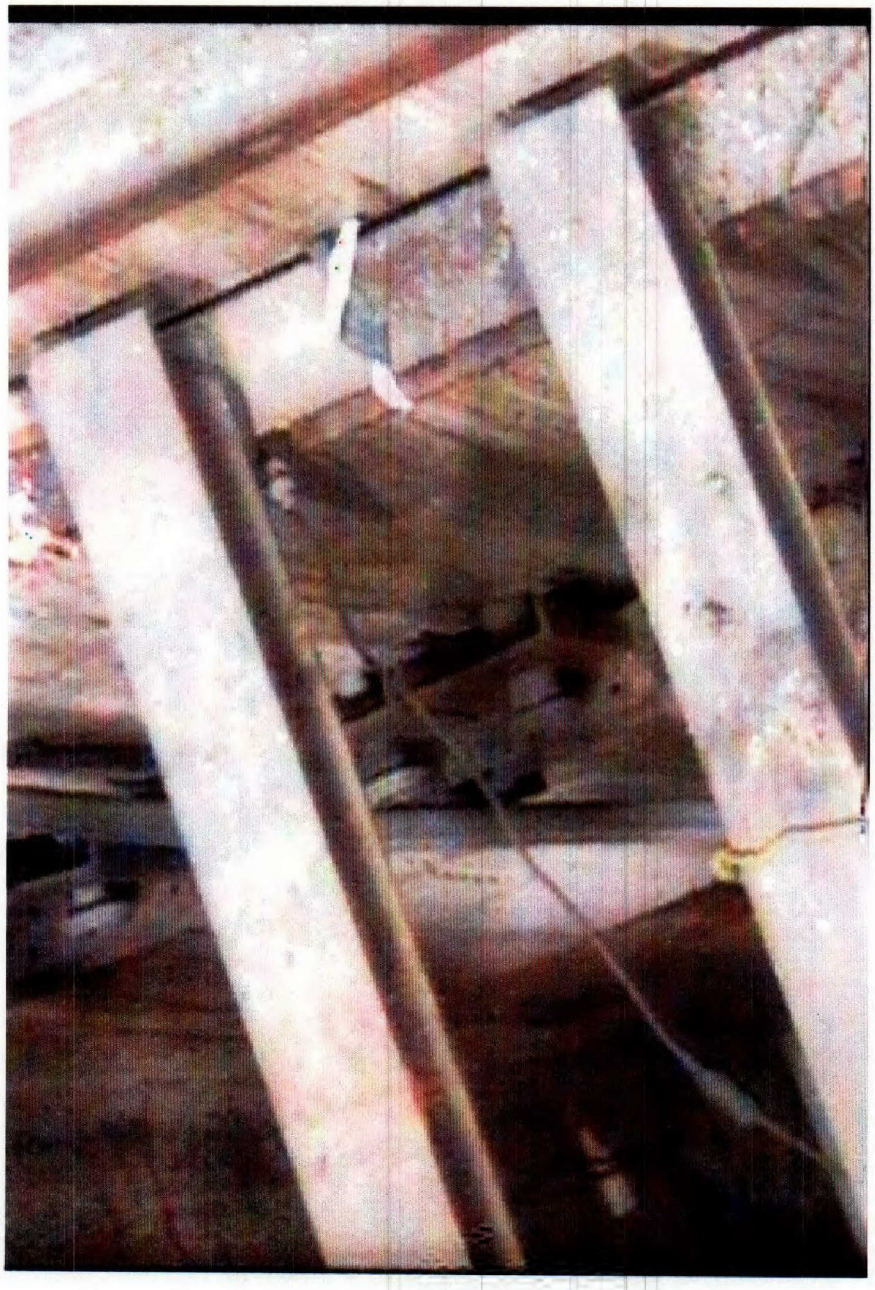

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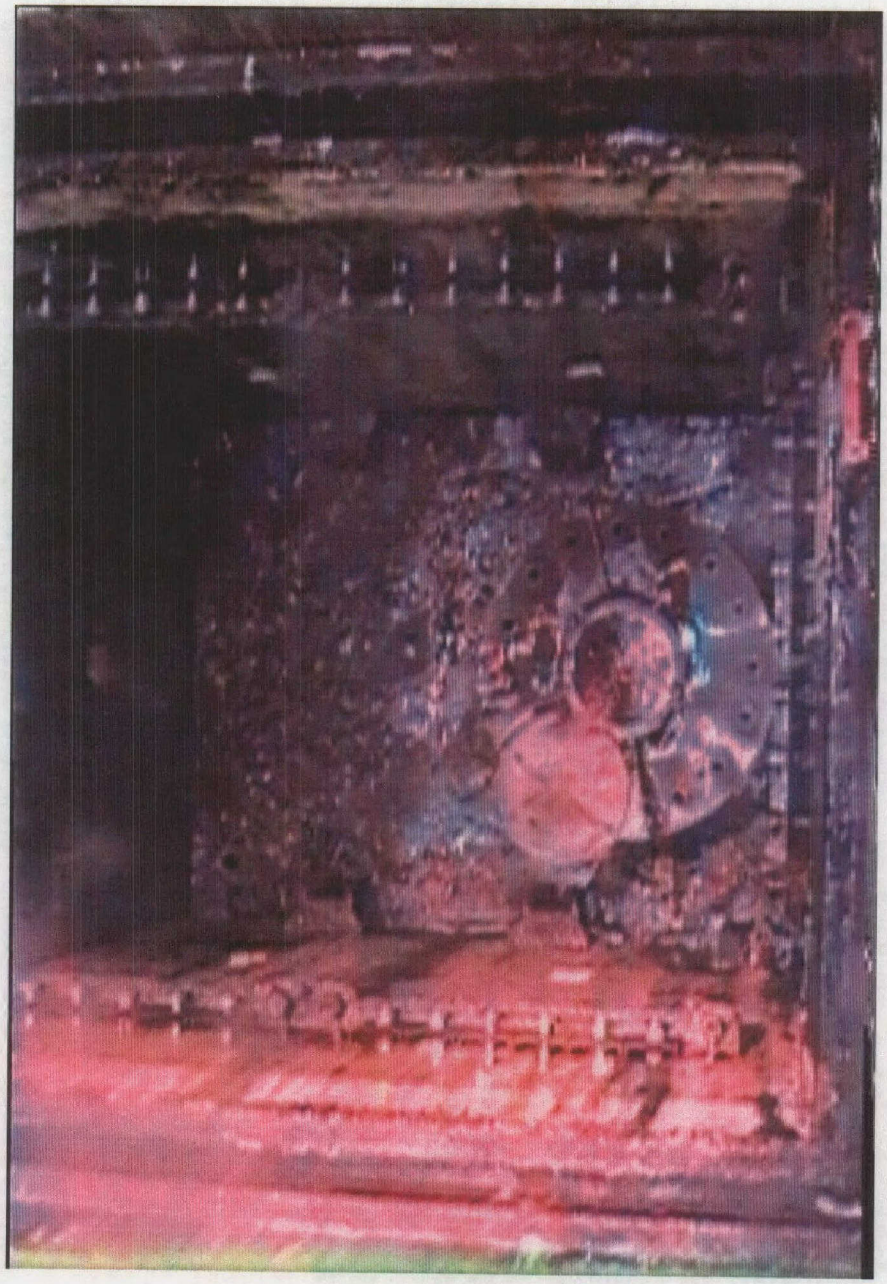

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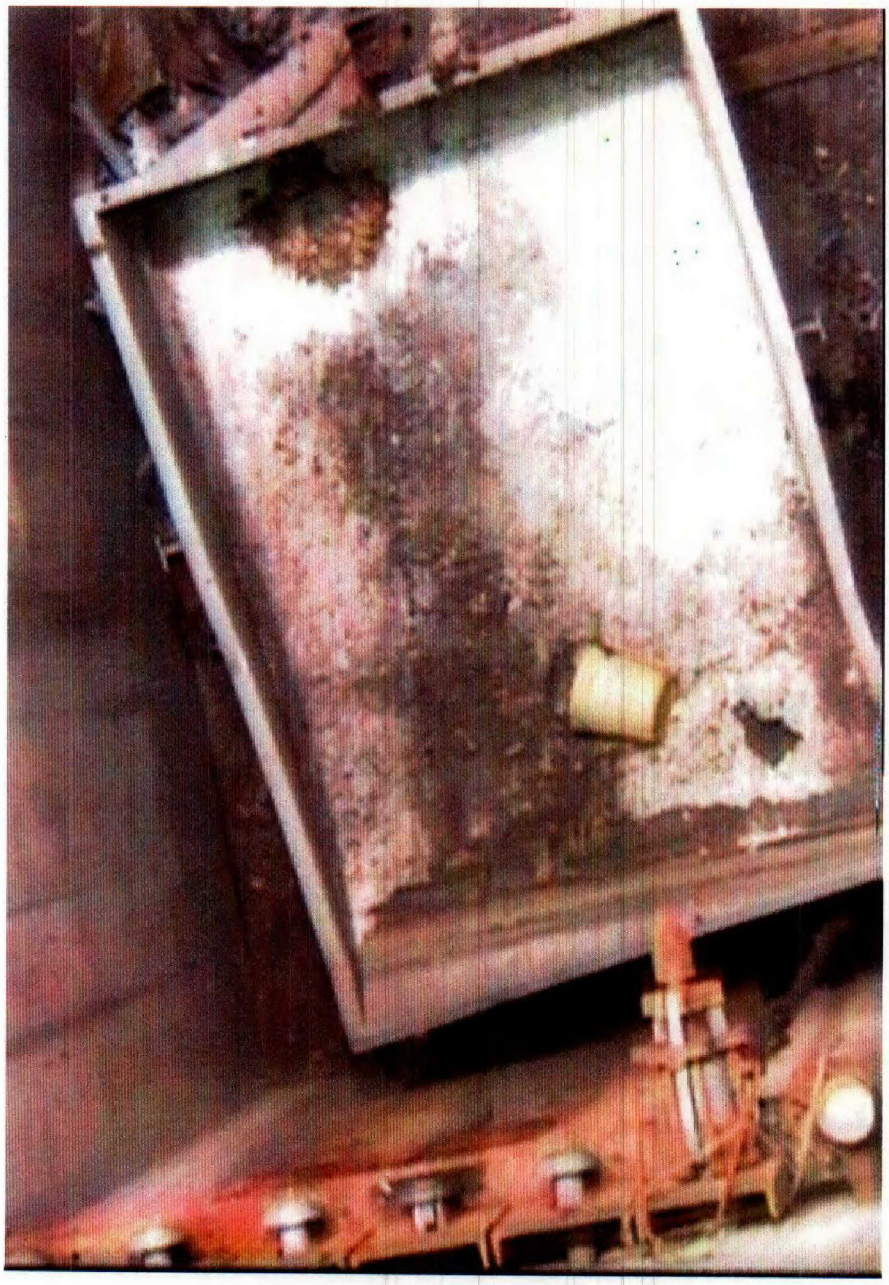

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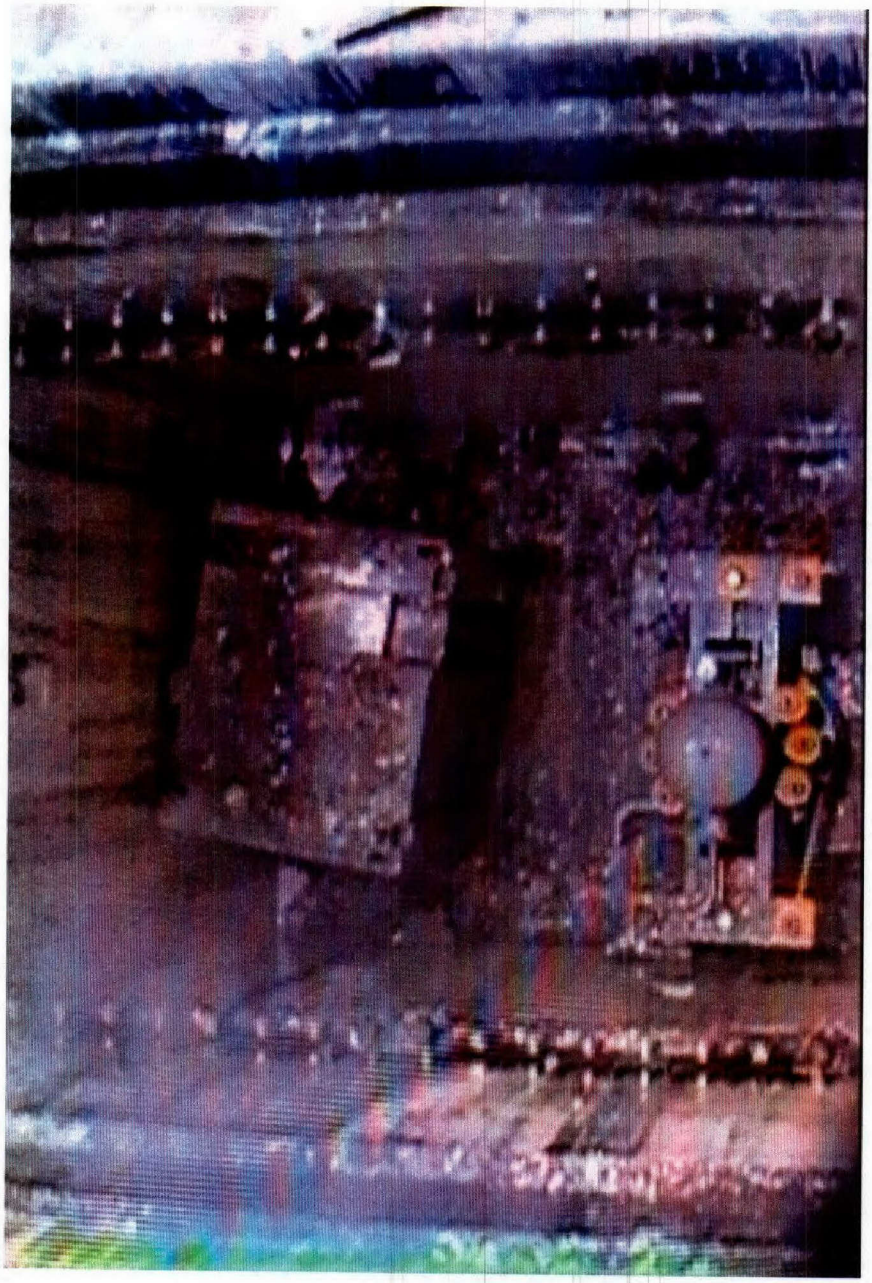

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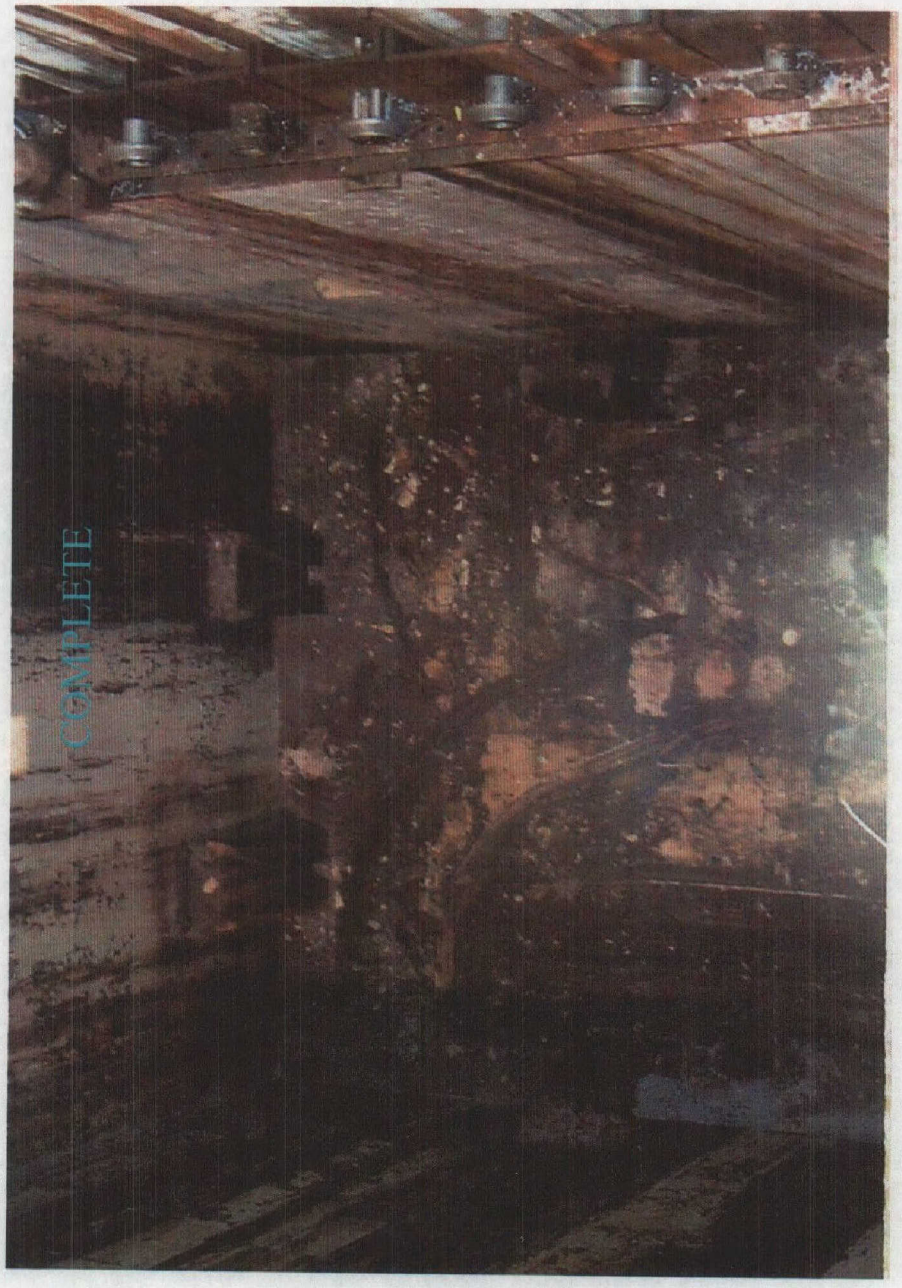

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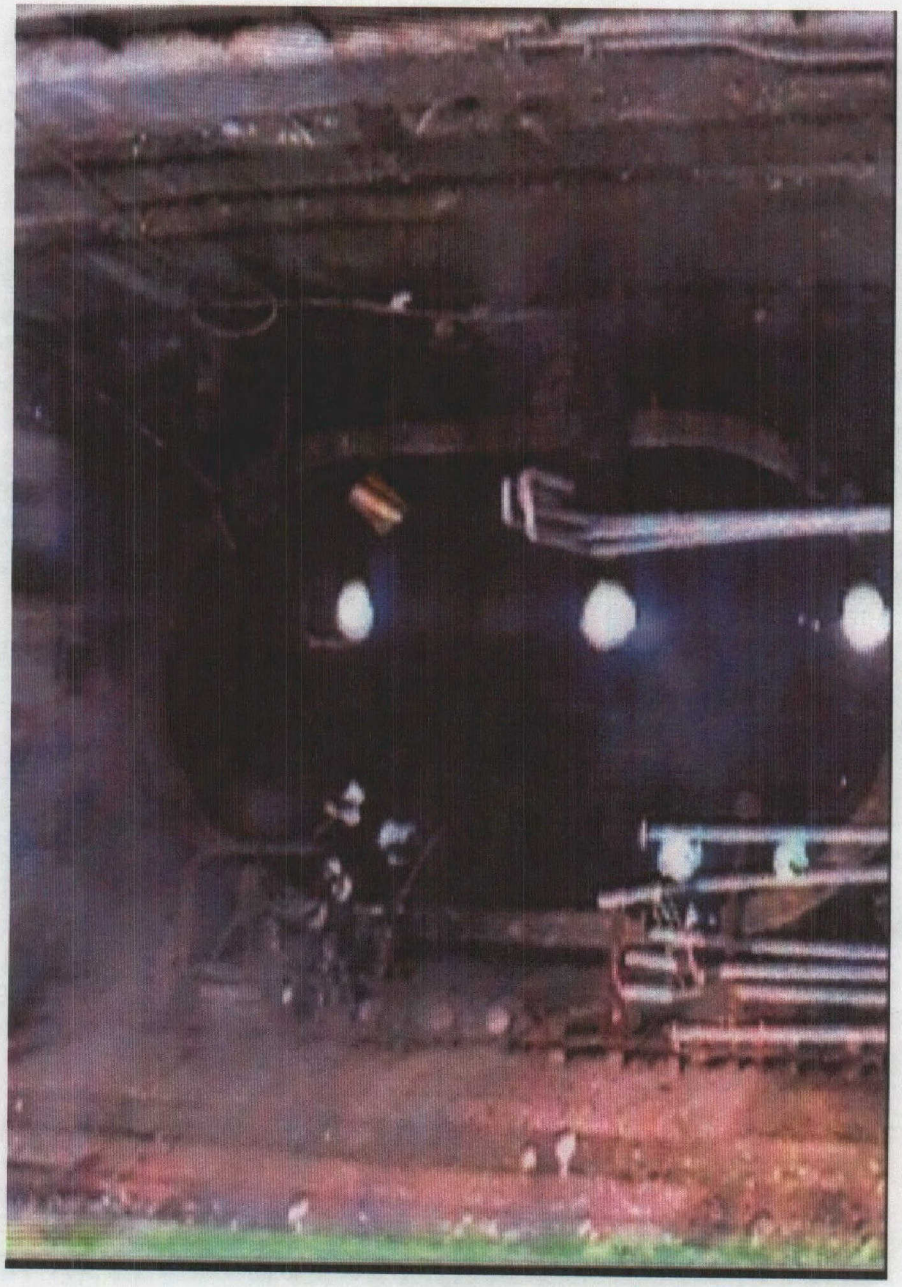

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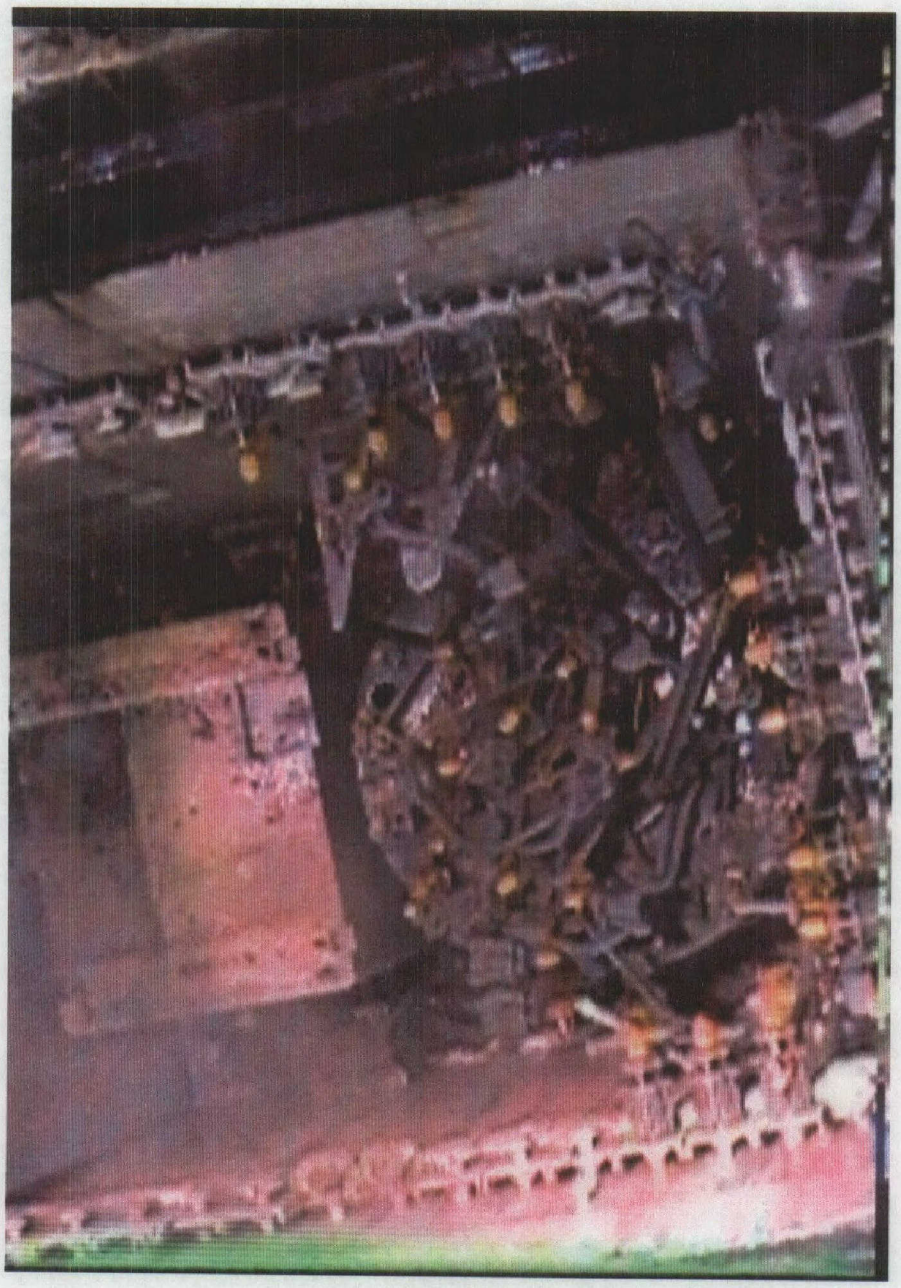

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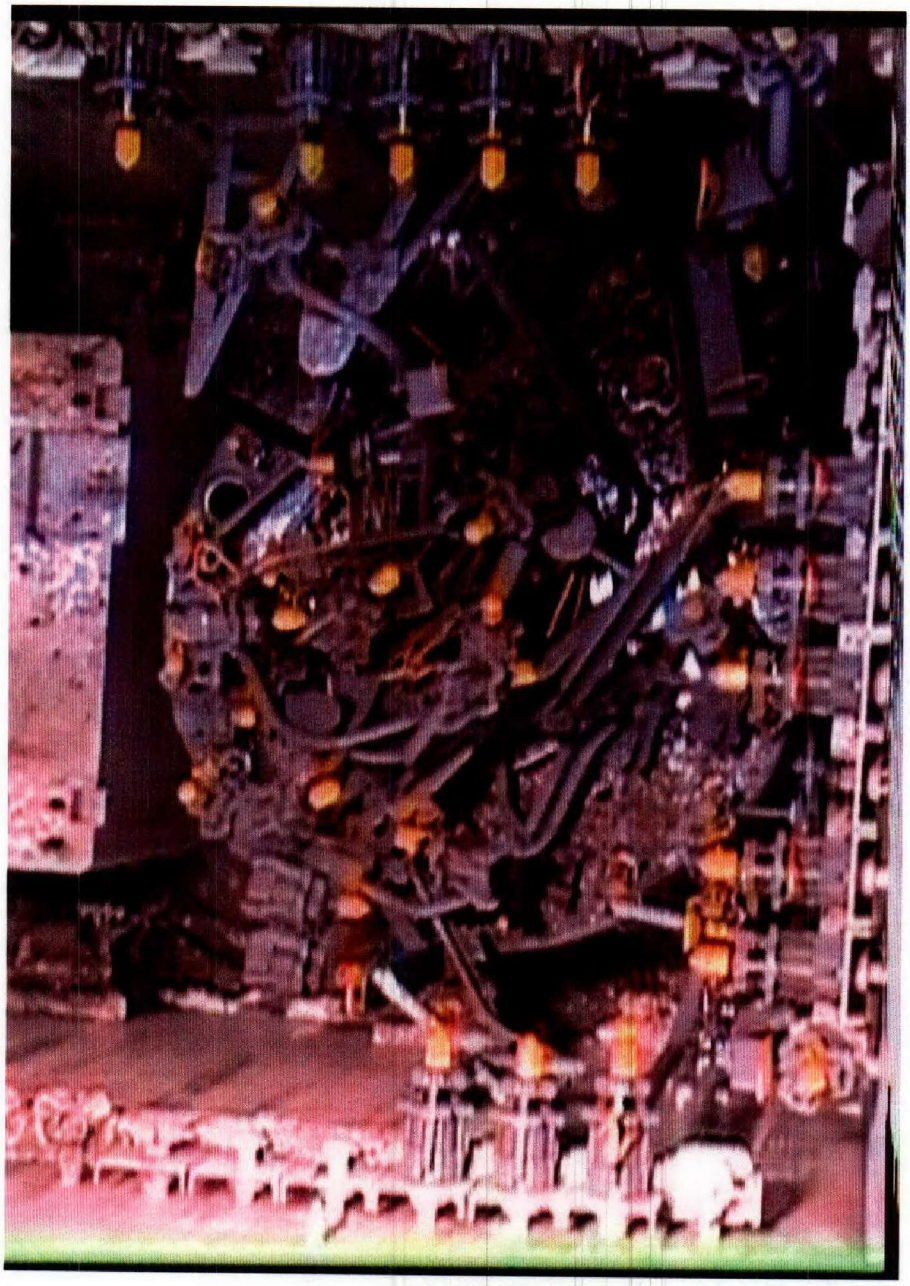

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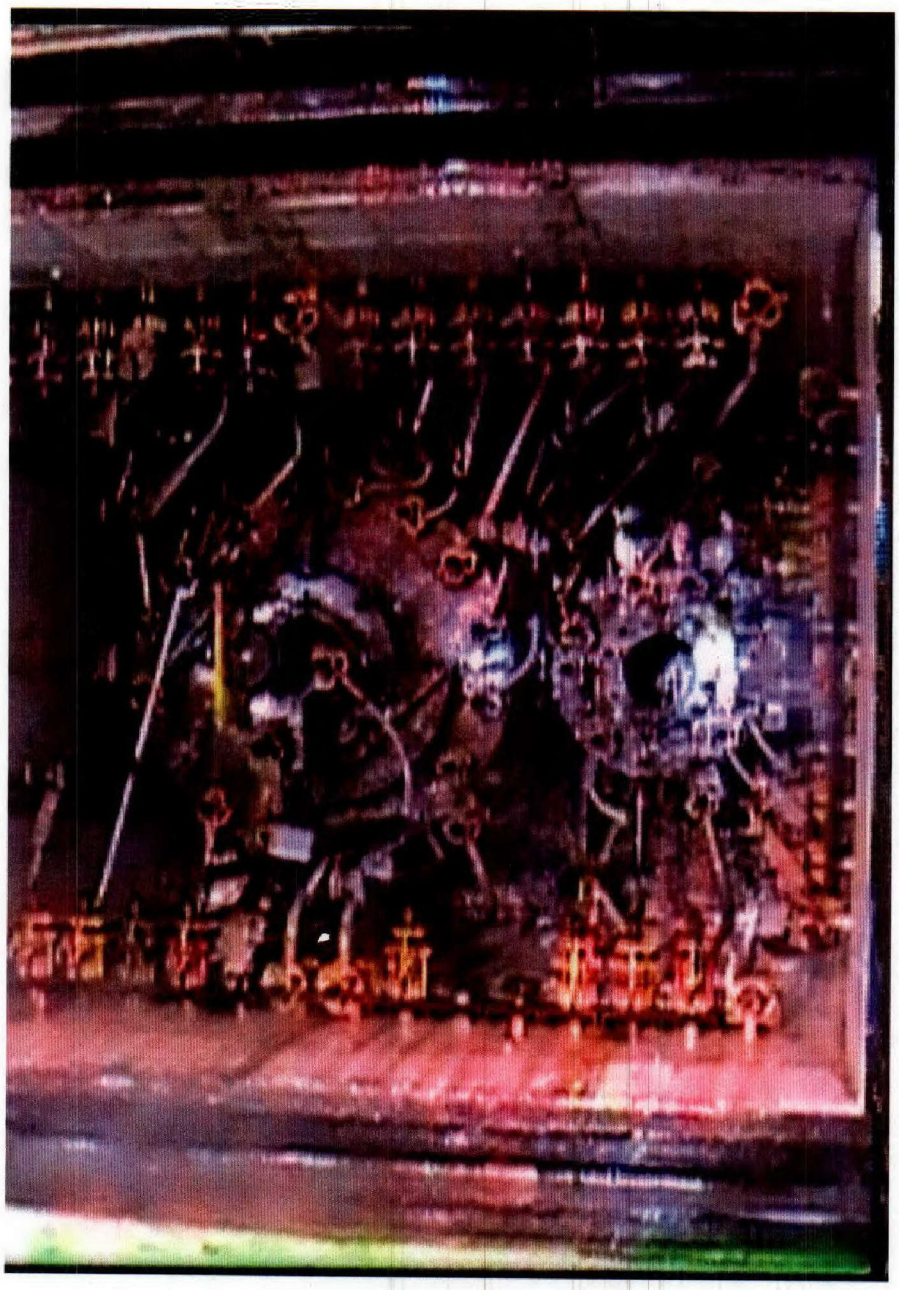

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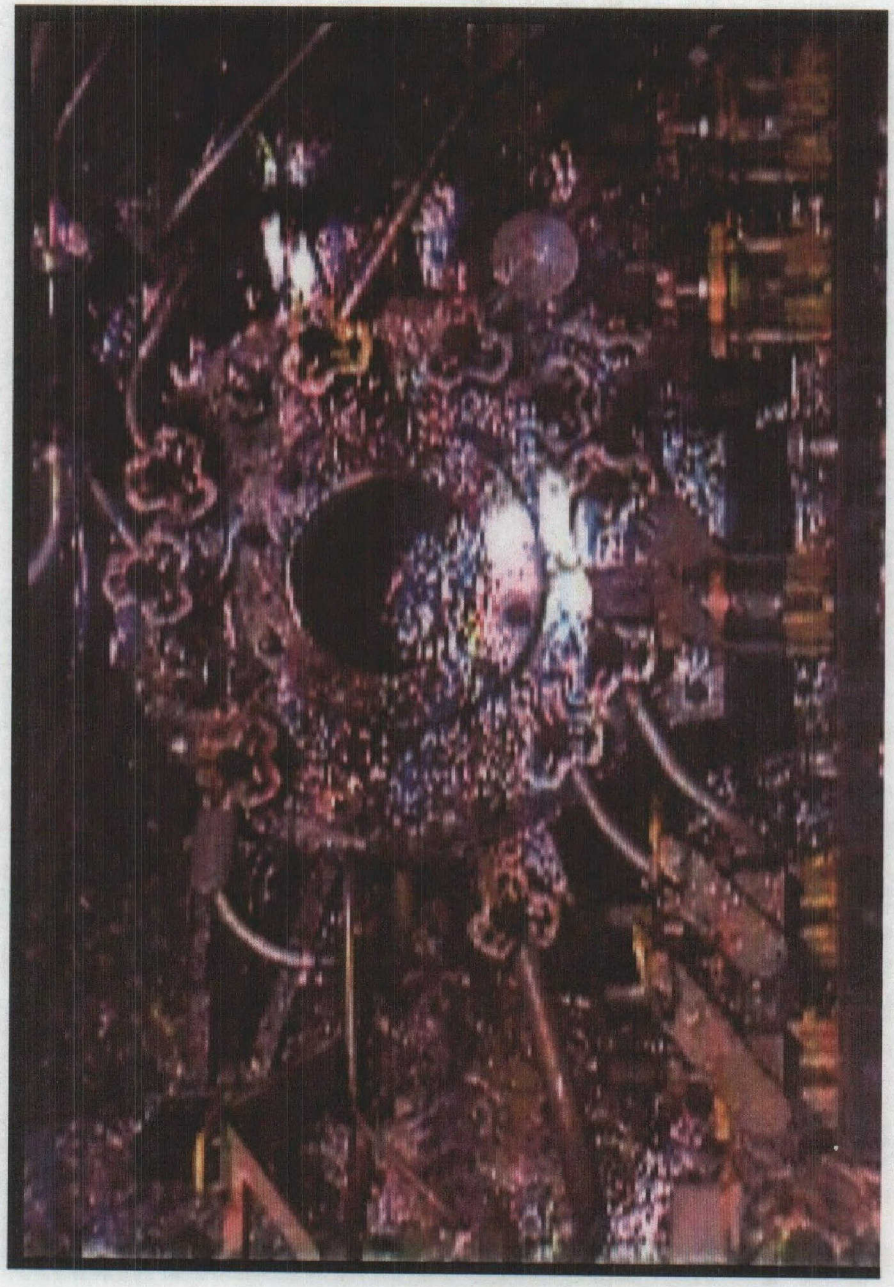

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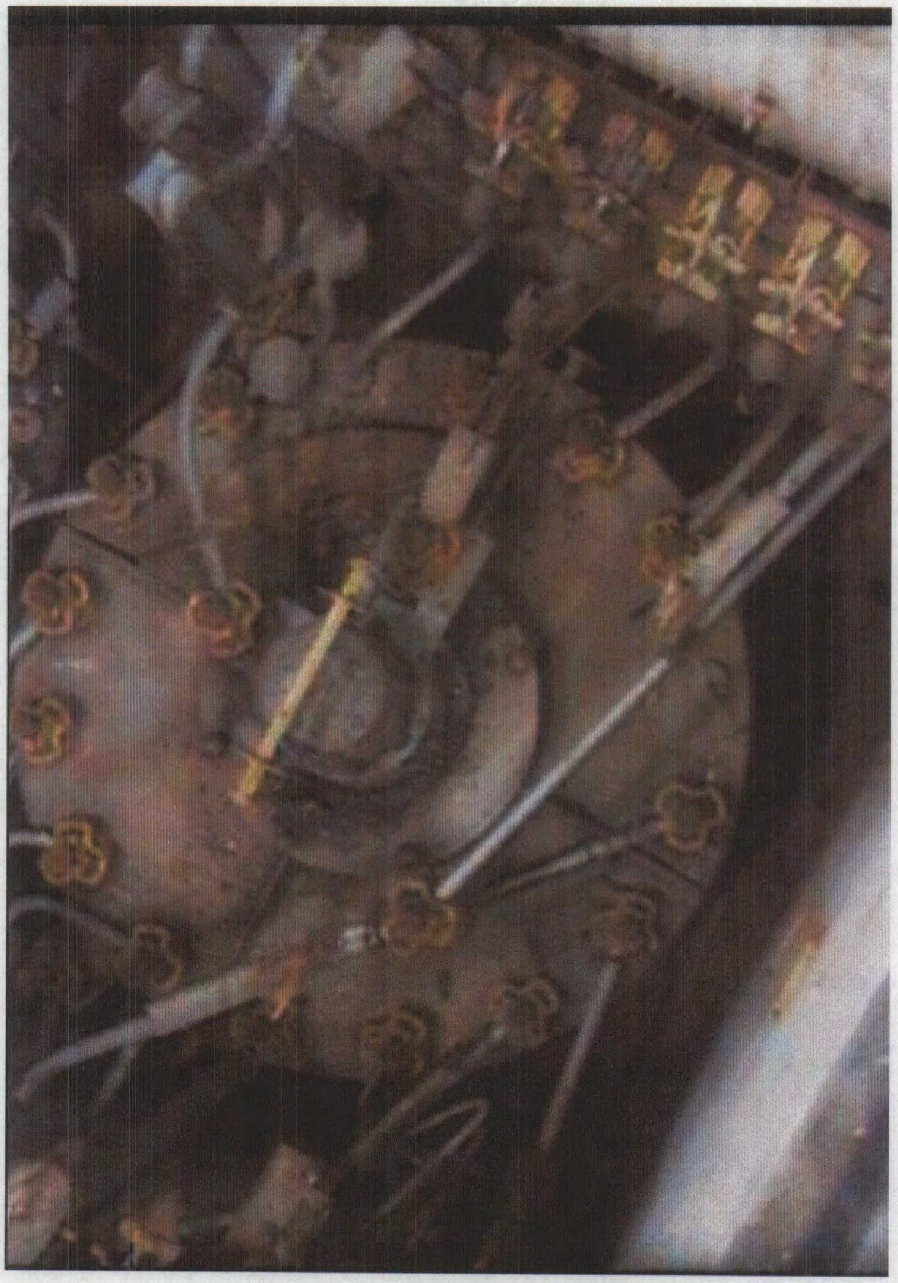

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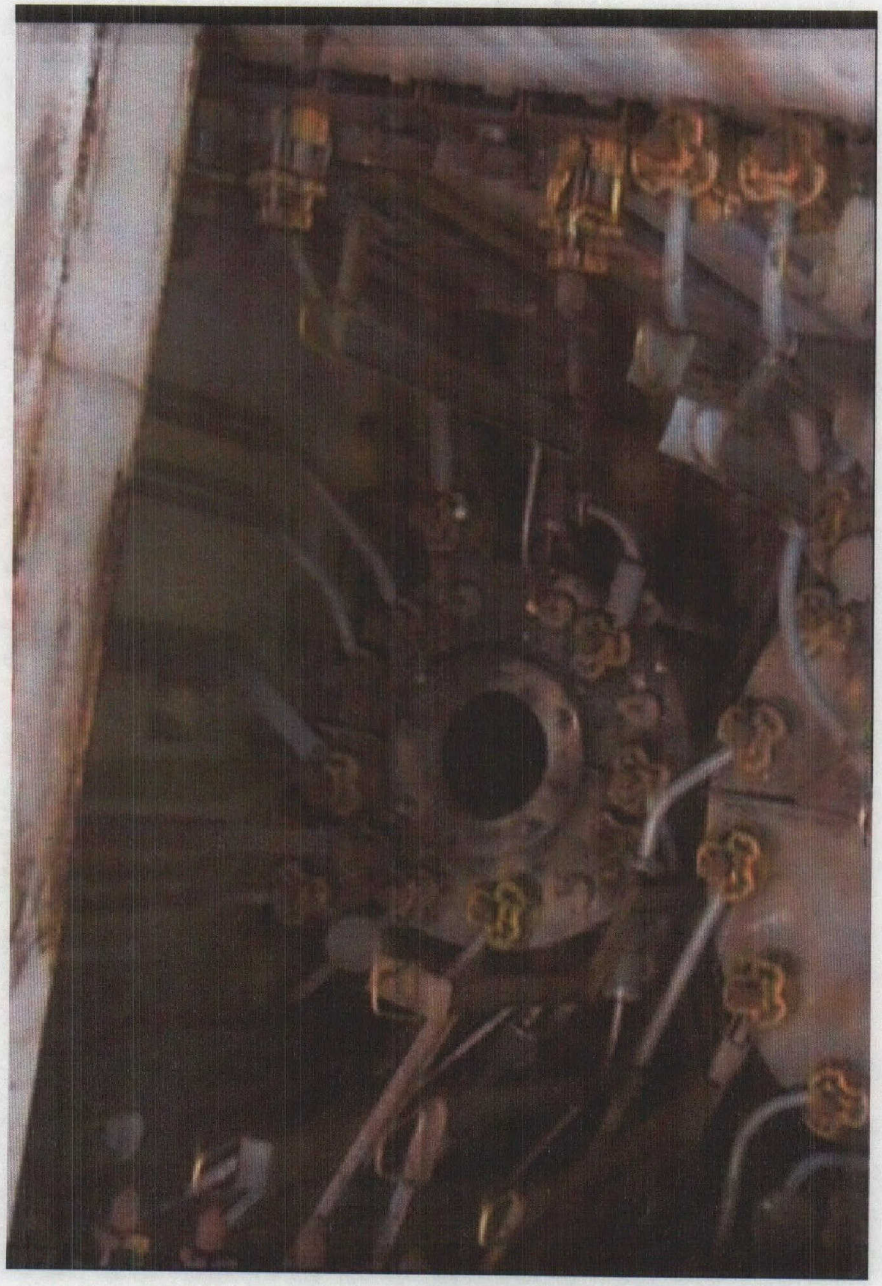

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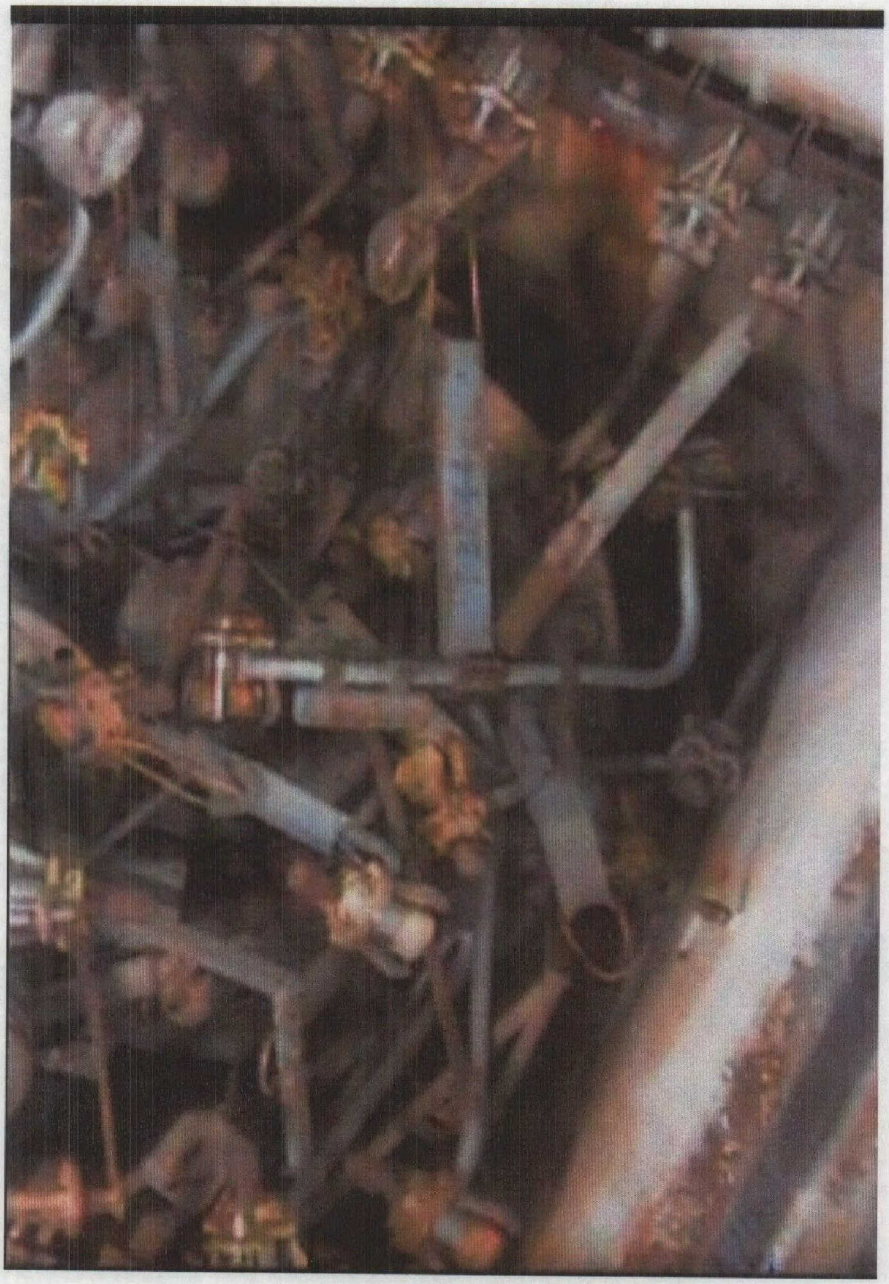

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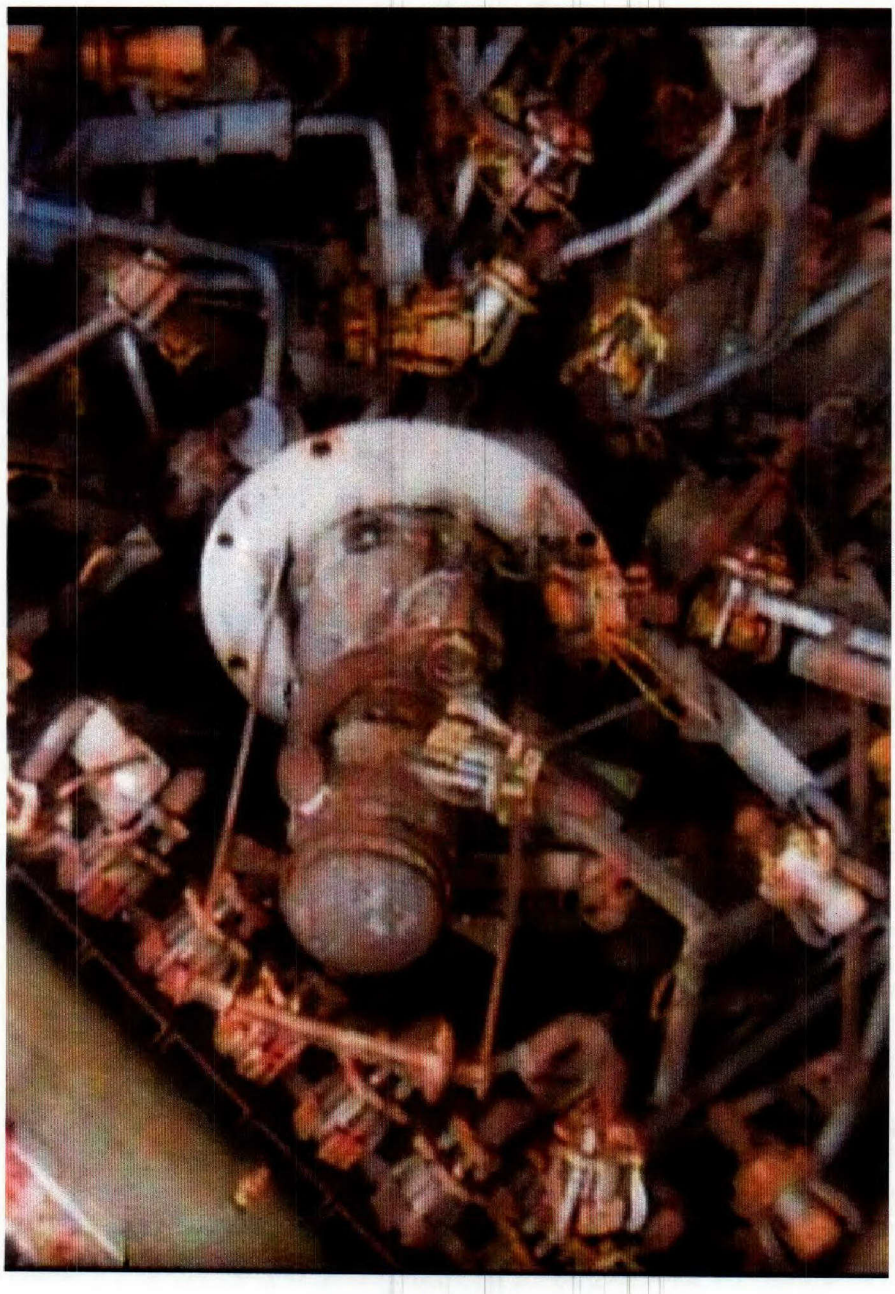

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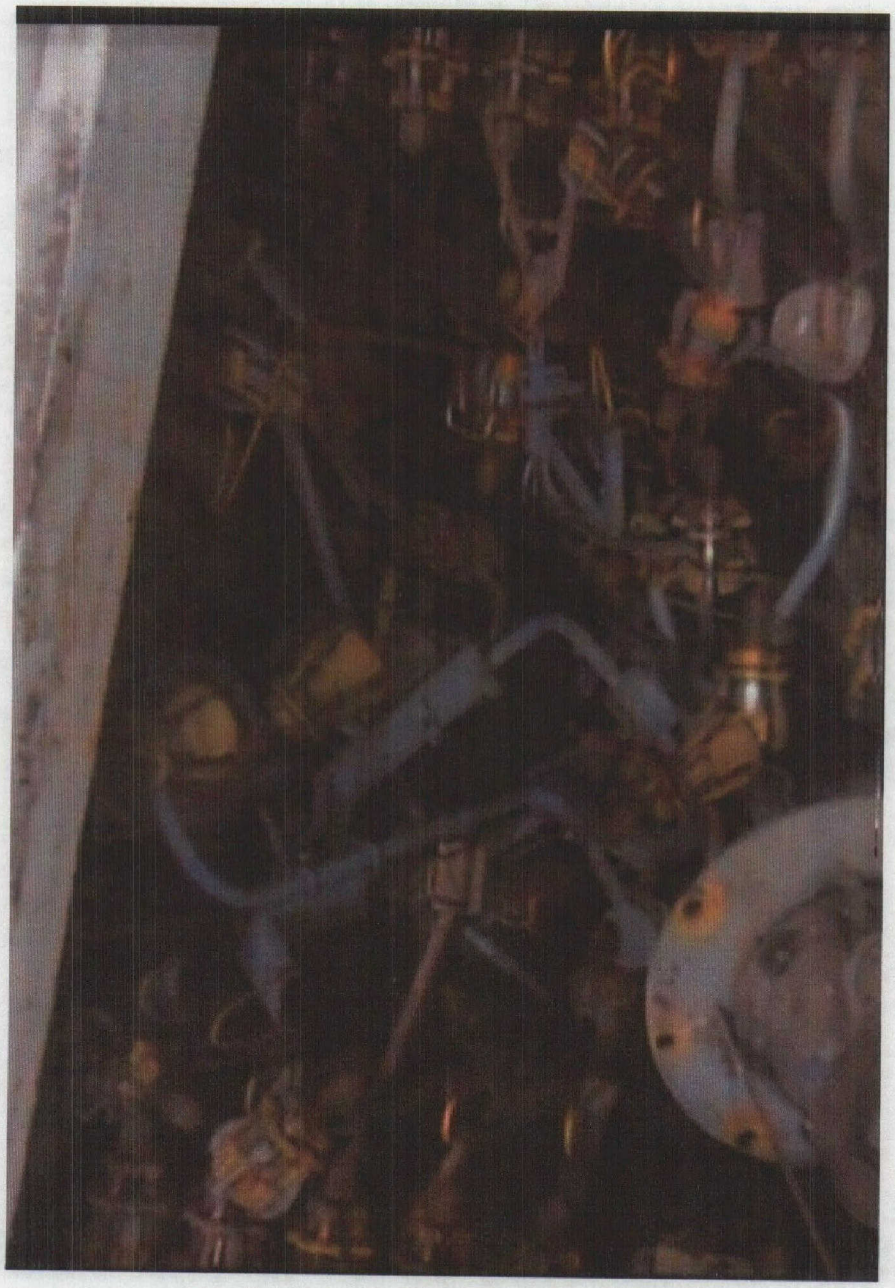

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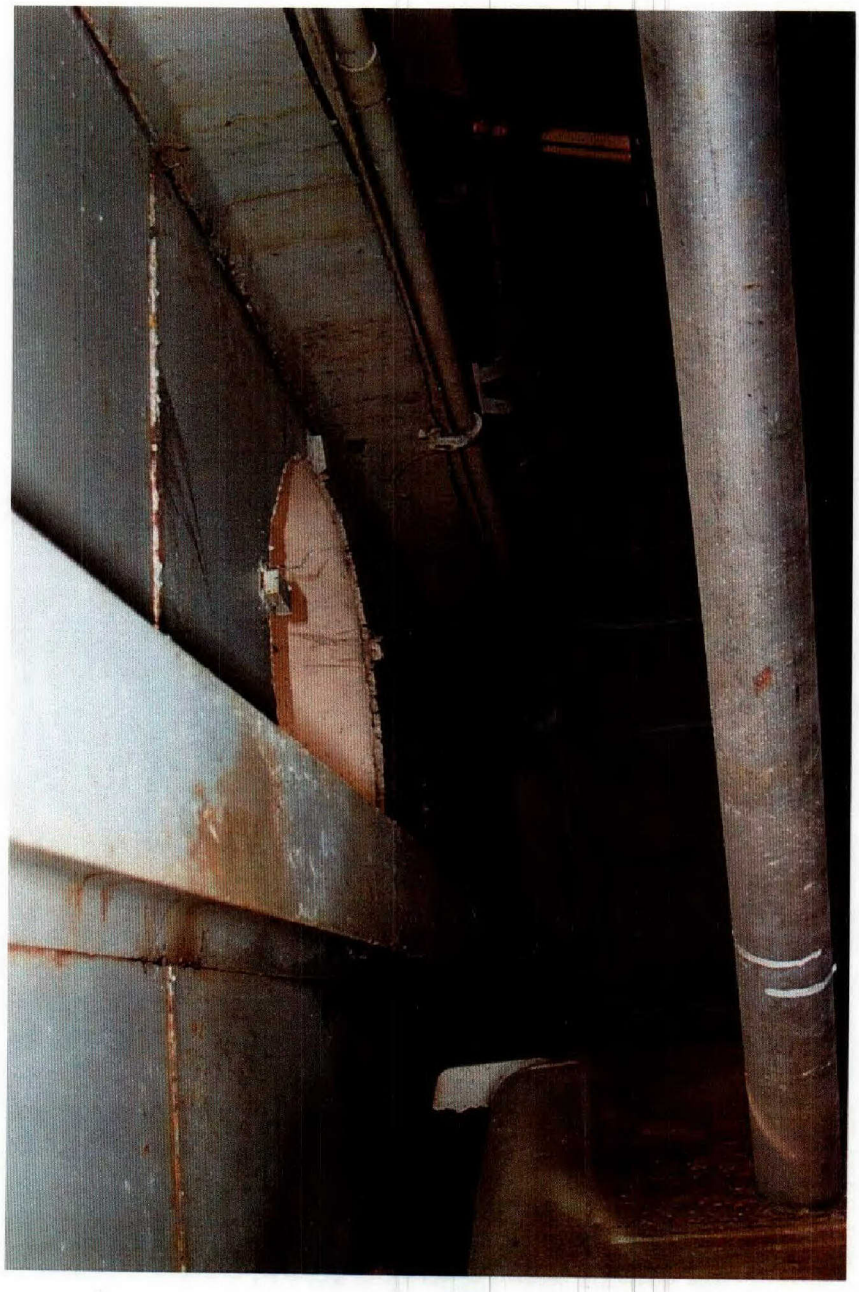

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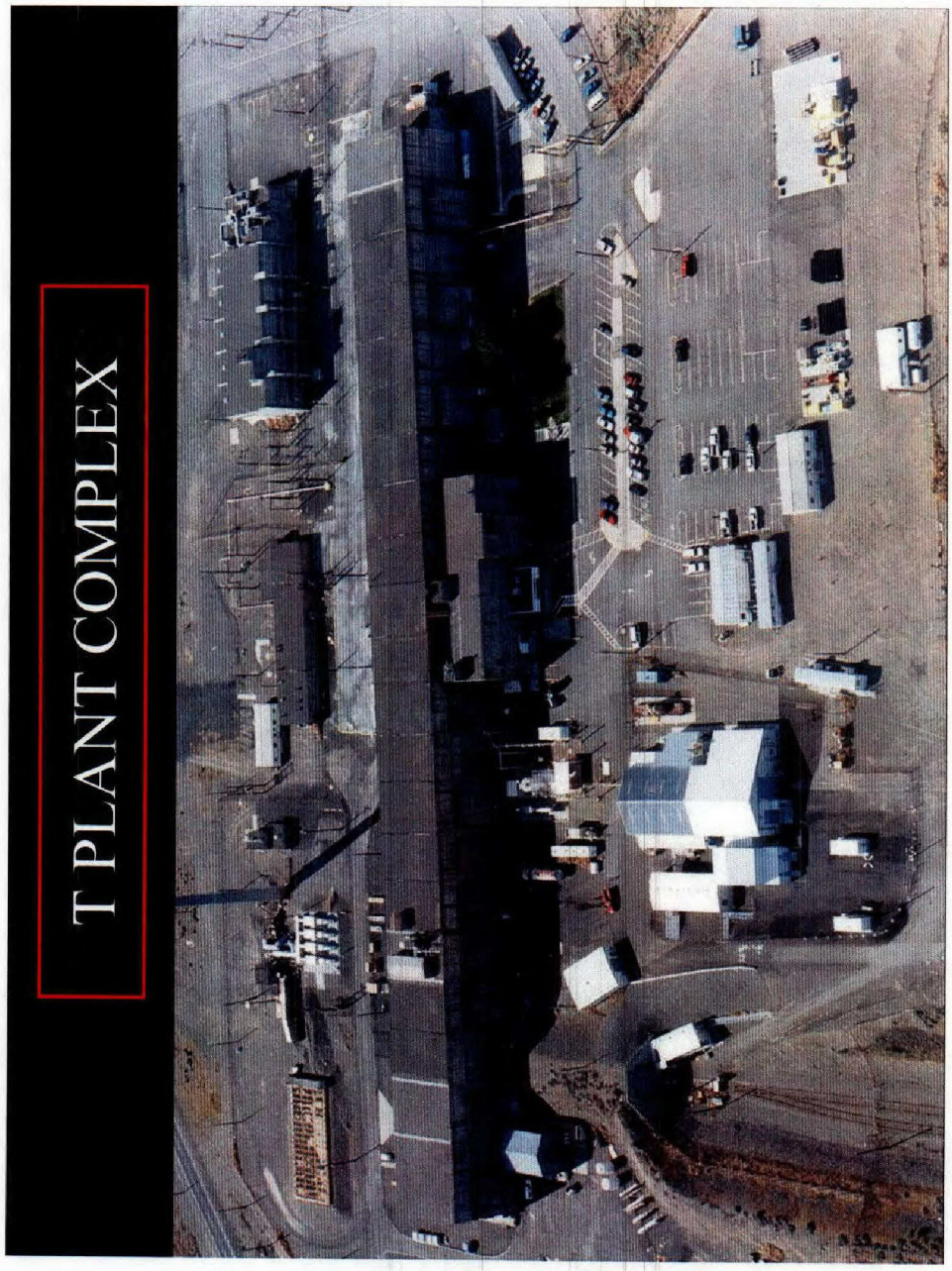

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Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.G. Appendix G – 2706-TB Tank System

G1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 2706-TB Tank System dangerous waste management unit (DWMU), hereinafter referred to as the 2706-TB Tank System. The Permittee has concluded that the 2706-TB Tank System will no longer be utilized for future receipts of dangerous waste and has, therefore, decided to coordinate closure of the DWMU with final closure of the T-Plant Complex OUG. Closure will be performed in accordance with the included schedule.

This closure plan complies with WAC 173-303-640(8), "Dangerous Waste Regulations," "Tank Systems," "Closure and Post-Closure Care," and WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

G1.1 Unit Description

The 2706-TB Tank System (Figure A-1) includes the following components:

- Storage tank T-XX-2706-220
- Storage tank T-XX-2706-221
- 2706-TB enclosure building (including built-in sump)
- Piping
- Ancillary equipment

The 2706-TB Tank System enclosure was constructed to enclose the 2706-TB tanks that managed liquid mixed waste generated in the 2706-T and 2706-TA Buildings. The 2706-TB enclosure primary purpose is enclosure of the tank system; therefore, it is included in this closure plan.

The 2706-TB Tank System enclosure is 9.5 m (31 ft) wide, 14 m (46 ft) long, and 9.6 m (31 ft) high. The building is constructed of prefabricated steel and has a concrete foundation and floor. The 2706-TB Tank System enclosure contains the two storage and treatment tanks, provides secondary containment, and includes a chemical addition room located at the north end of the enclosure. The chemical addition room is not included in the closing portion of the 2706-TB Tank System.

The two stainless steel storage tanks were removed from service and will no longer be utilized for waste storage. T-XX-2706-T-220 was removed from service after the tank corroded. As part of removal of the tanks from active service, both tanks have been confirmed to be empty and have had their inlets and outlets blanked to prevent any addition of material to the tanks. The pipe blanking was witnessed by the Washington State Department of Ecology and documented with pictures.

Secondary containment for the 2706-TB Tank System consists of a concrete berm with an external liner made of a high-density epoxy coating that is free of crack and gaps. The 2706-TB Building contains a sump that provides secondary containment for liquid decontamination waste and other compatible and accepted liquid mixed waste. The secondary containment sump is fully functional, and liquids can be removed manually, if needed.

Waste transfer piping is either located over secondary containment structures or double contained using prefabricated pipe-in-pipe systems. The inner sleeve piping provides primary containment, and the outer sleeve provides secondary containment.

All valves and associated non-encased piping located above the storage tanks are inside a foundation with a special protective coating system that serves as the secondary containment.

The 2706-TB Tank System does not currently manage dangerous or mixed waste. Future acceptance of dangerous or mixed waste is not authorized within the 2706-TB Tank System DWMU. The 2706-TB Tank System is located near the 221-T Canyon facility, which is part of the Canyon Disposition Initiative (CDI). In addition, the T-Plant Complex is included in the Tri-Party Agreement (TPA) (*Hanford Federal Facility Agreement and Consent Order* [Ecology et al., 1989a]) Action Plan (*Hanford Federal Facility Agreement and Consent Order Action Plan* [Ecology et al., 1989b]), Section 6, "Treatment, Storage, and Disposal Unit Process," and Section 8, "Facility Disposition Process."

> TPA Action Plan Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and the CDI activities. The 2706-TB Tank System is in a safe configuration for an extended closure period. Final clean closure verification will occur during CDI activities for the T-Plant Complex.

G1.1.1 Maximum Waste Inventory

No incompatible wastes have been added into the 2706-TB Tank System. The maximum waste inventory of the 2706-TB Tank System is the maximum capacity of the 2706-TB Tank System as identified in Table G-1.

Table G-1. Maximum Waste Inventory of the 221-T Tank System

Tank Number	Maximum Waste Inventory
T-XX-2706-220	56,781 Liters (15,000 Gallons)
T-XX-2706-221	22,712 Liters (6,000 Gallons)
2706-TB Enclosure Sump	60,300 Liters (15,930 Gallons)

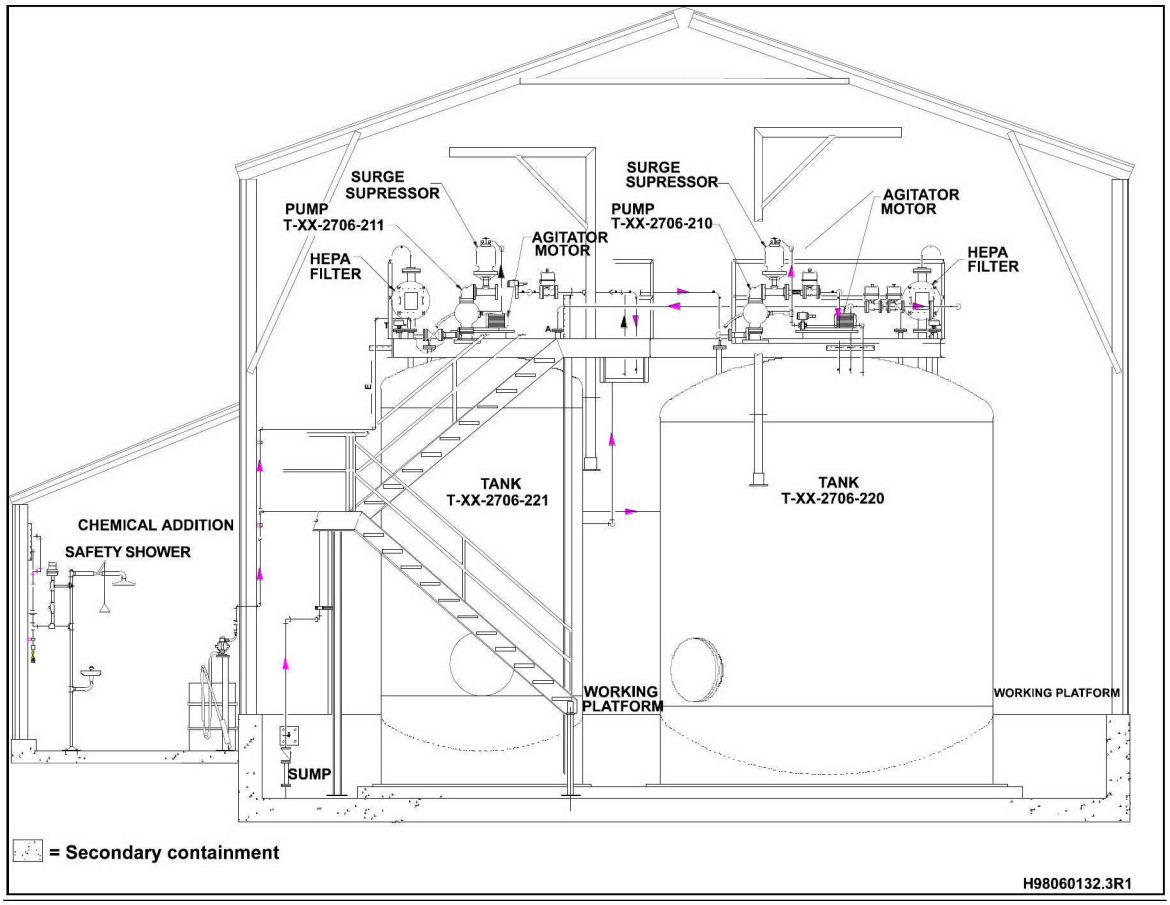

Figure G-1. T-Plant Complex Operating Unit Group 2706-TB Tank System

G2 Closure Performance Standard

Closure performance standards for the 2706-TB Tank System will be based on requirements found in WAC 173-303-640(8) and WAC 173-303-610(2). WAC 173-303-640(8) states:

> *At the closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as dangerous waste.*

WAC 173-303-610(2) requires closure of the facility in a manner that:

- Minimizes the need for further maintenance
- Controls, minimizes, or eliminates, to the extent necessary, to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity.

These performance standards are addressed in Sections G2.1 and G3.11 of this closure plan.

G2.1 Clean Closure Levels

The 2706-TB Tank System will be clean closed to the performance standards identified in WAC 173-303-610 and WAC 173-303-640(8) in coordination with T-Plant CDI activities. The 2706-TB Tank System, including the enclosure, will be removed as part of the T-Plant CDI activities. Removal of the tanks, piping, enclosure, and ancillary equipment will control, minimize, or eliminate the potential release of any dangerous waste constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or atmosphere. Final closure of the 2706-TB Tank System will be achieved in conjunction with T-Plant Complex CDI activities.

G3 Closure Activities

As a waste management unit, a clean closure determination for the 2706-TB Tank System will be based on a review of the operational history and removal of the tanks, piping, ancillary equipment, and enclosure. Based on a review of the operational history, the 2706-TB Tank System is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with CDI activities. Final removal to demonstrate clean closure will be performed during the T-Plant Complex cleanup activities consistent with the CDI activities.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

The near-term closure activity required to achieve and verify clean closure is as follows:

- Review operational history (completed; see Section G3.3.).

Extended closure activity includes :

- Removal of the 2706-TB Tank System to confirm RCRA clean closure standards in coordination with CDI activities for the T-Plant Complex OUG.

G3.1 Health and Safety Requirements

Closure will be performed to ensure safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex T-Plant, Addendum G, "Personnel Training," and will have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will include training that provides the knowledge and skills needed for sampling personnel to perform work safely and in accordance with quality assurance requirements.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering the following factors:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

G3.2 Removal of Wastes and Waste Residues

The 2706-TB Tank System does not currently contain wastes or waste residues and has been blinded off; therefore, it is no longer able to accept dangerous or mixed waste. The last waste was removed in April 2004. During T-Plant CDI activities, the tanks, piping, enclosure, and ancillary equipment will be removed. A waste determination will be performed, and the 2706-TB Tank System components will be disposed of at an approved treatment, storage, and disposal (TSD) facility, as necessary. The 2706-TB Tank System is in a safe configuration for an extended closure period.

G3.3 Unit Components, Parts, and Ancillary Equipment

The 2706-TB Tank System includes the two tanks, piping, enclosure, and ancillary equipment. The 2706-TB Tank System will not be removed as part of the near-term closure activities and will remain in place pending final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG.

G3.4 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 2706-TB Tank System.

G3.5 Decontamination

Decontamination activities are not planned for the 2706-TB Tank System.

G3.6 Identifying and Managing Contaminated Environmental Media

The 2706-TB Tank System enclosure provides secondary containment for the tanks. Piping and ancillary equipment are located over secondary containment. Contaminated environmental media is not anticipated.

G3.7 Confirming Clean Closure

The 2706-TB Tank System will be clean closed. All dangerous or mixed waste has been previously removed. The tanks, piping, enclosure, and ancillary equipment will be removed, as required, for clean closure determination in accordance with WAC 173-303-640(8)(b). A waste determination will be performed, and the waste will be disposed of in an approved TSD facility. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 2706-TB Tank System.

G3.8 Sampling and Analysis and Constituents to Be Analyzed

G3.8.1 Sampling and Analysis Plan

Sampling for the 2706-TB Tank System is not anticipated. The 2706-TB Tank System has no documented releases of dangerous waste to the environment and is currently empty. Sampling and analysis of the 2706-TB Tank System, if deemed necessary for waste management and removal of the tank system, will be identified and performed in conjunction with T-Plant CDI activities and as part of the waste determination process.

After removal of the 2706-TB Tank System, if any items of concern in the area are noted, a revised closure plan will be submitted as a permit modification request and a sampling and analysis plan will be proposed.

G3.9 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered, professional engineer will be retained to provide certification of the closure and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

G3.10 Closure Certification

In accordance with WAC 173-303-610(6), certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to Ecology by registered mail within 60 days of completion of 2706-TB Tank System DWMU closure. The certification will be signed by the owner or operator and by an independent, qualified, registered, professional engineer.

G3.11 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 2706-TB Tank System will remain in an "as-is" state with the tanks, piping, enclosure, and ancillary equipment remaining in place under the T-Plant CDI activities. The 2706-TB Tank System will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 2706-TB Tank System DWMU from the sitewide permit active DWMUs.

G4 Closure Schedule and Time Frame

This DWMU is located near the T-Plant Canyon building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA Action Plan (Ecology et al., 1989b) identified some TSD groups/units (primarily those located within large processing

facilities) that will be integrated with the disposition of the facility. Those units have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, "Coordination of Closure and Corrective Action or Other Cleanup Activities"), allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 2706-TB Tank System to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989a) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the removal activities, in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure G-2).

G5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

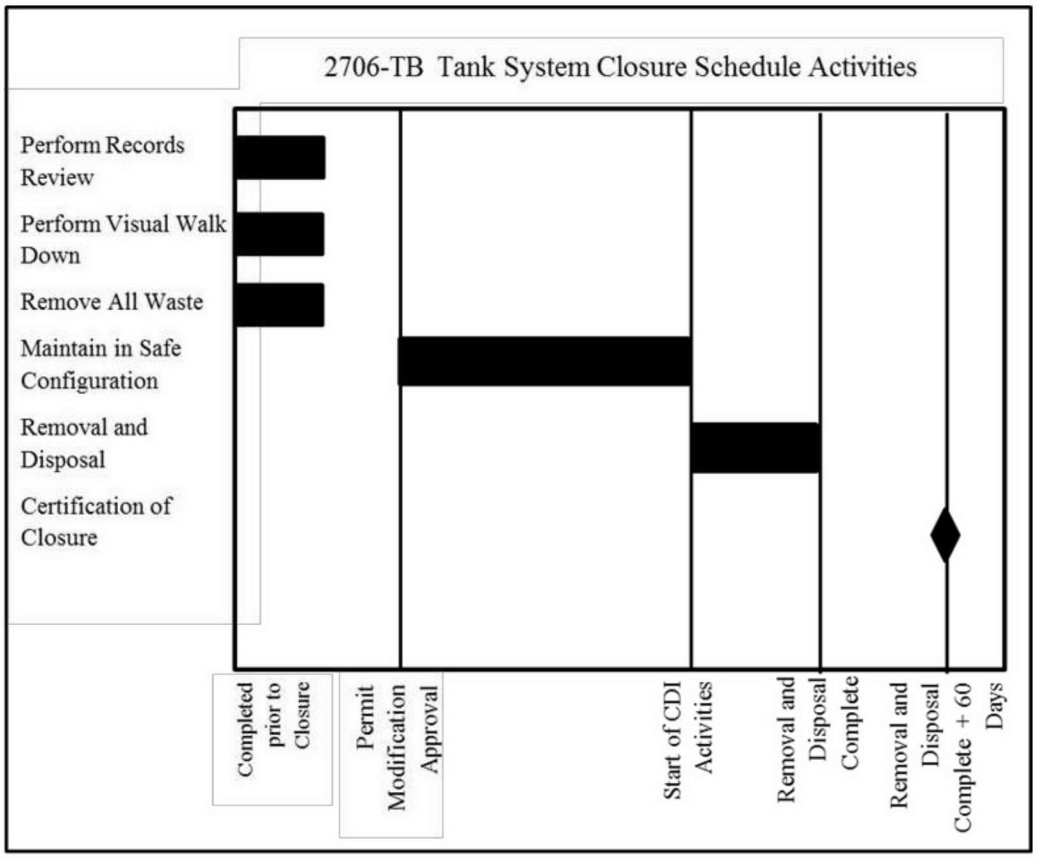

Figure G-2. 2706-TB Tank System Closure Schedule Activities

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Attachment A

T-Plant 2706-TB Tank System
RCRA Records Review and Visual Inspection Supporting Documentation

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T Plant Complex 2706-TB Building Storage Area

Purpose:

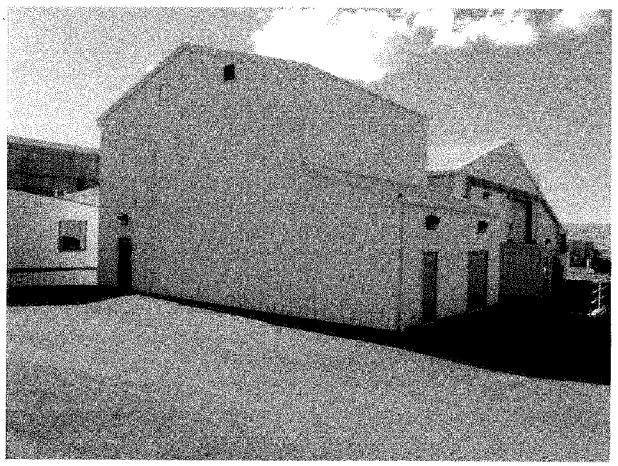
A visual inspection of the T Plant Complex 2706-TB Building Storage Area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface, and to denote any remaining waste related items.

The inspection was performed on September 18, 2013 by David Richards, Manager, T Plant (CHPRC).

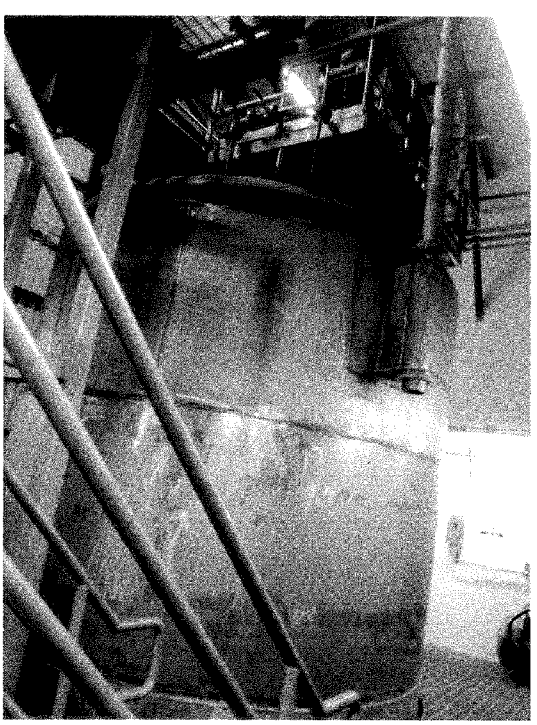
Results:

No waste is being stored in this area. The 2706-TB building tanks have been emptied and deactivated (Tank T-XX-2706-220 and T-XX-2706-221). The 2706-TB Building houses a functioning air compressor which is still required for operation of the Drum Venting Assemblies in 2706-T and 2706-TA. This compressors' Automatic 'Blow Down' drain has cause a visible spot in the 2706-TB sump (see photographs). No other spill evidence was noted.

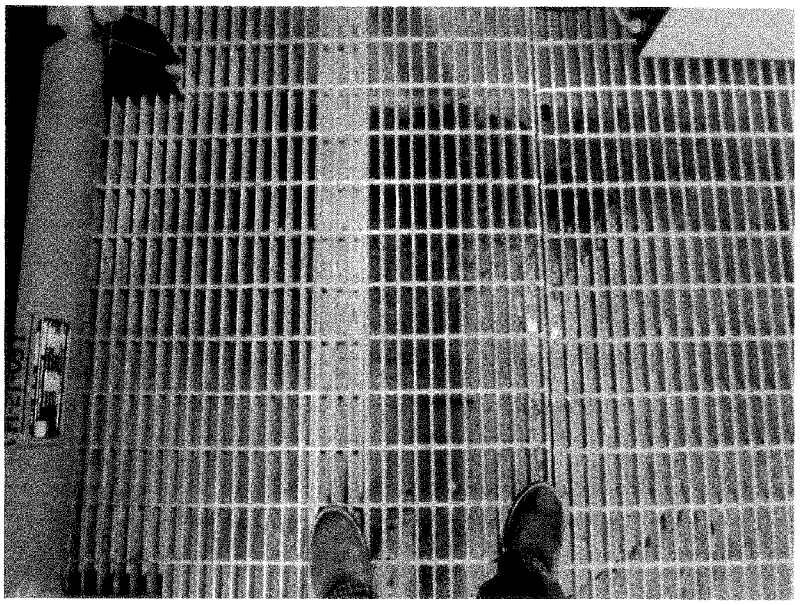
Area was photographed.

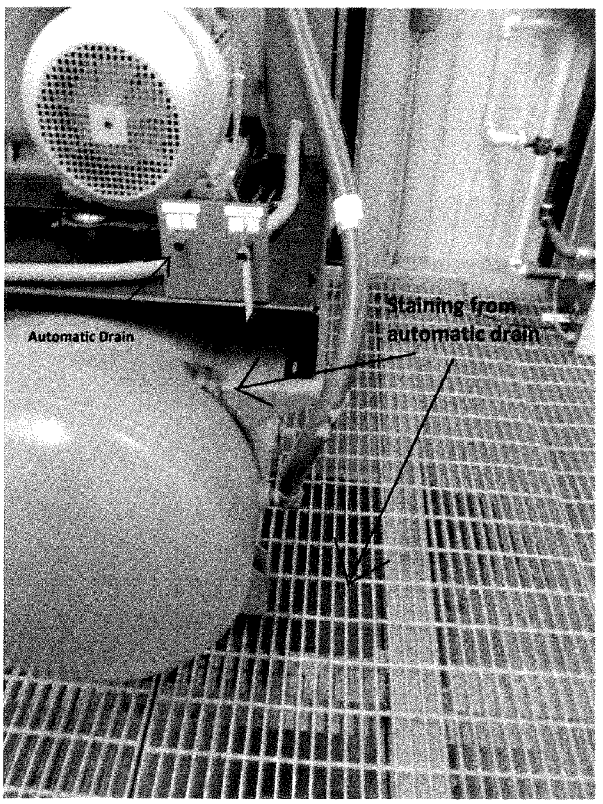


T Plant Complex 2706-TB Building Storage Area



T Plant Complex 2706-TB Building Storage Area





T Plant Complex 2706-TB Building Storage Area

Signature/date:

David E. Richards 9-26-13

T-Plant Dangerous Waste Inspection Checklist and Operations Logbook Review

Title of Forms:	See attached table and reviewer comments.
Date of Review:	October 8, 2013
Reviewer's Name:	Sarah Horn
Waste Management Units:	221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, 2706-TB Tank System (includes 2706-TB Tank System enclosure building)
Time Frame of Review:	January 1985 through June 2013
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES ___ NO _X_
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Reviewer's Signature and Date:	Sarah Horn 10/8/2013

Instructions:
Review Weekly Waste Inspection checklists and operations logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Reviewer Comments:

The initial records review was completed in August 2013 which included applicable daily and weekly inspection checklists, and operations logbooks for the period of January 1985 through June 2013 and is detailed in Table 1 below. The August 2013 records review focused on the following dangerous waste management areas scheduled for closure:

- 271-T Cage
- 211-T Pad
- 221-T Sand Filter Pad
- 277-T Outdoor Storage Area
- 221-T R5 Waste Storage Area

The current review included the items of concern identified during the initial August 2013 records review but focused on the following areas:

- 221-T Railroad Cut
- 277-T Building
- 221-T Pipe Gallery Storage
- 221-T Tank System
- 2706-TB Tank System (including enclosure building)

No items of concern were noted for the 221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, or the 2706-TB Tank System. Below is a table that summarizes the original records review completed in August 2013.

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	06/07/1991	12/20/1999	No

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.H Appendix H - 221-T Railroad Cut

H1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 221-T Railroad Cut dangerous waste management unit (DWMU). The Permittee has concluded that the 221-T Railroad Cut will no longer be utilized for future receipts of dangerous waste and will coordinate closure of the DWMU with final closure of the T-Plant Complex OUG. Closure will be performed in accordance with the included schedule.

This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

H1.1 Unit Description

The 221-T Railroad Cut is an uncovered gravel area located on the north end of the T-Plant Canyon Building outside of the 221-T Railroad Tunnel. The 221-T Railroad Cut was used to store mixed waste in a <90-day storage or satellite accumulation area (SAA) while being transferred into or out of the 221-T Railroad Tunnel.

The 221-T Railroad Cut was used for storing containers of various sizes and volumes and a variety of waste streams to ensure adequate capacity and operational flexibility in support of T-Plant activities. The 221-T Railroad Cut is approximately 27 m (90 ft) long by 15 m (50 ft) wide at the fence and 8 m (25 ft) wide at the 221-T Railroad Tunnel end (Figure H-1).

The 221-T Railroad Cut does not currently store mixed waste. Future storage of dangerous, mixed, or *Toxic Substances Control Act of 1976* (TSCA)-polychorinated biphenyl (PCB) waste is not authorized within the 221-T Railroad Cut DWMU. The 221-T Railroad Cut is located near the 221-T Canyon facility, which is part of the Canyon Disposition Initiative (CDI). In addition, the T-Plant Complex is included in the Tri-Party Agreement (TPA) (*Hanford Federal Facility Agreement and Consent Order* [Ecology et al., 1989a) Action Plan (*Hanford Federal Facility Agreement and Consent Order Action Plan* [Ecology et al., 1989b), Section 6, "Treatment Storage and Disposal Unit Process," and Section 8, "Facility Disposition Process."

> TPA Action Plan Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and CDI activities. The 221-T Railroad Cut is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during CDI activities for the T-Plant Complex.

H1.1.1 Maximum Waste Inventory

No permitted RCRA waste container storage was identified at the 221-T Railroad Cut during the T-Plant operating records review. Therefore, no maximum waste inventory is presented. Weekly inspection records of the <90-day storage area and SAA identified that the 221-T Railroad Cut stored mixed waste.

Figure H-1. T-Plant Complex Operating Unit Group 221-T Railroad Cut Outdoor Container Storage Area

H2 Closure Performance Standards

Closure performance standards for the 221-T Railroad Cut will be based on requirements found in WAC 173-303-610(2), which requires closure of the facility in a manner that:

- Minimizes the need for further maintenance
- Controls, minimizes, or eliminates, to the extent necessary, to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

These performance standards are addressed in Sections H2.1 and H3.13 of this closure plan.

H2.1 Clean Closure Levels

The 221-T Railroad Cut will be clean closed using clean closure levels required for soil. However, confirmation sampling of clean closure levels will not be performed until the T-Plant Complex CDI is initiated. In accordance with WAC 173-303-610(2)(b)(i) for soil, clean closure levels will be the numeric cleanup levels calculated using unrestricted use exposure assumptions according to the WAC 173-340, "Model Toxics Control Act—Cleanup" (MTCA) regulations (WAC 173-340-700, "Overview of Cleanup Standards," through -760, "Sediment Cleanup Standards," excluding WAC 173-340-745, "Soil Cleanup Standards for Industrial Properties"). These numeric cleanup levels will be calculated according to the MTCA (WAC 173-340) Method B unrestricted use standards current at the time of closure.

Sampling and analysis will verify clean closure for the 221-T Railroad Cut. Sampling and analysis of the 221-T Railroad Cut will occur in conjunction with CDI activities for the T-Plant Complex OUG. If sampling and analysis activities indicate contamination above the MTCA (WAC 173-340) Method B unrestricted use standards, potential remediation or decontamination would be incorporated with the cleanup activities. Any required changes to this closure plan and the included sampling and analysis plan (SAP) will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

H3 Closure Activities

As a container management unit, clean closure determination for the 221-T Railroad Cut is based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 221-T Railroad Cut is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with CDI activities. Final verification sampling of clean closure will be performed during T-Plant Complex cleanup activities consistent with the CDI. Sampling of the gravel area will be conducted via a SAP (Section H3.10) to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

The following near-term closure activities are required to achieve and verify clean closure:

- Remove all mixed waste inventory (completed; see Section H3.2).
- Review waste container storage, operating, and inspection records for periods of mixed waste storage (completed; see Section H3.3).
- Perform a visual inspection of the gravel surface (completed; see Section H3.3).
- Add 221-T Railroad Cut to the Waste Information Data System (WIDS) Database (see Section H3.8).

Extended closure activities includes:

- Sampling and analysis to confirm RCRA clean closure standards in coordination with CDI activities for the T-Plant Complex OUG.

H3.1 Health and Safety Requirements

Closure will be performed to ensure safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment.

Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, "Personnel Training," and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, U.S. Department of Energy (DOE) orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

The following project-specific safety training, addressed explicitly to the project and the day's activity, will be provided:

- Training will provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with quality assurance requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering the following factors:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

H3.2 Removal of Wastes and Waste Residues

The 221-T Railroad Cut does not currently store mixed waste. Waste management records indicate that mixed waste was previously stored in the 221-T Railroad Cut under <90-day and SAA storage. The 221-T Railroad Cut will no longer be used for dangerous, mixed, or TSCA-PCB waste storage. The 221-T Railroad Cut is in a safe configuration and will be tracked in WIDS until verification sampling is performed under the SAP.

H3.3 221-T Railroad Cut Records Review and Visual Inspection

To support development of this closure plan and the SAP, T-Plant Complex OUG operating records were reviewed (Table H-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during which active mixed waste storage for the T-Plant Complex OUG SWOC Outdoor Container Storage Areas was addressed under the T-Plant Complex OUG SWOC Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated that no releases of mixed waste occurred in the 221-T Railroad Cut area.

A visual inspection was performed on September 18, 2013 to identify any dangerous waste-related staining in the 221-T Railroad Cut. No waste-related staining was identified during the visual inspection; therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection is included in Attachment A.

H3.4 Unit Components, Parts, and Ancillary Equipment

The 221-T Railroad Cut gravel area will not be removed as part of the near-term closure activities. The 221-T Railroad Cut gravel area will remain in place pending final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG.

H3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 221-T Railroad Cut.

H3.6 Decontamination

Decontamination activities are not planned for the 221-T Railroad Cut.

H3.7 Identifying and Managing Contaminated Environmental Media

Should contaminated media be identified as a result of confirmation sampling, contaminated materials will be addressed under the CDI activities and managed, as appropriate. As necessary, treatment or disposal of the resulting waste will be performed at an approved treatment, storage, and disposal (TSD) facility.

H3.8 Addition of 221-T Railroad Cut to the WIDS Database

As part of the near-term closure activities, the 221-T Railroad Cut will be added to the WIDS database. Addition of the 221-T Railroad Cut to the WIDS database will help ensure that the 221-T Railroad Cut is monitored and controlled until the extended closure activities and verification sampling are completed.

Addition of the 221-T Railroad Cut to the WIDS database will ensure that no unauthorized activity takes place at the 221-T Railroad Cut (i.e., waste storage and excavation).

Table H-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	221-T Railroad Cut	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	221-T Railroad Cut	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T Railroad Cut	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T Railroad Cut	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	221-T Railroad Cut	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	221-T Railroad Cut	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	221-T Railroad Cut	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	221-T Railroad Cut	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

H3.9 Confirming Clean Closure

The 221-T Railroad Cut will be clean closed. Applicable RCRA operating record documents were reviewed to determine the release history of the area. In addition to the records review, a visual inspection of the 221-T Railroad Cut was performed to identify any dangerous waste-related staining of the storage area pad. Both the records review and visual inspection are detailed in Section H3.3 and documented in Attachment A.

All mixed waste has been previously removed, and there have been no documented spills or releases of mixed waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 221-T Railroad Cut. Sampling and analysis of the 221-T Railroad Cut gravel and soil will occur to confirm that cleanup standards for soil have been achieved.

H3.10 Sampling and Analysis and Constituents to Be Analyzed

H3.10.1 Sampling and Analysis Plan

Final clean closure verification sampling for the 221-T Railroad Cut will occur in conjunction with the T-Plant CDI cleanup activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP and in conjunction with CDI activities for the T-Plant Complex OUG. Sampling and analysis of the gravel and soil of the 221-T Railroad Cut will be conducted to confirm that clean closure levels have been achieved. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements of SW-846, ASTM standards, EPA-approved methods, and DOE/RL-96-68, *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)*.

H3.10.2 Target Analytes

Waste management records indicated that mixed waste has been stored in the 221-T Railroad Cut under <90-day or SAA storage. Based on the physical proximity of other T-Plant SWOC Outdoor Container Storage Areas that have stored dangerous waste under permitted storage, and assuming similar use during support of T-Plant Canyon operations, the target analytes for evaluation during closure sampling and analysis were determined by reviewing the waste management records of the other dangerous, mixed, or TSCA-PCB waste stored in the T-Plant SWOC Outdoor Container Storage Areas. Table H-2 provides the target analyte list.

H3.10.3 221-T Railroad Cut SAP Schedule

Confirmation closure sampling and analysis will be performed during extended closure activities in conjunction with T-Plant Complex OUG cleanup under the CDI activities.

H3.10.4 221-T Railroad Cut Project Management

The Permittees are responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory.

Table H-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Ethyl benzene (F003)	100-41-4
Barium (D005)	7440-39-3	Ethyl ether (F003)	60-29-7
Cadmium (D006)	7440-43-9	Methanol (F003)	67-56-1
Chromium (Hexavalent) (D007)	18540-29-9	Methyl isobutyl ketone (F003)	108-10-1
Lead (D008)	7439-92-1	Xylene (F003)	1330-20-7
Mercury (D009)	7439-97-6	o-Cresol (F004)	95-48-7
Selenium (D010)	7782-49-2	Benzene, nitro (F004)	98-95-3
Silver (D011)	7440-22-4	Pyridine (F005)	110-86-1
Benzene (D018) (F005)	71-43-1	2-nitropropane (F005)	79-46-9
Carbon tetrachloride (D019) (F001) (F002)	56-23-5	Carbon disulfide (F005) (P022)	75-15-0
Chloroform (D022)	67-66-3	Isobutanol (F005)	78-83-1
2,4-Dinitrotoluene (D030)	121-14-2	2-ethoxyethanol (F005) (U359)	110-80-5
Hexachoroethane (D034)	67-72-1	Toluene (F005)	108-88-3
Methyl ethyl ketone (MEK) (D035)(F005)	78-93-3	Acetaldehyde (I) (U001)[a]	75-07-0
Pentachlorophenol (D037)	87-86-5	Acetyl chloride (C,R,T)(U006)[b]	75-36-5
Tetrachloroethylene (D039) (F001) (F002)	127-18-4	Dichloroethyl ether (U025)	111-44-4
Trichloroethylene (D040)(F001)(F002)	79-01-6	1-Butanol (I) (U031)	71-36-3
Vinyl chloride (D043)	75-01-4	1,4-Diethyleneoxide (U108)	123-91-1
1,1,1-Trichloroethane (F001) (F002) (U226)	71-55-6	Ethane, 1,1′-oxybis-(I) (U117)	60-29-7
Chlorinated fluorocarbons (F001) (F002)	N/A	Formic acid (C,T) (U123)	64-18-6
Methylene chloride (F001) (F002)	75-09-2	2-Butanone, peroxide (R,T) (U160)[b]	1338-23-4
Chlorobenzene (F002)	108-90-7	Phosphorus pentasulfide (R)(U189)[b]	1314-80-3
1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Furan, tetrahydro-(I) (U213)[b]	109-99-9
Ortho-dichlorobenzene (F002)	95-50-1	Cyanides (soluble cyanide salts), not otherwise specified (P030)	57-12-5
1,1,2-trichloroethane (F002)	79-00-5	Acetaldehyde, chloro- (P023)[b]	107-20-0
Acetone (F003)	67-64-1	Copper cyanide (P029) (as cyanide)	544-92-3
N-butyl alcohol (F003)	71-36-3	Potassium cyanide (as cyanide) (P098)	151-50-8

Table H-2. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Cyclohexanone (F003)	108-94-1	Sodium cyanide (as cyanide) (P106)	143-33-9
Ethyl acetate (F003)	141-78-6	Vanadium oxide V2O5 (P120)	1314-62-1
		Polychlorinated biphenyls (PCBs) (Aroclors)	1336-36-3

a. Acetaldehyde is analyzed as a gas, not as a solid. Acetaldehyde will not be analyzed.

b. There are no previous records of analysis for this on the Hanford Site. The CAS number is not listed in the U.S. Environmental Protection Agency "Cleanup Levels and Risk Calculations" (Ecology, 2009) tables.

CAS = Chemical Abstracts Service

H3.10.5 Sampling Design

Gravel and soil samples will be taken at predetermined sample locations. Sample locations will be determined using an area-wide grid sampling method run in the Visual Sample Plan (VSP) software. The 221-T Railroad Cut global positioning system (GPS) latitude and longitude coordinates were entered into VSP to determine the locations and number of samples required to achieve a 95 percent confidence interval. Using a rectangular grid method, VSP determined that 20 samples are required to achieve a 95 percent confidence interval. The 20 samples will be taken from the node locations indicated by VSP and will be assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The first node location was chosen at random by VSP, and the subsequent 19 sample locations were assigned by VSP using a triangular grid sampling method. Supporting documentation for VSP sampling designations is included in Attachment B. Grid sampling is further defined in the following paragraph. Facility records confirmed that no documented dangerous, mixed, or TSCA-PCB waste has been released to 221-T Railroad Cut, and no waste-related staining is present; therefore, judgmental sampling will not be performed.

Grid Sampling. In grid sampling, samples are collected at regularly spaced intervals over space or time. An initial location or time is chosen at random, and the remaining sampling locations are defined so that locations are at regular intervals over an area (grid). Grid sampling is used to search for hot spots and to infer means, percentiles, or other parameters. It is useful for estimating spatial patterns or trends over time. This design provides a practical method for designating sample locations and ensures uniform coverage of a site, unit, or process.

H3.10.6 Sampling Methods and Handling

The sample matrix will consist of gravel and soil collected in pre-cleaned sample containers taken at a depth of no more than 0 to 15.24 cm (0 to 6 in.) below ground surface, unless staining or discoloration indicates contamination below that depth. For the purpose of this SAP, ground surface is defined as the exposed surface layer once loose gravel has been moved aside. To gather the greatest representative sample, loose gravel will be moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil are sampled, the sampled media will be screened to remove material larger than approximately 2 mm (0.08 in.) in diameter. Gravel and soil samples will be collected directly into containers at the chosen sample locations. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements are specified in Table H-3 for soil samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the sampling authorization form and chain-of-custody form.

Table H-3. Sample Preservation, Container, and Holding Time for Soil Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	Cool ~4°C	6 months	G/P	20 g
EPA 7471	Mercury by Cold Vapor Atomic Absorption	None	28 days	G/P	15 g
EPA 8082	Polychlorinated biphenyl (PCB)	None	1 year	aG	250 g
EPA 8260	Volatile Organic Analytes	Cool ~4°C	14 days	G	5 × 40 g
EPA 8270	Semivolatile Organic Compound	Cool ~4°C	14/40 days	aG	250 g
EPA 300.0	Anions	Cool ~4°C	48 hours/28 days	G/P	120 g
EPA 9012	Cyanide	None	14 days	G/P	120 g
EPA 9056A	Anions	None	48 hours/28 days	G/P	250 g
EPA 9010/9012/ 9013/9014	Cyanide	None	14 days	G/P	15 g
EPA 200.8	Metals by ICP-MS	None	6 months	G/P	10 g

Notes:
For EPA Method 300.0, see EPA-600/4-79-020, *Methods for Chemical Analysis of Water and Wastes.*
For the four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*
48 hours/28 days = 48 hours for nitrate, nitrite, and phosphate; others, 28 days
aG = amber glass
G = glass
EPA = U.S. Environmental Protection Agency
ICP-MS = inductively coupled plasma-mass spectrometry
P = plastic

To prevent potential sample contamination, care will be taken to use decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers will be used for samples collected for chemical analysis. Container sizes may vary, depending on laboratory-specific volumes/requirements for meeting analytical detection limits.

The sample location, depth, and corresponding HEIS numbers will be documented in the sampler's field logbook. A custody seal (e.g., evidence tape) will be affixed to each sample container and/or the sample collection package in such a way as to indicate potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water resistant labels:

- Sampling authorization form and form number
- HEIS number
- Sample collection date and time

- Sampler identification
- Analysis required
- Preservation method (if applicable)

Sample records must include the following additional information:

- Sample location
- Matrix (e.g., water or soil)

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained.

All waste generated by sampling activities will be managed in accordance with applicable regulations.

H3.10.7 Analytical Methods

All analyses and testing will be performed consistent with laboratory agreements, laboratory analytical procedures, and HASQARD (DOE/RL-96-68). The approved laboratory must achieve the lowest practical quantitation limits (PQLs) consistent with the selected analytical method to confirm clean closure levels. If a target analyte is detected at or above the clean closure level but less than the PQL of the analytical method, the Washington State Department of Ecology will be notified and alternatives will be discussed to demonstrate clean closure levels.

Table H-4 outlines analytical methods and performance requirements associated with the target analytes.

H3.10.8 Quality Control

Quality control (QC) procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table H-5.

H3.10.9 Data Validation and Usability

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified. A data quality assessment (DQA) may be performed, if requested, on the final data. At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

Field paperwork, analytical data packages, and electronic files from the laboratory information management system will be reviewed to ensure that analytical and QC data from the laboratories are complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data are processed, resolution of those issues will be initiated.

Table H-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
7440-38-2	Arsenic	SW-846 Method 6010 or 200.8	0.667	24	10	±30	≤30
7440-39-3	Barium	SW-846 Method 6010	N/A	16,000	2.0	±30	≤30
7440-43-9	Cadmium	SW-846 Method 6010	N/A	80	0.5	±30	≤30
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010	N/A	240	1.0	±30	≤30
7439-92-1	Lead	SW-846 Method 6010	N/A	250	5.0	±30	≤30
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	N/A	24	0.2	±30	≤30
7782-49-2	Selenium	SW-846 Method 6010 or 200.8	N/A	400	10	±30	≤30
7440-22-4	Silver	SW-846 Method 6010	N/A	400	1.0	±30	≤30
71-43-2	Benzene	SW-846 Method 8260	18.2	320	0.005	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	14.3	320	0.005	N/A[c]	≤20
67-66-3	Chloroform	SW-846 Method 8260	164	800	0.005	N/A[c]	≤20
121-14-2	2,4-Dinitrotoluene	SW-846 Method 8270	N/A	160	0.33	N/A[c]	≤20
67-72-1	Hexachloroethane	SW-846 Method 8270	25	56	0.005	N/A[c]	N/A[c]
78-93-3	Methyl Ethyl Ketone (MEK) (2- Butanone)	SW-846 Method 8260	N/A	48,000	0.01	N/A[c]	≤20
87-86-5	Pentachlorophenol	SW-846 Method 8260	8.33	2,400	0.33	N/A[c]	N/A[c]

Table H-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
127-18-4	Tetrachloroethylene	SW-846 Method 8260	1.85	800	0.005	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	21.7	40	0.005	N/A[c]	N/A[c]
75-01-4	Vinyl chloride	SW-846 Method 8260	66.7	240	0.01	N/A[c]	N/A[c]
71-55-6	1,1,1-Trichloroethane	SW-846 Method 8260	N/A	165,000	0.005	N/A[c]	N/A[c]
76-13-1	Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	SW-846 Method 8260	N/A	2,400,000	0.01	N/A[c]	N/A[c]
75-09-2	Methylene chloride	SW-846 Method 8260	133	4,800	0.005	N/A[c]	N/A[c]
108-90-7	Chlorobenzene	SW-846 Method 8260	N/A	1,600	0.005	N/A[c]	N/A[c]
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8270	N/A	7,200	0.33	N/A[c]	N/A[c]
79-00-5	1,1,2-Trichloroethane	SW-846 Method 8260	17.5	320	0.005	N/A[c]	N/A[c]
67-64-1	Acetone	SW-846 Method 8260	N/A	72,000	0.02	N/A[c]	≤20
71-36-3	N-butyl alcohol	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
108-94-1	Cyclohexanone	SW-846 Method 8270	N/A	400,000	200	N/A[c]	N/A[c]
141-78-6	Ethyl acetate	SW-846 Method 8015	N/A	72,000	5.0	N/A[c]	N/A[c]
100-41-4	Ethyl benzene	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
60-29-7	Ethyl ether	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
67-56-1	Methanol	SW-846 Method 8260	N/A	40,000	1.0	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone (MIBK)	SW-846 Method 8260	N/A	6,400	0.01	N/A[c]	N/A[c]
108-38-3	m-Xylene	SW-846 Method 8260`	N/A	16,000	0.005	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	≤20

Table H-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
108-39-4	*m*-cresol	SW-846 Method 8270	N/A	4,000	0.66	N/A[c]	≤20
95-48-7	*o*-cresol	SW-846 Method 8270	N/A	4,000	0.33	N/A[c]	≤20
106-44-5	*p*-cresol	SW-846 Method 8270	N/A	400	0.33	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8270	N/A	160	0.33	N/A[c]	N/A[c]
110-86-1	Pyridine	SW-846 Method 8260	N/A	80	0.005	N/A[c]	≤20
79-46-9	2-Nitropropane	SW-846 Method 8260	0.105	N/A	1	N/A[c]	N/A[c]
75-15-0	Carbon disulfide	SW-846 Method 8260	N/A	8,000	0.005	N/A[c]	N/A[c]
78-83-1	Isobutanol	SW-846 Method 8260	N/A	24,000	0.5	N/A[c]	N/A[c]
110-80-5	2-Ethoxyethanol	SW-846 Method 8270	N/A	32,000	200	N/A[c]	N/A[c]
108-88-3	Toluene	SW-846 Method 8260	N/A	6,400	0.005	N/A[c]	N/A[c]
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl) ether)	SW-846 Method 8270	0.909	N/A	0.33	N/A[c]	N/A[c]
71-36-3	1-Butanol	SW-846 Method 8260	N/A	8,000	0.1	N/A[c]	N/A[c]
123-91-1	1,4-Diethyleneoxide (1,4-Dioxane)	SW-846 Method 8260	10	2,400	0.5	N/A[c]	N/A[c]
60-29-7	Diethyl ether Ethane, 1,1'-oxybis-(I)	SW-846 Method 8260	N/A	16,000	0.005	N/A[c]	N/A[c]
64-18-6	Formic Acid (U123)	Modified 9056A or Modified 300.0	N/A	160,000	NA	N/A[c]	N/A[c]
57-12-5	Cyanide	SW-846 Method 9010/9012/9013/9014	N/A	48	0.5	±30	≤30
1314-62-1	Vanadium oxide (vanadium pentoxide)	SW-846 Method 6010/200.8	N/A	720	NA	N/A[c]	N/A[c]

Table H-4. Soil Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a] (mg/kg)		Practical Quantitation Limit[d] (mg/kg)	Accuracy Requirement (% Recovery)[b]	Precision Requirement (RPD)[b]
			Carcinogen	Non-Carcinogen			
1336-36-3	Polychlorinated biphenyl (PCB)	SW-846 Method 8082	0.5	1.6	0.16	N/A[c]	≤20

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to "Model Toxics Control Act—"Cleanup" (MTCA) regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards;" -747, "Deriving Soil Concentrations for Groundwater Protection;" and -7490, "Terrestrial Ecological Evaluation Procedures," through -7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to MTCA (WAC 173-340) Method B (unrestricted use standards).

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

CAS = Chemical Abstracts Service

N/A = not applicable

NA = information not available

RPD = relative percent difference

Table H-5. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Field Quality Control		
Full trip blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation.
Equipment rinsate blank (EB)	As needed. If only disposable equipment is used, then an equipment blank is not required. Otherwise, one per 20 samples per media[a].	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment.
Field duplicate (DUP)	One per batch[h], 20 samples maximum of each media sampled (soil samples[b]).	Precision, including sampling and analytical variability.
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the Performance Requirements tables.	Precision, including sampling, analytical, and inter-laboratory.
Laboratory Quality Control[h]		
Method Blanks	1 per batch[h]	Laboratory contamination
Lab Duplicates	[c]	Laboratory reproducibility and precision
Matrix Spikes	[c]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[c]	Laboratory reproducibility, accuracy, and precision
Surrogates	[c]	Recovery/yield
Tracers	[c]	Recovery/yield
Laboratory Control Samples	1 per batch[h]	Evaluate laboratory accuracy
Performance Evaluation Programs[d]	Annual	Evaluate laboratory accuracy
Double-Blind Standards	Quarterly[e]	Evaluate laboratory accuracy
Audit/Assessment	Annually[f] or every 3 years[g]	Evaluate overall laboratory performance and operations

Table H-5. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. Soil grab samples are exempt from duplicate sampling.

c. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

d. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

e. Soil matrix double-blind standards are submitted by request of Analytical Services.

f. DOE Quality Systems for Analytical Services requires annual audit of commercial laboratories.

g. HASQARD does not define a frequency for assessment of on-site laboratories. Three year evaluated supplier list requirement is typically applied.

h. Batching across projects is allowing for similar matrices.

DOE = U.S. Department of Energy

The format and requirements for data validation activities are based upon the most current version of USEPA-540-R-08-01, *National Functional Guidelines for Superfund Organic Methods Data Review* (OSWER 9240.1-48), and USEPA-540-R-10-011, *National Functional Guidelines for Inorganic Superfund Data Review* (OSWER 9240.1-51). A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the EPA DQA process (EPA/240/B-06/002, *Data Quality Assessment: A Reviewer's Guide* [EPA QA/G-9R]; EPA/240/B-06/003, *Data Quality Assessment: Statistical Methods for Practitioners* [EPA QA/G-9S]).

H3.10.10 Documents and Records

The Project Manager is responsible for ensuring that the current version of the SAP is being used and providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted as a permit modification in accordance with WAC 173-303-610 to DOE and the lead regulatory agency.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook, and only authorized persons may make entries in logbooks. Logbooks will be signed by the field work supervisor, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following items will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- GPS data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following items:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the TPA (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

H3.10.11 Revisions to the Sampling and Analysis Plan and Constituents to be Analyzed

If changes to the SAP are necessary due to unexpected events during closure that will affect sampling, a revision to the SAP will be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830, "Dangerous Waste Regulations," "Permit Changes."

H3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered, professional engineer will be retained to provide certification of the closure and sign the closure certification, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

H3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion of closure of the 221-T Railroad Cut DWMU, certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to Ecology by registered mail. The certification will be signed by the owner or operator and by an independent, qualified, registered, professional engineer.

H3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 221-T Railroad Cut will remain in an "as-is" state with the gravel remaining in place. The 221-T Railroad Cut will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 221-T Railroad Cut DWMU from the sitewide permit active DWMUs.

H4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 221-T Railroad Cut to the WIDS database will be completed within 180 days of approval of the closure plan. This DWMU is located near the 221-T Canyon Building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA Action Plan (Ecology et al., 1989b) identified that some TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, "Coordination of Closure and Corrective Action or Other Cleanup Activities"), allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 221-T Railroad Cut to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989a) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities, in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure H-2).

H5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

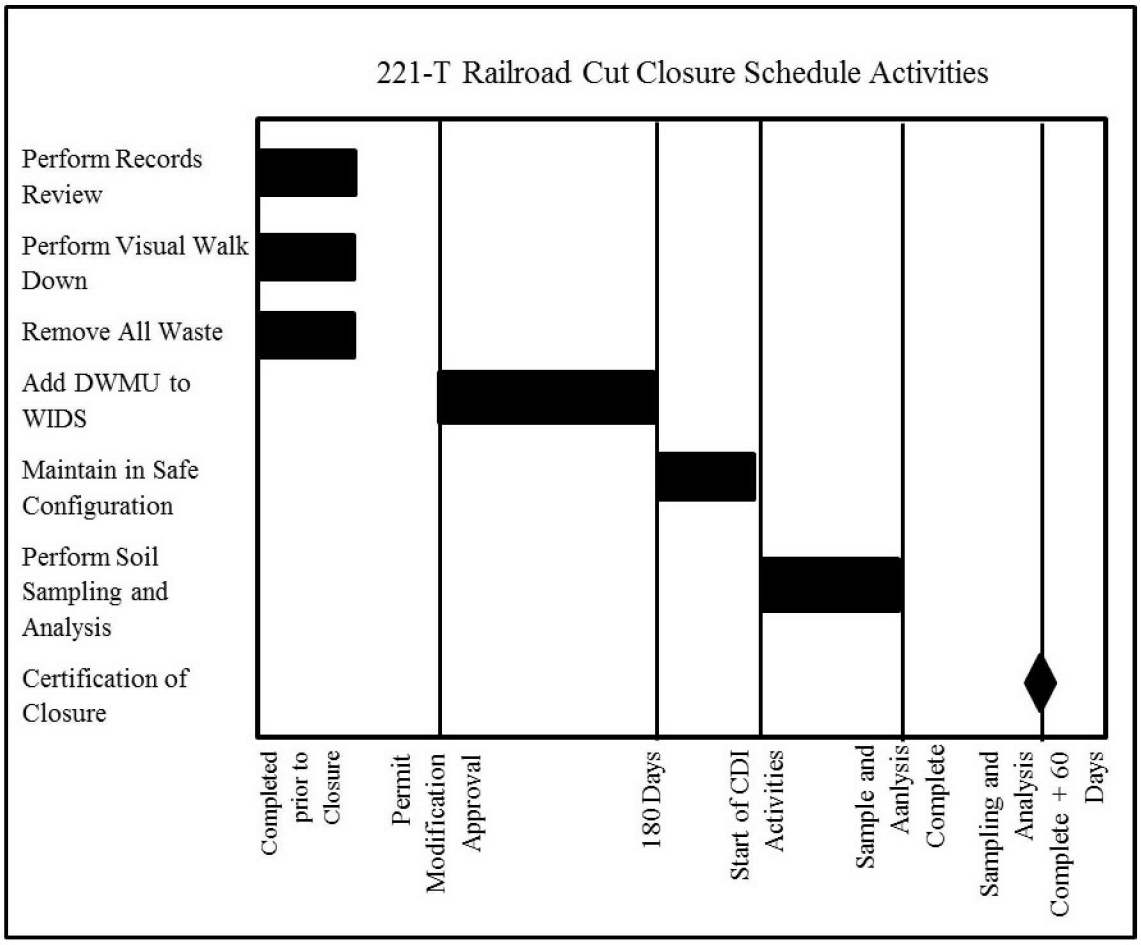


Figure H-2. 221-T Railroad Cut Closure Schedule Activities

Attachment A

T-Plant 221-T Railroad Cut RCRA Records Review and Visual Inspection Supporting Documentation

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T Plant Complex 221-T Railroad Cut Storage Area

Purpose:

A visual inspection of the T Plant Complex 221-T Railroad Cut Storage Area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface, and to denote any remaining waste related items.

The inspection was performed on September 18, 2013 by David Richards, Manager, T Plant (CHPRC).

Results:

No evidence of spills or staining was noted.

No waste is being stored in this area. Area consists of abandoned rail road tracks, gravel, tumbleweeds, and an inner and outer chain link fence and gates. Some debris was noted at the Western end of the Cut. Debris consists of steel plate, steel pipe, railroad ties, and a metal storage box (see photographs).

Area was photographed.

T Plant Complex 221-T Railroad Cut Storage Area

T Plant Complex 221-T Railroad Cut Storage Area

Signature/date:

David E. Richards 9-26-13

T-Plant Dangerous Waste Inspection Checklist and Operations Logbook Review

Title of Forms:	See attached table and reviewer comments.
Date of Review:	October 8, 2013
Reviewer's Name:	Sarah Horn
Waste Management Units:	221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, 2706-TB Tank System (includes 2706-TB Tank System enclosure building)
Time Frame of Review:	January 1985 through June 2013
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES ___ NO _X_
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Reviewer's Signature and Date:	Sarah Horn 10/8/2013

Instructions:

Review Weekly Waste Inspection checklists and operations logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Reviewer Comments:

The initial records review was completed in August 2013 which included applicable daily and weekly inspection checklists, and operations logbooks for the period of January 1985 through June 2013 and is detailed in Table 1 below. The August 2013 records review focused on the following dangerous waste management areas scheduled for closure:

- 271-T Cage
- 211-T Pad
- 221-T Sand Filter Pad
- 277-T Outdoor Storage Area
- 221-T R5 Waste Storage Area

The current review included the items of concern identified during the initial August 2013 records review but focused on the following areas:

- 221-T Railroad Cut
- 277-T Building
- 221-T Pipe Gallery Storage
- 221-T Tank System
- 2706-TB Tank System (including enclosure building)

No items of concern were noted for the 221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, or the 2706-TB Tank System. Below is a table that summarizes the original records review completed in August 2013.

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	06/07/1991	12/20/1999	No

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

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Attachment B

T-Plant 221-T Railroad Cut Visual Sampling Plan Supporting Documentation

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Systematic sampling locations for comparing a median with a fixed threshold (nonparametric - MARSSIM)

Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

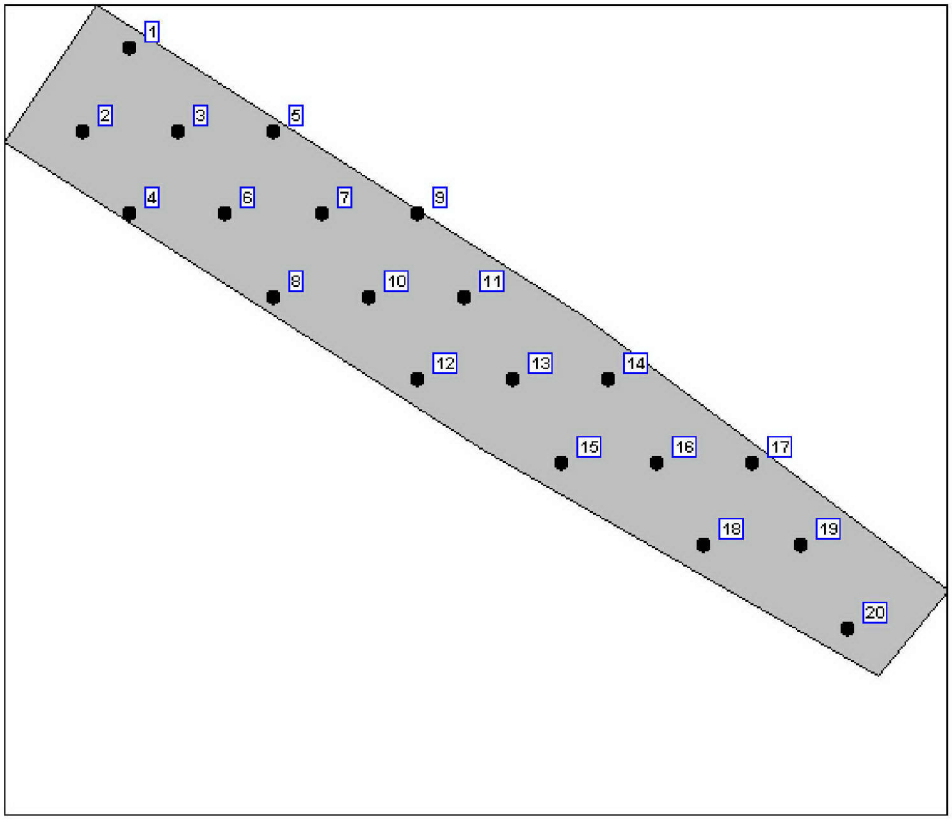
SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Systematic with a random start location
Working (Null) Hypothesis	The median(mean) value at the site exceeds the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated total number of samples	20
Number of samples on map [a]	20
Number of selected sample areas [b]	1
Specified sampling area [c]	1331.91 ft^2
Size of grid / Area of grid cell [d]	8.76914 feet / 66.5954 ft^2
Grid pattern	Triangular

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.

[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.

[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.

[d] Size of grid / Area of grid cell gives the linear and square dimensions of the grid used to systematically place samples.



Area: Area 1					
X Coord	Y Coord	Label	Value	Type	Historical
567542.6730	136982.6029	20		Systematic	
567529.5193	136990.1972	18		Systematic	
567538.2884	136990.1972	19		Systematic	
567516.3655	136997.7915	15		Systematic	
567525.1347	136997.7915	16		Systematic	
567533.9038	136997.7915	17		Systematic	
567503.2118	137005.3858	12		Systematic	
567511.9810	137005.3858	13		Systematic	
567520.7501	137005.3858	14		Systematic	
567490.0581	137012.9801	8		Systematic	
567498.8273	137012.9801	10		Systematic	
567507.5964	137012.9801	11		Systematic	
567476.9044	137020.5744	4		Systematic	
567485.6736	137020.5744	6		Systematic	
567494.4427	137020.5744	7		Systematic	
567503.2118	137020.5744	9		Systematic	
567472.5199	137028.1687	2		Systematic	
567481.2890	137028.1687	3		Systematic	
567490.0581	137028.1687	5		Systematic	
567476.9044	137035.7630	1		Systematic	

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is equal to or exceeds the threshold. The alternative hypothesis is that the median(mean) value is less than the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric systematic sampling approach with a random start was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

Locating the sample points over a systematic grid with a random start ensures spatial coverage of the site. Statistical analyses of systematically collected data are valid if a random start to the grid is used. One disadvantage of systematically collected samples is that spatial variability or patterns may not be discovered if the grid spacing is large relative to the spatial patterns.

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently smaller than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{s_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,

$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

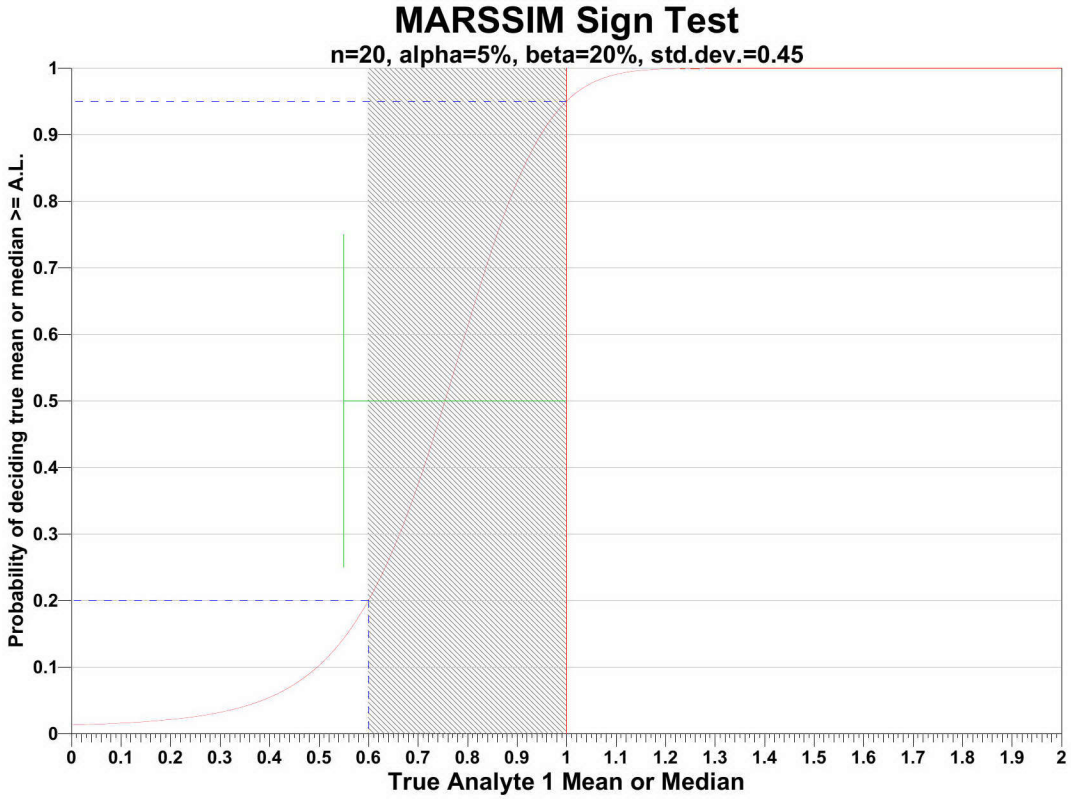
The values of these inputs that result in the calculated number of sampling locations are:

Analyte	n[a]	Parameter					
		S	Δ	α	β	$Z_{1-\alpha}$ [b]	$Z_{1-\beta}$ [c]
Analyte 1	20	0.45	0.4	0.05	0.2	1.64485	0.841621

[a] The final number of samples has been increased by the MARSSIM Overage of 20%.
[b] This value is automatically calculated by VSP based upon the user defined value of α.
[c] This value is automatically calculated by VSP based upon the user defined value of β.

The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is equal to Δ; the upper horizontal dashed blue line is positioned at 1-α on the vertical axis; the lower horizontal dashed blue line is positioned at β on the vertical axis. The vertical green line is positioned at one standard deviation below the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at β and the upper bound of Δ at 1-α. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions
The assumptions associated with the formulas for computing the number of samples are:
1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected probabilistically.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the gridded sample locations were selected based on a random start.

Sensitivity Analysis
The sensitivity of the calculation of number of samples was explored by varying the standard deviation, lower bound of

gray region (% of action level), beta (%), probability of mistakenly concluding that μ > action level and alpha (%), probability of mistakenly concluding that μ < action level. The following table shows the results of this analysis.

Number of Samples							
AL=1		α=5		α=10		α=15	
		s=0.9	s=0.45	s=0.9	s=0.45	s=0.9	s=0.45
LBGR=90	β=15	1103	280	825	209	659	167
	β=20	948	240	692	176	542	138
	β=25	826	209	587	149	449	114
LBGR=80	β=15	280	75	209	56	167	45
	β=20	240	64	176	47	138	36
	β=25	209	56	149	40	114	30
LBGR=70	β=15	128	36	95	27	77	22
	β=20	110	32	81	23	63	18
	β=25	95	27	69	20	52	15

s = Standard Deviation
LBGR = Lower Bound of Gray Region (% of Action Level)
β = Beta (%), Probability of mistakenly concluding that μ > action level
α = Alpha (%), Probability of mistakenly concluding that μ < action level
AL = Action Level (Threshold)

Recommended Data Analysis Activities
Post data collection activities generally follow those outlined in EPA's Guidance for Data Quality Assessment (EPA, 2000). The data analysts will become familiar with the context of the problem and goals for data collection and assessment. The data will be verified and validated before being subjected to statistical or other analyses. Graphical and analytical tools will be used to verify to the extent possible the assumptions of any statistical analyses that are performed as well as to achieve a general understanding of the data. The data will be assessed to determine whether they are adequate in both quality and quantity to support the primary objective of sampling.

Because the primary objective for sampling for this site is to compare the site median(mean) value with a threshold value, the data will be assessed in this context. Assuming the data are adequate, at least one statistical test will be done to perform a comparison between the data and the threshold of interest. Results of the exploratory and quantitative assessments of the data will be reported, along with conclusions that may be supported by them.

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H2 – T-Plant Complex OUG
H2.I. Appendix I – T-Plant 277-T Building

I1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 277-T Building dangerous waste management unit (DWMU), hereinafter referred to as the 277-T Building. The Permittee has concluded that the 277-T Building will no longer be utilized for future receipts of dangerous, mixed, or *Toxic Substances Control Act of 1976* (TSCA)-polychlorinated biphenyl (PCB) waste and will coordinate closure of the DWMU with final closure of the T-Plant Complex OUG. No further waste management activities will be performed in the building. Closure will be performed in accordance with the included schedule.

This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

I1.1 Unit Description

The 277-T Building (Figure I-1) is a single story, pre-engineered, steel structure constructed of I-beams covered with corrugated steel on a concrete slab on grade foundation. It is approximately 10 m (32 ft) wide, by 12 m (40 ft) long, by 7 m (24 ft) high. Rollup doors are located on each end for loading and unloading operations.

The 277-T Building does not currently store dangerous, mixed, or TSCA-PCB waste. The 277-T Building primarily serves as equipment and material storage to support T-Plant OUG activities. Future storage and treatment of dangerous, mixed, and TSCA-PCB waste is not authorized within the 277-T Building DWMU. The 277-T Building is located near the 221-T Canyon Building, which is part of the Canyon Disposition Initiative (CDI). In addition, the T-Plant Complex is included in the Tri-Party Agreement (TPA) (*Hanford Federal Facility Agreement and Consent Order* [Ecology et al., 1989a]), Action Plan (*Hanford Federal Facility Agreement and Consent Order* [Ecology et al., 1989b]), Section 6, "Treatment, Storage, and Disposal Unit Process," and Section 8, "Facility Disposition Process."

> TPA Action Plan Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and CDI activities. The 277-T Building is in a safe configuration for an extended closure period. Final clean closure verification sampling will occur during CDI activities for the T-Plant Complex.

I1.1.1 Maximum Waste Inventory

The maximum inventory of dangerous, mixed, or TSCA-PCB waste stored in the 277-T Building over its lifetime included one container of mixed, TSCA-PCB waste with a total volume of 27 m^3 (36 yd^3). The waste was introduced into the 277-T Building in December 2002 where it was overpacked and stored until September 2003. Details on the dangerous, mixed, and TSCA-PCB waste container are presented in Section I3.3 of this closure plan.

Closure performance standards for the 277-T Building will be based on requirements found in WAC 173-303-610(2), which require closure of the facility in a manner that:

- Minimizes the need for further maintenance;
- Controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere; and
- Returns the land to the appearance and use of surrounding land areas to the degree possible given the nature of the previous dangerous waste activity.

These performance standards are addressed in Sections I2.1 and I3.12 of this closure plan.

Figure I-1. T-Plant 277-T Building

I2 Closure Performance Standards

I2.1 Clean Closure Levels

The 277-T Building will be clean closed in conjunction with the T-Plant Complex CDI activities. In accordance with WAC 173-303-610(2)(b)(ii), the clean closure standard for structures is a visually verifiable standard, which is the absence of obvious stains or residues that would indicate potential dangerous waste contamination. Surfaces must be free of indications of potential dangerous waste, except for residual waste stains consisting of light shadows, slight streaks, or minor discoloration. The standard

will be verified by the performance and documentation of visual inspections. In addition, decontamination of the flooring area will be conducted in accordance with WAC 173-303-610(b)(ii) during T-Plant Complex CDI activities. Rinsate will be analyzed, and the results will be compared to the Universal Treatment Standards in WAC 173-303-140(2)(a), "Dangerous Waste Regulations," "Land Disposal Restrictions," to verify that levels of target analytes are below regulatory levels.

I3 Closure Activities

As a waste management unit, clean closure determination for the 277-T Building will be based on a review of the operational history, operating records (including any releases), and a visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 277-T Building is concluded to be in a safe configuration and will be clean closed under RCRA in conjunction with CDI activities. Final verification sampling of the clean closure will be performed during T-Plant Complex cleanup activities consistent with CDI activities. Sampling will be conducted via a sampling and analysis plan (SAP) (Attachment A) to demonstrate that clean closure numeric levels have been achieved.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

The following near-term closure activities are required to achieve and verify clean closure:

- Remove all dangerous waste inventory (completed; see Section I3.2).
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage (completed; see Section I3.3).
- Perform a visual inspection of the concrete floor surface (completed; see Section I3.3).
- Add the 277-T Building to the Waste Information Data System (WIDS) database (see Section I3.8).

Extended closure activities include:

- Sampling and analysis to confirm RCRA clean closure standards in coordination with CDI activities for the T-Plant Complex OUG.

I3.1 Health and Safety Requirements

Closure will be performed to ensure the safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, "Personnel Training," and have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, U.S. Department of Energy orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training

- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

The following project-specific safety training, addressed explicitly to the project and the day's activity, will be provided:

- Training will provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with quality assurance requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering the following factors:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

I3.2 Removal of Wastes and Waste Residues

No dangerous, mixed, or TSCA-PCB waste is currently stored at the 277-T Building. The last mixed, TSCA-PCB waste was removed in September 2003, and dangerous, mixed, or TSCA-PCB waste is no longer being accepted at this area. Although the 277-T Building will no longer be used for dangerous, mixed, or TSCA-PCB waste storage, the building will be used for equipment and materials storage. The 277-T Building is in a safe configuration and will be tracked in WIDS until verification sampling is performed under the SAP.

I3.3 277-T Building Records Review and Visual Inspection

To support development of this closure plan and the SAP, the T-Plant Complex OUG operating records were reviewed (Table I-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during which active mixed and TSCA-PCB waste storage for the T-Plant Complex OUG SWOC Outdoor Container Storage Areas was addressed under the T-Plant Complex OUG SWOC Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. Operating records indicate that mixed and TSCA-PCB waste has been previously stored in the 277-T Building and that nodocumented releases of mixed or TSCA-PCB waste occurred.

A visual inspection was performed on September 18, 2013 to identify any dangerous waste-related staining in the 277-T Building. No waste-related staining was identified during the visual inspection; therefore, only confirmation sampling and analysis to verify clean closure will be performed.

Supporting documentation for the RCRA operating records review and visual inspection is included in Attachment B.

I3.4 Unit Components, Parts, and Ancillary Equipment

The 277-T Building does not have any component, parts, or ancillary equipment.

I3.5 Inspection of Units Before Decontamination

Once closure activities begin, all equipment and material will be removed from the 277-T Building. A visual inspection of the floor surface will be conducted to identify any dangerous waste-related staining. General housekeeping will take place to remove all material prior to performing the closure decontamination.

I3.6 Decontamination

The 277-T Building floor will be decontaminated, in accordance with alternative treatment standards outlined in the Washington State Department of Ecology clean closure guidance, to meet the definition of a clean debris surface. Decontamination will occur during the extend closure period in conjunction with T-Plant Complex CDI activities. The rinsate will be collected and sampled in accordance with the SAP (Attachment A).

I3.7 Identifying and Managing Contaminated Environmental Media

The rinsate generated from decontamination of the floor during closure activities will be collected. The rinsate will be sampled, and the analytical results will be used to verify clean closure of the 277-T Building. Once sampling has been completed, a waste determination for the rinsate will be completed in accordance with applicable environmental and waste management procedures, and the waste will be dispositioned accordingly.

I3.8 Addition of 277-T Building to the WIDS Database

As part of the near-term closure activities, the 277-T Building will be added to the WIDS database. Addition of the 277-T Building to the WIDS database will help ensure that the 277-T Building is monitored and controlled until the extended closure activities are completed.

The addition of the 277-T Building to the WIDS database will ensure that no unauthorized activity takes place at the 277-T Building (i.e., waste storage).

I3.9 Confirming Clean Closure

The 277-T Building will be clean closed. A review of applicable RCRA operating record documents was completed to determine the release history of the area. Records verification included facility operating record/logbooks and weekly unit inspections, as outlined in Section I3.3 of this closure plan. In addition to records verification, a visual inspection of the visible areas of the floor was performed to identify any dangerous waste-related staining of the storage area flooring. The visual inspection was completed on September 18, 2013, and records reviews were completed and are documented in Attachment B.

Table I-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	277-T Building	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	277-T Building	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	277-T Building	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	277-T Building	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	277-T Building	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	277-T Building	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	277-T Building	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	277-T Building	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

Table I-2. Mixed Waste Container Data

Container Quantity	Facility Identification	Waste Package Type	Total Volume (m^3)	Waste Type	Beginning Storage Date	Ending Storage Date	Assigned Waste Codes
1	277-T	Box	27	MLLW/TSCA-PCB	December 2002	September 2003	D004 through D011, F001 through F005

MLLW = mixed low-level waste
PCB = polychlorinated biphenyl
TSCA = *Toxic Substances Control Act of 1976*

All dangerous, mixed, and TSCA-PCB waste has been previously removed, and there have been no documented spills or releases of dangerous, mixed, or TSCA-PCB waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 277-T Building. Decontamination of the 277-T Building concrete flooring and sampling and analysis of the decontamination rinsate will occur to confirm that cleanup standards have been achieved.

I3.10 Sampling and Analysis and Constituents to Be Analyzed

I3.10.1 Sampling and Analysis Plan

The final clean closure verification sampling for the 277-T Building will occur in conjunction with T-Plant Complex CDI activities. All sampling and analysis will be performed in accordance with the sampling and quality standards established in the closure SAP (Attachment A). The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*; and applicable U.S. Environmental Protection Agency (EPA) guidance. Sampling and analysis activities will meet applicable requirements of SW-846, ASTM standards, EPA-approved methods, and DOE/RL-96-68, *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)*.

I3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered, professional engineer will be retained to provide certification of the closure, as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

I3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of the 277-T Building DWMU closure, certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to Ecology by registered mail. The certification will be signed by the owner or operator and by an independent, qualified, registered, professional engineer.

I3.13 Conditions That Will Be Achieved When Closure Is Complete

Upon completion of near-term closure activities, the 277-T Building will remain in an "as-is" state, with the building remaining in place. The 277-T Building will continue to be used for equipment and material storage in support of the T-Plant Complex OUG operations. The 277-T Building will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after clean closure has been confirmed to remove the 277-T Building DWMU from the sitewide permit active DWMUs.

I4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 277-T Building to the WIDS database will be completed within 180 days of closure plan approval. This DWMU is located near the T-Plant Canyon Building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA Action Plan (Ecology et al., 1989b) identified that some treatment, storage, and disposal (TSD) groups/units

(primarily those located within large processing facilities) will be integrated with the disposition of the facility. Those units have physical closure actions that need to be completed in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, "Coordination of Closure and Corrective Action or Other Cleanup Activities"), allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 277-T Building to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions which are outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989a) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for performance of the sample and analysis activities, in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure I-2).

I5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

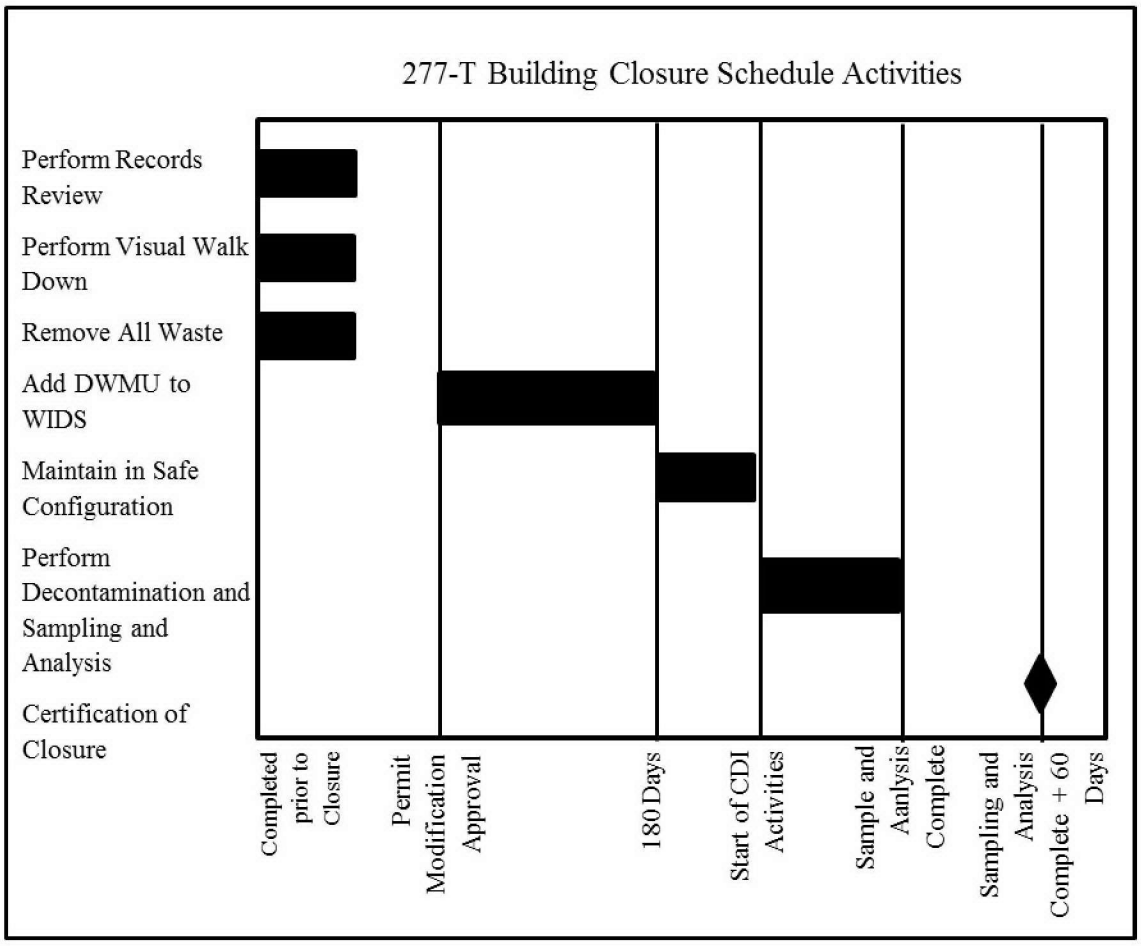

Figure I-2. 277-T Building Closure Schedule Activities

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Attachment A

T-Plant 277-T Building Sample and Analysis Plan

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277-T Building

Sample and Analysis Plan

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Terms

ASTM	American Society for Testing and Materials
CAS	Chemical Abstract Services
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy, Richland Operations Office
DOT	U.S. Department of Transportation
DQA	data quality assessment
DQI	data quality indicator
EB	equipment blank
ECO	Environmental Compliance Officer
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FSP	field sampling plan
FTB	full trip blank
FWS	field work supervisor
FXR	field transfer blank
HASQARD	*Hanford Analytical Services Quality Assurance Requirements Documents*
HEIS	Hanford Environmental Information System
MDA	minimum detectable activity
MDL	method detection limit
N/A	not applicable
NA	not available
POC	point of contact
QA	quality assurance
QAPjP	quality assurance project plan
QC	quality control
RPD	relative percent difference
SAF	sampling authorization form
SAP	sampling and analysis plan
TCLP	toxicity characteristic leaching procedure
Tri-Party Agreement	*Hanford Federal Facility Agreement and Consent Order*
VOA	volatile organic analysis

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1 Introduction

1.1 Purpose

The purpose of the sampling and analysis plan (SAP) is to assist in the determination that clean closure levels have been achieved for the T-Plant Complex Operating Unit Group 277-T Building.

Sampling and analysis of the containerized rinsate resulting from decontamination of the floor surface will be conducted to confirm that clean closure cleanup levels have been achieved. All sampling and analysis will be performed in accordance with the sampling and quality standards established in this closure SAP. The closure SAP details sampling and analysis procedures in accordance with SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*; the American Society for Testing and Materials (ASTM) *Annual Book of ASTM Standards*, and other U.S. Environmental Protection Agency (EPA) approved methods. Sampling and analysis activities will meet applicable requirements in SW-846, ASTM standards, EPA-approved methods, and *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68).

1.2 Statement of the Problem

The objective of the sampling and analysis described in this document is to verify that the target analytes in rinsate resulting from decontamination of the 277-T Building floor during closure activities meet Universal Treatment Standards in accordance with WAC 173-303-140(2)(a), "Dangerous Waste Regulations," "Land Disposal Restrictions," thereby demonstrating clean closure of the 277-T Building.

1.3 Target Analytes

Target analytes were determined by reviewing waste management records for the dangerous waste stored in the 277-T Building (Table 1-1).

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Arsenic (D004)	7440-38-2	Acetone (F003)	67-64-1
Barium (D005)	7440-39-3	N-butyl alcohol (F003)	71-36-3
Cadmium (D006)	7440-43-9	Cyclohexanone (F003)	108-94-1
Chromium (Hexavalent) (D007)	18540-29-9	Ethyl acetate (F003)	141-78-6
Lead (D008)	7439-92-1	Ethyl benzene (F003)	100-41-4
Mercury (D009)	7439-97-6	Ethyl ether (F003)	60-29-7
Selenium (D010)	7782-49-2	Methanol (F003)	67-56-1
Silver (D011)	7440-22-4	Methyl isobutyl ketone (F003)	108-10-1
Carbon tetrachloride (F001) (F002)	56-23-5	Xylene (F003)	1330-20-7
Methyl ethyl ketone (MEK) (F005)	78-93-3	o-Cresol (F004)	95-48-7

Table 1-1. Target Analyte List

Target Analyte	CAS Number	Target Analyte	CAS Number
Tetrachloroethylene (F001) (F002)	127-18-4	Benzene, nitro (F004)	98-95-3
Trichloroethylene (F001)(F002)	79-01-6	Pyridine (F005)	110-86-1
1,1,1-Trichloroethane (F001) (F002)	71-55-6	2-nitropropane (F005)	79-46-9
Chlorinated fluorocarbons (F001) (F002)	Not Applicable	Carbon disulfide (F005)	75-15-0
Methylene chloride (F001) (F002)	75-09-2	Isobutanol (F005)	78-83-1
Chlorobenzene (F002)	108-90-7	2-ethoxyethanol (F005)	110-80-5
1,1,2-trichloro-1,2,2-trifluoroethane (F002)	73-13-1	Toluene (F005)	108-88-3
Ortho-dichlorobenzene (F002)	95-50-1	Benzene (F005)	71-43-1
1,1,2-trichloroethane (F002)	79-00-5	Polychlorinated biphenyls (Aroclors)	1336-36-3

CAS = Chemical Abstracts Service

1.4 Project Schedule

Sampling and analysis will follow the schedule outlined in the 277-T Building closure plan.

2 Quality Assurance Project Plan

The quality assurance project plan (QAPjP) establishes the quality requirements for environmental data collection, including planning, implementation, and assessment of sampling, field measurements, and laboratory analysis. This QAPjP complies with requirements from the following documents:

- 10 CFR 830, "Nuclear Safety Management," Subpart A, "Quality Assurance Requirements"
- DOE O 414.1D, *Quality Assurance*
- *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (EPA/240/B-01/003)
- *Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD)* (DOE/RL-96-68)

This chapter describes the applicable quality requirements and controls. Sections 6.5 and 7.8 of the Tri-Party Agreement (TPA) (*Hanford Federal Facility Agreement and Consent Order Action Plan* [Ecology et al., 1989a]) Action Plan (*Hanford Federal Facility Agreement and Consent Order Action Plan* [Ecology et al., 1989b]) require the quality assurance (QA)/quality control (QC) and sampling and analysis activities to specify the QA requirements for treatment, storage, and disposal units, as well as for past-practice processes. Therefore, this QAPjP follows the QA elements of EPA/240/B-01/003. This QAPjP demonstrates conformance to Part B requirements of ANSI/ASQC E4-2004, *Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs*.

This QAPjP is divided into the following four sections, which describe the quality requirements and controls applicable to this investigation: Project Management, Data Generation and Acquisition, Assessment and Oversight, and Data Validation and Usability.

2.1 Project Management

The following subsections address project management and ensure that the project has defined goals, the participants understand the goals and the approaches used, and the planned outputs are appropriately documented. Project management roles and responsibilities discussed in this section apply to the major activities covered under the SAP.

2.1.1 Project/Task Organization

The Permittee, or its approved subcontractor, is responsible for planning, coordinating, sampling, preparing, packaging, and shipping samples to the laboratory. The project organization (regarding sampling and characterization) is described in the following paragraphs and is shown in Figure 2-1. The Project Manager maintains a list of individuals or organizations as points of contact for each functional element in Figure 2-1.

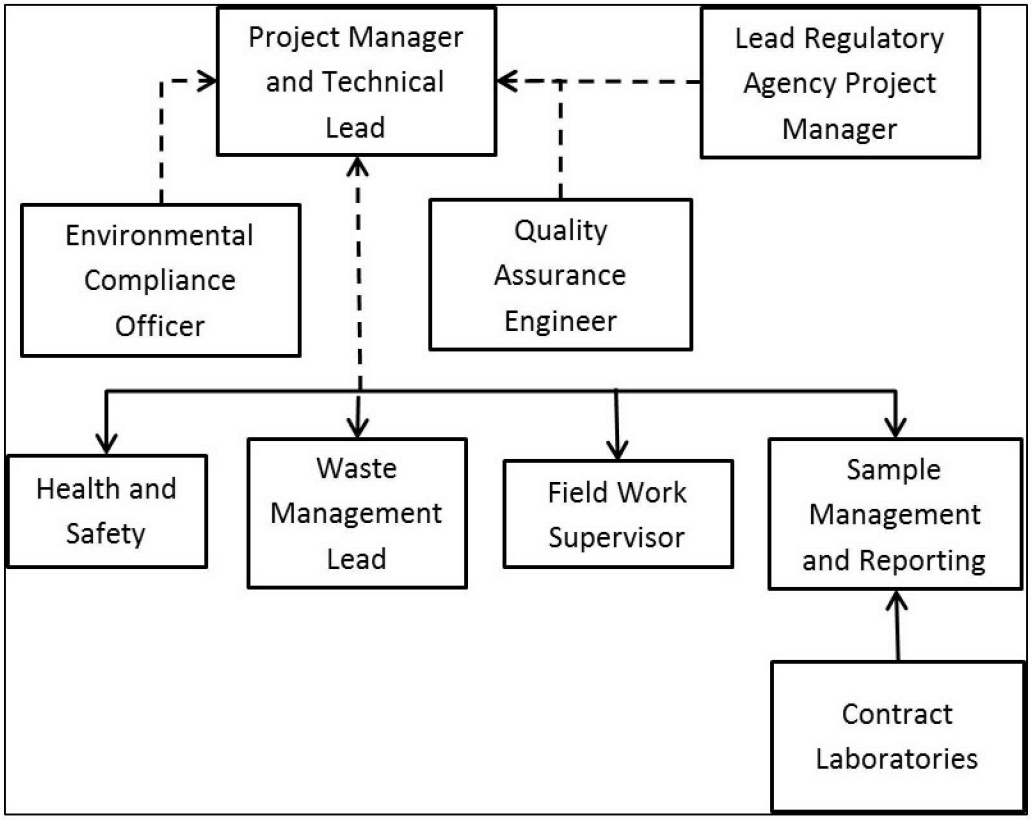

Figure 2-1. 277-T Building Closure Sampling Project Organization

The project has several key positions within the U.S. Department of Energy (DOE), Richland Operations Office (RL) organization, including the following:

- **Regulatory Project Manager:** The Washington State Department of Ecology (Ecology) has assigned project managers responsible for oversight of cleanup projects and activities. Ecology, as lead regulatory agency for the 277-T Building closure sampling project, has oversight authority for the work being performed under this SAP. Ecology will work with DOE-RL to resolve concerns over the work, as described in this SAP, in accordance with the TPA (Ecology et al., 1989a).

- **Project Manager:** The Project Manager provides oversight for activities and coordinates with DOE-RL, EPA, Ecology, and contract management. In addition, support is provided to the project technical lead to ensure that work is performed safely and cost effectively. The Project Manager (or designee) for the 277-T Building closure sampling is responsible for direct management of sampling documents and requirements, field activities, and subcontracted tasks. The Project Manager is responsible for ensuring that project personnel are working to the current version of the SAP. The Project Manager works closely with QA, Health and Safety, and the Field Work Supervisor (FWS) to integrate these and other lead disciplines in planning and implementing the work scope. The Project Manager also coordinates with DOE-RL and the primary contractor management on all sampling activities. The Project Manager supports DOE-RL in coordinating sampling activities with the regulators.

- **Environmental Compliance and Quality Assurance**. The Environmental Compliance Officer (ECO) provides technical oversight, direction, and acceptance of project and subcontracted environmental work, and develops appropriate mitigation measures with a goal of minimizing adverse

environmental impacts. The ECO also reviews plans, protocols, and technical documents to ensure that environmental requirements have been addressed; identifies environmental issues that affect operations and develops cost effective solutions; and responds to environmental/regulatory issues or concerns raised by DOE-RL and/or regulatory agencies. The ECO also oversees project implementation for compliance with applicable internal and external environmental requirements.

The QA point of contact (POC) is matrixed to the Project Manager and is responsible for QA issues on the project. Responsibilities include overseeing implementation of the project QA requirements, reviewing project documents (including the SAP and QAPjP), and participating in QA assessments on sample collection and analysis activities, as appropriate. The QA POC must be independent of the unit generating the data.

- **Health and Safety:** The Health and Safety organization is responsible for coordinating industrial safety and health support within the project, as carried out through health and safety plans, job hazard analyses, and other pertinent safety documents required by federal regulation or by internal primary contractor work requirements. In addition, Health and Safety assists project personnel in complying with applicable health and safety standards and requirements.

- **Sample Management and Reporting:** The Permittee's sampling organization coordinates laboratory analytical work, ensuring that laboratories conform to Hanford Site internal laboratory QA requirements (or their equivalent), as approved by DOE-RL, EPA, and Ecology. The sampling organization receives the analytical data from the laboratories, performs the data entry into the Hanford Environmental Information System (HEIS) database, and arranges for data validation. The sampling organization is responsible for informing the Project Manager of any issues reported by the analytical laboratory. The sampling organization develops and oversees implementation of the letter of instruction to the analytical laboratories, oversees data validation, and works with the Project Manager to prepare a characterization report on the sampling and analysis results.

- **Contract laboratories:** The contract laboratories analyze samples in accordance with established protocols and provide necessary sample reports and explanation of results in support of data validation. The laboratories must meet site-specific QA requirements and must have an approved QA plan in place.

- **Waste Management:** Waste Management communicates policies and protocols and ensures project compliance for storage, transportation, disposal, and waste tracking in a safe and cost effective manner. In addition, Waste Management is responsible for identifying waste management sampling/characterization requirements to ensure regulatory compliance, interpreting the characterization data to generate waste designations and profiles, and preparing and maintaining other documents confirming compliance with waste acceptance criteria.

- **Fieldwork Supervisor:** The FWS is responsible for planning and coordinating field sampling resources. The FWS ensures that samplers are appropriately trained and available. Additional related responsibilities include ensuring that the sampling design is understood and can be performed as specified by directing training, mock-ups, and practice sessions with field personnel.

The FWS directs the samplers. The samplers collect rinsate samples, including replicates/duplicates, and prepare sample blanks in accordance with the SAP, corresponding protocols, and work packages. The samplers complete field logbook entries, chain-of-custody forms, and shipping paperwork and ensure delivery of the samples to the analytical laboratory.

2.1.2 Quality Objectives and Criteria

The QA objective of this plan is to develop implementation guidance providing data of known and appropriate quality. Data quality indicators (DQIs) describe data quality by evaluation against identified data needs and the work activities identified in this SAP. The applicable QC guidelines, quantitative target limits, and levels of effort for assessing data quality are dictated by the intended use of the data and the nature of the analytical method. The principal DQIs are precision, bias or accuracy, representativeness, comparability, completeness, and sensitivity. These DQIs are defined for the purposes of this document in Table 2-1. The DQIs will be evaluated during the data quality assessment (DQA) process (Section 2.4.5).

Quality objectives and project-specific measurement requirements are presented in Table 2-2. In consultation with the laboratory, the Project Manager, the sampling organization, and/or appropriate others identify applicable analytical methods.

2.1.3 Special Training/Certification

A graded approach is used to ensure that workers receive a level of training that is commensurate with responsibilities and compliant with applicable DOE orders and government regulations. The FWS, in coordination with line management, will ensure that special training requirements for field personnel are met.

Typical training requirements or qualifications have been instituted by the Permittee to meet training requirements imposed by regulations, DOE orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training addressed explicitly to the project and the day's activity will be provided, including the following:

- Training will provide the knowledge and skills that sampling personnel need to perform work safely and in accordance with QA requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering many factors, including the following:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work

- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittee's training organization maintains the training records system.

2.1.4 Documents and Records

The Project Manager is responsible for ensuring that the current version of the SAP is being used and for providing any updates to field personnel. Version control is maintained by the administrative document control process. Changes to the SAP affecting the data needs will be submitted to DOE and the lead regulatory agency as a permit modification in accordance with WAC 173-303-610, "Dangerous Waste Regulations," "Closure and Post-Closure."

The FWS is responsible for ensuring that the field instructions are maintained and aligned with any revisions or approved changes to the SAP. The FWS will ensure that deviations from the SAP or problems encountered in the field are documented appropriately (e.g., in the field logbook or on nonconformance report forms) in accordance with internal corrective action protocols.

The Project Manager, FWS, or designee is responsible for communicating field corrective action requirements and ensuring that immediate corrective actions are applied to field activities.

Logbooks are required for field activities. A logbook must be identified with a unique project name and number. The individual(s) responsible for logbooks will be identified in the front of the logbook, and only authorized persons may make entries in logbooks. Logbooks will be signed by the FWS, cognizant scientist/engineer, or other responsible individual. Logbooks will be permanently bound, waterproof, and ruled with sequentially numbered pages. Pages will not be removed from logbooks for any reason. Entries will be made in indelible ink. Corrections will be made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The Project Manager is responsible for ensuring that a project file is properly maintained. The project file will contain the records or references to their storage locations. The following items will be included in the project file, as appropriate:

- Field logbooks or operational records
- Data forms
- Global positioning system data
- Chain-of-custody forms
- Sample receipt records
- Inspection or assessment reports and corrective action reports
- Interim progress reports
- Final reports
- Laboratory data packages
- Verification and validation reports

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Precision	The measure of the degree of reproducibility of measurements under prescribed similar conditions. May be expressed as a percentage of the mean of the measurements, such as relative range, relative percent difference, or relative standard deviation (coefficient of variation).	Use the same analytical instrument to make repeated analyses on the same sample. Use the same method to make repeated measurements of the same sample within a single laboratory. Split a sample in the field and submit both for sample handling, preservation and storage, and analytical measurements. Collect, process, and analyze collocated samples for information on sample acquisition, handling, shipping, storage, preparation, and analytical processes and measurements.	Field precision: At randomly selected locations, duplicate samples will be taken one per 20 samples per media. Laboratory precision; analysis of laboratory duplicate or matrix spike duplicate.	If duplicate data do not meet objective: Evaluate apparent cause (e.g., sample heterogeneity) Request reanalysis or remeasurement Qualify the data before use
Accuracy	A measure of the overall agreement of a measurement to an accepted reference or true value. Sample accuracy is expressed as the percent recovery of a spiked sample.	Analyze a reference material or reanalyze a sample to which a material of known concentration or amount of pollutant has been added (a spiked sample).	Laboratory accuracy Determination based on matrix spikes and matrix spike duplicates.	If recovery does not meet objective: Qualify the data before use Request re-analysis or remeasurement

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Representa-tiveness	A qualitative term to express "the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition." (ANSI/ASQC S2-1995)	Evaluate whether measurements are made and physical samples collected in such a manner that the resulting data appropriately reflect the environment or condition being measured or studied.	Samples will be collected as described in the sampling design. Judgment sampling ensures areas most likely to be contaminated, based on current information, will be evaluated. Random sampling is based on ensuring all members of the group are equally likely to be chosen and allows probability statements to be made about the quality of estimates derived from the data.	If results are not representative of the system sampled: Identify the reason for the not being representative Reject the data, or, if data are otherwise usable, qualify the data for limited use and define the portion of the system that the data represent Redefine sampling and measurement requirements and protocols Resample and reanalyze
Comparability	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: Identify appropriate changes to data collection and/or analysis methods Identify quantifiable bias, if applicable. Qualify the data as appropriate Resample and/or reanalyze if needed. Revise sampling/analysis protocols to ensure future comparability

Table 2-1. Data Quality Indicators

DQI	Definition	Example Determination Methodologies	Project-Specific Information	Corrective Actions
Completeness	A qualitative term expressing the measure of confidence that one data set can be compared to another and can be combined for the decision(s) to be made.	Compare sample collection and handling methods, sample preparation and analytical procedures, holding times, stability issues, and QA protocols.	Sampling personnel will use the same sampling protocols. Samples will be submitted to the same laboratories when possible (based on laboratory contracts) for analysis by the same methods, thus data results will be comparable.	If data are not comparable to other data sets: Identify appropriate changes to data collection and/or analysis methods Identify quantifiable bias, if applicable. Qualify the data as appropriate Resample and/or reanalyze if needed. Revise sampling/analysis protocols to ensure future comparability
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest.	Determine the minimum concentration or attribute to be measured by a method (method detection limit), by an instrument (instrument detection limit), or by a laboratory (quantitation limit). The practical quantitation limit is the lowest level, which can be routinely quantified and reported by a laboratory.	Ensure sensitivity, as measured detection limits, is appropriate for the action levels.	If sensitivity does not meet objective: Request reanalysis or remeasurement. Qualify/reject the data before use.

Source: ANSI/ASQC S2-1995, *Introduction to Attribute Sampling*.

DQI = data quality indicator

QA = quality assurance

Table 2-2. Water Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a]	Practical Quantitation Limit[c] (µg/L)	Accuracy Req't (Percent Recovery)[b]	Precision Req't (RPD)[b]
Performance Requirements for Laboratory Measurements (Nonradiological)						
7440-38-2	Arsenic	SW-846 Method 6010	5 mg/L TCLP	10	±20	≤20
7440-39-3	Barium	SW-846 Method 6010 or 200.8	21 mg/L TCLP	5.0	±20	≤20
7440-43-9	Cadmium	SW-846 Method 6010 or 200.8	0.11 mg/L TCLP	2.0	±20	≤20
18540-29-9	Chromium (Hexavalent)	SW-846 Method 6010 or 200.8	0.60 mg/L TCLP	2.0	±20	≤20
7439-91-1	Lead	SW-846 Method 6020 or 200.8	0.75 mg/L TCLP	2.0	±20	≤20
7439-97-6	Mercury	SW-846 Method 7471 or 200.8	0.2 mg/L TCLP	0.5	±20	≤20
7782-49-2	Selenium	SW-846 Method 6020 or 200.8	5.7 mg/L TCLP	50	±20	≤20
7440-22-4	Silver	SW-846 Method 6020 or 200.8	0.14 mg/L TCLP	2.0	±20	≤20
71-43-2	Benzene	SW-846 Method 8260	10 mg/L	5.0	N/A[c]	≤20
56-23-5	Carbon tetrachloride	SW-846 Method 8260	6.0 mg/L	5.0	N/A[c]	≤20
78-93-3	Methyl ethyl ketone (MEK) (2-butanone)	SW-846 Method 8260	36 mg/L	10	N/A[c]	≤20
110-86-1	Pyridine	SW-846 Method 8260	16 mg/L	5	N/A[c]	≤20
71-55-6	1,1,1-trichloroethane	SW-846 Method 8260	6 mg/L	5.0	N/A[c]	≤20
76-13-1	chlorinated fluorocarbons	SW-846 Method 8260	30 mg/L	10	N/A[c]	≤20

Table 2-2. Water Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a]	Practical Quantitation Limit[c] (µg/L)	Accuracy Req't (Percent Recovery)[b]	Precision Req't (RPD)[b]
75-09-2	methylene chloride	SW-846 Method 8260	30 mg/L	5	N/A[c]	≤20
67-64-1	Acetone	SW-846 Method 8260	160 mg/L	20	N/A[c]	≤20
71-36-3	n-butyl alcohol	SW-846 Method 8260	2.6 mg/L	100	N/A[c]	≤20
108-94-1	Cyclohexanone	SW-846 Method 8270	0.75 mg/L TCLP	5	N/A[c]	≤20
141-78-6	Ethyl acetate	SW-846 Method 8015	33 mg/L	5,000	N/A[c]	≤20
100-41-4	Ethyl benzene	SW-846 Method 8260	10 mg/L	4	N/A[c]	≤20
60-29-7	Ethyl ether	SW-846 Method 8015	160 mg/L	5,000	N/A[c]	≤20
67-56-1	Methanol	SW-846 Method 8015	0.75 mg/L TCLP	1,000	N/A[c]	≤20
108-10-1	Methyl isobutyl ketone	SW-846 Method 8260	33 mg/L	10	N/A[c]	≤20
127-18-4	Tetrachloroethylene	SW-846 Method 8260	6 mg/L	5	N/A[c]	≤20
79-01-6	Trichloroethylene	SW-846 Method 8260	6 mg/L	1	N/A[c]	≤20
108-38-3	m-Xylene	SW-846 Method 8260	30 mg/L[d]	5	N/A[c]	≤20
95-47-6	o-Xylene	SW-846 Method 8260	30 mg/L[d]	5	N/A[c]	≤20
106-42-3	p-Xylene	SW-846 Method 8260	30 mg/L[d]	5	N/A[c]	≤20
1336-36-3	Polychlorinated biphenyls	SW-846 Method 8082	10 mg/L	0.5	N/A[c]	≤20
95-48-7	o-Cresol	SW-846 Method 8270	5.6 mg/L	33	N/A[c]	≤20
98-95-3	Benzene, nitro	SW-846 Method 8260	14 mg/L	10	N/A[c]	≤20
108-88-3	Toluene	SW-846 Method 8260	10 mg/L	5	N/A[c]	≤20
79-46-9	2-nitropropane	SW-846 Method 8260	NA	10	N/A[c]	≤20
75-15-0	Carbon disulfide	SW-846 Method 8260	4.8 mg/L TCLP	5	N/A[c]	≤20

Table 2-2. Water Analytical Performance Requirements

CAS Number	Analyte	Analytical Method	Closure Performance Standard[a]	Practical Quantitation Limit[e] (µg/L)	Accuracy Req't (Percent Recovery)[b]	Precision Req't (RPD)[b]
78-83-1	Isobutanol	SW-846 Method 8260	170 mg/L	500	N/A[c]	≤20
110-80-5	2-ethoxyethanol	SW-846 Method 8260	NA	750	N/A[c]	≤20
108-90-7	Chlorobenzene	SW-846 Method 8260	6 mg/L	2,000,000	N/A[c]	≤20
79-00-5	1,1,2-trichloroethane	SW-846 Method 8260	6 mg/L	5	N/A[c]	≤20
76-13-1	1,1,2-trichloro-1,2,2-trifluoroethane	SW-846 Method 8260	30 mg/L	10	N/A[c]	≤20
95-50-1	Ortho-dichlorobenzene	SW-846 Method 8260	6 mg/L	10	N/A[c]	≤20

Source: SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*.

a. Closure performance standards are the universal treatment standards for non-wastewater found in WAC 173-303-140(2)(a), "Dangerous Waste Regulations," "Land Disposal Restrictions."

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Determined by the laboratory based on historical data or statistically derived control limits. Limits are reported with the data. Where specific acceptance criteria are listed, those acceptance criteria may be used in place of statistically derived acceptance criteria.

d. The 30 mg/L action level is based on the sum of the xylene isomers.

e. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

CAS = Chemical Abstract Services
N/A = not applicable
NA = information not available
RPD = relative percent difference
TCLP = toxicity characteristic leaching procedure

The laboratory is responsible for maintaining, and having available upon request, the following:

- Analytical logbooks
- Raw data and QC sample records
- Standard reference material and/or proficiency test sample data
- Instrument calibration information

Records may be stored in either electronic or hardcopy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the TPA (Ecology et al., 1989a) will be managed in accordance with the requirements therein.

2.2 Data Generation and Acquisition

The following subsections present the requirements for sampling methods and identification, sample handling and custody, analytical methods, measurement and analysis, data collection or generation, data handling, and field and laboratory QC. The requirements for instrument calibration and maintenance, supply inspections, and data management are also addressed. The sampling design is presented in the field sampling plan (FSP) in Chapter 3 of this SAP.

The FWS is responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities under this SAP. The field team lead must document all deviations from procedures or other problems pertaining to sample collection, chain-of-custody, sample analytes, sample transport, or noncompliant monitoring. As appropriate, such deviations or problems will be documented in the field logbook or in nonconformance report forms in accordance with internal corrective action procedures. The FWS or Project Manager is responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to field activities.

2.2.1 Sampling Process Design

The sampling design consists of grab sampling of the collected rinsate. Additional sampling process design details are provided in Section 3.

2.2.2 Analytical Methods

Analytical methods and parameters are provided in Table 2-2. These analytical methods are controlled in accordance with the laboratory's QA plan and the requirements of this QAPjP. Laboratory operations and analytical services shall comply with Volume 4 of HASQARD (DOE/RL-96-68, Laboratory Technical Requirements) and any specific criteria identified in Table 2-2. Criteria in Table 2-2 take precedence over similar criteria in HASQARD (DOE/RL-96-68). In consultation with the laboratory, the Project Manager, and/or others as appropriate, changes to analytical methods can be approved as long as the method is based upon a nationally recognized standard (e.g., EPA or ASTM) method, the new method achieves project data needs as well or better than the replaced method, and the new method is required due to the nature of the sample. Oversight of offsite analytical laboratories to qualify them for performing Hanford Site analytical work is performed as necessary.

If the laboratory uses a nonstandard or unapproved method, then the laboratory must provide method validation data to confirm that the method is adequate for the intended use of the data. This includes information such as determination of detection limits, quantitation limits, typical recoveries, and analytical precision and bias. Deviations from the analytical methods noted in Table 2-2 must be approved in consultation with the Project Manager.

Issues that may affect analytical results are to be resolved in coordination with the Project Manager.

2.2.3 Quality Control

QC procedures must be followed in the field and laboratory to ensure that reliable data are obtained. Field QC samples will be collected to evaluate the potential for cross-contamination and to provide information pertinent to field sampling variability. Field QC sampling will include the collection of full trip blank, field transfer blank, equipment rinsate blank, field duplicate, and field split samples. Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples are summarized in Table 2-3.

Table 2-3. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Field Quality Control		
Full Trip Blank (FTB)	One per 20 samples per media sampled.	Contamination from containers or transportation
Equipment Rinsate Blank (EB)	As needed. If only disposable equipment is used, an equipment blank is not required. Otherwise, one per 20 samples per media[a].	Adequacy of sampling equipment decontamination and contamination from non-dedicated equipment
Field Duplicate (DUP)	One per batch[g], 20 samples maximum of each media sampled.	Precision, including sampling and analytical variability
Field Split Samples (SPLIT)	As needed. When needed, the minimum is one per analytical method, per media sampled, for analyses performed where detection limit and precision and accuracy criteria have been defined in the performance requirements tables.	Precision, including sampling, analytical, and inter-laboratory
Laboratory Quality Control[g]		
Method Blanks	1 per batch[g]	Laboratory contamination
Lab Duplicates	[b]	Laboratory reproducibility and precision
Matrix Spikes	[b]	Matrix effect/laboratory accuracy
Matrix Spike Duplicates	[b]	Laboratory reproducibility, accuracy, and precision
Surrogates	[b]	Recovery/yield
Tracers	[b]	Recovery/yield

Table 2-3. Project Quality Control Sampling Summary

Quality Control Sample Type	Frequency	Characteristics Evaluated
Laboratory Control Samples	1 per batch[g]	Evaluate laboratory accuracy
Performance Evaluation Programs[c]	Annual	Evaluate laboratory accuracy
Double-Blind Standards	Quarterly[d]	Evaluate laboratory accuracy
Audit/Assessment	Annually[e] or every 3 years[f]	Evaluate overall laboratory performance and operations

a. Whenever a new type of non-dedicated equipment is used, an equipment blank shall be collected every time sampling occurs until it can be shown that less frequent collection of equipment blanks is adequate to monitor the decontamination procedure for the non-dedicated equipment.

b. As defined in the laboratory contract or quality assurance plan and/or analysis procedures.

c. Nationally recognized program, such as DOE Mixed Analyte Performance Evaluation Program or Environmental Resource Associates.

d. Water matrix double-blind standards are submitted quarterly.

e. DOE Quality Systems for Analytical Services requires annual audit of commercial laboratories.

f. DOE/RL-96-68, 2007, *Hanford Analytical Services Quality Assurance Requirements Documents* (HASQARD) does not define a frequency for assessment of onsite laboratories. Three year evaluated supplier list requirement is typically applied.

g. Batching across projects is allowing for similar matrices.

DOE = U.S. Department of Energy

2.2.3.1 Field Quality Control Samples

Field QC samples will be collected to evaluate the potential for cross-contamination and to provide information pertinent to field sampling variability and laboratory performance to help ensure reliable data are obtained. Field QC samples include field duplicates, split samples, and three types of field blanks (full trip, field transfer, and equipment blanks). Field blanks are typically prepared using high-purity reagent water. Silica sand should be used, instead of reagent water, when required by the SAP. The QC samples and the required frequency for collection are described in this subsection. Particular care will be exercised to avoid the following common ways in which cross-contamination or background contamination may compromise samples:

- Improperly storing or transporting sampling equipment and sample containers
- Contaminating the equipment or sample bottles by setting the equipment/sample bottle on or near potential contamination sources (e.g., uncovered ground)
- Handling bottles or equipment with dirty hands or gloves
- Improperly decontaminating equipment before sampling or between sampling events

This number of QC samples is conservatively established based on site procedures that call for approximately one set of QC samples per 20 samples.

- **Full-trip blank (FTB):** FTBs are prepared by the sampling team prior to traveling to the sampling site. The preserved bottle set is either for volatile organic analysis (VOA) only or identical to the set that will be collected in the field. It is filled with high purity reagent water or silica sand, as appropriate to the primary sample media. The bottles are sealed and transported, unopened, to the field in the same storage containers used for samples collected the same day. FTBs are typically analyzed for the same constituents as the samples from the associated sampling event. FTBs are used to evaluate potential contamination of the samples attributable to the sample bottles, preservative, handling, storage, and transportation.

- **Field transfer blank (FXR):** FXRs are preserved VOA sample bottles filled at the sample collection site with high purity reagent water or silica sand (as appropriate to the primary sample media) that has been transported to the field. The samples are prepared during sampling to evaluate potential contamination attributable to field conditions. After collection, FXR sample bottles are sealed and placed in the same storage containers with the samples collected the same day for the associated sampling event. FXR samples will be analyzed for volatile organic compounds only.

- **Equipment blank (EB):** EBs consist of high purity reagent water or silica sand passed through or poured over the decontaminated sampling equipment identical to the sample set that will be collected and placed in sample containers, as identified on the project sampling authorization form (SAF). EB sample bottles are placed in the same storage containers with the samples from the associated sampling event. EB samples will be analyzed for the same constituents as the samples from the associated sampling event. EBs will be used to evaluate the effectiveness of the decontamination process.

  EBs are collected from reusable sampling devices on a 1-in-20 basis and are not required for disposable sampling equipment.

  For field blanks (i.e., FTB, FXR, and EB), results greater than two times the method detection limit (MDL) or minimum detectable activity (MDA) are identified as suspect contamination. However, for common laboratory contaminants such as acetone, methylene chloride, 2-butanone, toluene, and phthalate esters, the limit is five times the MDL. For radiological analytical data, blank results are flagged if they are greater than two times the total MDA.

- **Field duplicates (DUP):** DUPs are independent samples collected as close as possible to the same time and same location as the parent sample and are intended to be identical. DUPs are collected at a frequency of one in 20 samples. DUPs are two separate samples collected from the same source, placed in separate sample containers, and analyzed independently. DUPs should be collected from an area expected to have some contamination, so valid comparisons between the samples can be made (i.e., some constituents will be greater than detection limit).

  DUPs must agree within 20 percent, as measured by the RPD, to be acceptable. Only those DUPs with at least one result greater than five times the Universal Treatment Standards limit are evaluated. DUP results not satisfying evaluation criteria will be qualified and flagged in HEIS, as appropriate.

  DUPs are stored and transported together and will be analyzed for the same constituents. DUPs are used to determine precision for both sampling and laboratory measurements. Evaluation of the results can provide an indication of intra-laboratory variability. Large relative percent differences (RPDs) can be an indication of potential laboratory performance problems and should be investigated.

  Collocated samples are two samples collected as close as possible to the same time and location and are not homogenized. This sampling protocol is used when homogenizing samples for split or duplicate samples could affect the quality of data (i.e., VOA analysis).

- **Field split samples:**. Field split samples (SPLIT) are two samples collected as close as possible to the same time and same location and are intended to be identical. VOA splits will be sampled as collocated samples, as described previously. SPLITs are stored in separate containers and analyzed by different laboratories for the same or similar analytes. SPLITs are inter-laboratory comparison samples used to evaluate comparability between laboratories. Large RPDs can be an indication of potential laboratory performance problems and should be investigated.

2.2.3.2 Laboratory Quality Control Samples

Laboratory QC samples (e.g., method blanks and laboratory control sample/blank spike) are defined for the three-digit EPA methods (EPA-600/4-79-20, *Methods for Chemical Analysis of Water and Wastes*) and four-digit EPA methods (SW-846) and will be run at the frequency specified in the respective reference, unless superseded by agreement.

QC checks outside of control limits will be reflected in the narrative of the analytical report and during the DQA process, if performed.

For chemical analyses, the control limits for laboratory duplicate samples, matrix spike samples, matrix spike duplicate samples, surrogate recoveries, and laboratory control samples are typically derived from historical data at the laboratories in accordance with SW-846. Typical control limits are within 25 percent of the expected values, although the limits may vary considerably depending upon the method and analyte.

2.2.4 Equipment

Equipment used for collection, measurement, and testing should meet applicable standards (e.g., ASTM) or will have been evaluated as acceptable and valid in accordance with the procedures, requirements, and specifications. The FWS, field technical representative, or equivalent will ensure that the data generated from instructions using a software system are backed up and/or downloaded on a regular basis. Software configuration will be acceptance tested prior to use in the field.

Measurement and testing equipment used in the field or in the laboratory that directly affect the quality of analytical data will be subject to preventive maintenance measures to minimize measurement system downtime. Laboratories and onsite measurement organizations must maintain and calibrate their equipment. Maintenance requirements (e.g., documentation of routine maintenance) will be included in the individual laboratory and onsite organization's QA plan or operating procedures, as appropriate. Maintenance of laboratory instruments will be performed in a manner consistent with the three-digit EPA methods (EPA-600/4-79-020) and four-digit EPA methods (SW-846), or with auditable DOE Hanford Site and contractual requirements. Consumables, supplies, and reagents will be reviewed per SW-846 requirements and will be appropriate for their use.

2.2.5 Inspection of Consumable Supplies

Consumables, supplies, and reagents will be reviewed in accordance with the current requirements of SW-846, or other EPA method being used, or by an approved site analytical procedure. Potential contamination is monitored by field QC samples and laboratory blanks. The lot number from the manufacturer certified, pre-cleaned sample containers will be recorded in the sampler's logbook.

2.2.6 Data Management

Data resulting from implementation of the SAP will be stored in the HEIS database. Reports and supporting analytical data packages will be subject to final technical review by qualified reviewers before submittal to the regulatory agencies or before inclusion in reports or technical memoranda.

2.2.7 Field Documentation Management

Field documentation shall be maintained in the form of chain-of-custody/sample analysis request forms and logbook entries. Other documentation is described in Section 2.1.3. Approved work control packages and procedures will be used to document field activities, including nonradiological measurements, when this SAP is implemented. Field activities will be recorded in the field logbook.

2.3 Assessment and Oversight

The elements in assessment and oversight address the activities for assessing the effectiveness of project implementation and associated QA and QC activities. The purpose of assessment is to ensure that the QAPjP is implemented as prescribed.

2.3.1 Assessments and Response Actions

Contractor Management, Regulatory Compliance, QA, and/or Health and Safety organizations may conduct surveillances and assessments to verify compliance with the requirements outlined in this SAP, project work packages, the project quality management plan, procedures, and regulatory requirements. The Project Manager will determine whether a DQA will be performed for the activities identified in this SAP. The DQA process, if performed, is discussed in Section 2.4. The results of the DQA will be provided to the Project Manager. No other planned assessments have been identified.

If circumstances arise in the field dictating the need for additional assessment activities, then additional assessments would be performed. Deficiencies identified by these assessments will be reported in accordance with existing programmatic requirements. The project's line management chain coordinates the corrective actions/deficiencies in accordance with the contractor QA program, the corrective action management program, and associated procedures implementing these programs. When appropriate, corrective actions will be taken by the Project Manager.

2.3.2 Reports to Management

Management will be made aware of deficiencies identified by self-assessments, corrective actions from ECOs, and findings from QA assessments and surveillances.

2.4 Data Review, Verification, and Validation, and Usability Requirements

Analytical results will be received from the laboratory, loaded into a database (e.g., HEIS), and verified (Section 2.4.1). A total of 5 percent of the data will be validated (Section 2.4.3). A DQA may be performed, if requested, on the final data (Section 2.4.4). At the direction of the Project Manager (or designee), analytical data packages will be subject to final technical review by qualified personnel before submittal to the regulatory agencies or inclusion in reports.

2.4.1 Verification and Validation Methods

Validation activities will be based on EPA functional guidelines. Data validation may be performed by the Permittee and/or by a party independent of both the data collector and the data user. Data validation qualifiers must be compatible with the HEIS database.

When outliers or questionable results are identified, the data associated with these outliers and questionable data will be evaluated and additional data validation will be performed. The additional data validation will consist of selecting up to an additional 5 percent of the statistical outliers and/or questionable data. The additional validation will begin with Level C and may increase to Levels D and E, as needed, to ensure that data are usable. Level C validation is a review of the QC data, while Levels D and E include review of calibration data and calculations of representative samples from the data set.

Data validation results will be documented in data validation reports. An example of questionable data is a positive detection greater than the practical quantitation limit or reporting limit in soil from a site that should not have exhibited contamination. Similarly, results below background would not be expected and could trigger a validation inquiry. The determination of data usability will be conducted and documented in a DQA report.

Data validation results will be documented in data validation reports, which will be included in the project file.

2.4.2 Data Verification and Usability Methods

Review of field paperwork, analytical data packages, and electronic files from the laboratory information management system will be performed. Sampling documents include the soil sampling record, chain-of-custody forms, field logbook pages, and other paperwork associated with sampling and shipping. These documents are reviewed for completeness, approvals, and legibility. Analytical and QC data from the laboratories are verified to be complete, reported correctly, and within applicable limits. Laboratory documents will be rechecked to verify the condition of the samples upon receipt at the laboratory and determine if problems arose during analysis that may have affected the data. When issues arise with samples before the analytical data are processed, resolution of those issues will be initiated.

2.4.3 Resolution of Analytical System Errors

Errors reported by the laboratories are reported, and a sample disposition record is initiated in accordance with Permittee procedures. This process is used to document analytical errors and establish resolution with the Project Manager. In addition, the Permittee QA Engineer receives reports providing summaries and statistics of the analytical errors.

2.4.4 Data Validation

The format and requirements for data validation activities are based upon the most current version of USEPA-540-R-08-01, *National Functional Guidelines for Superfund Organic Methods Data Review* (OSWER 9240.1-48), and USEPA-540-R-10-011, *National Functional Guidelines for Inorganic Superfund Data Review* (OSWER 9240.1-51). Performance of data validation activities, typically by a party independent of the data collector, data generator, and data user is arranged. Third party data validation reports are reviewed for completeness and contractual compliance and also by Project QA personnel. A total of 5 percent of the results will undergo Level C validation, as defined by the validation guidelines.

2.4.5 Data Quality Assessment

The DQA process compares completed field activities to those in corresponding documents and provides an evaluation of the resulting data. The purpose of the DQA is to determine whether quantitative data are of the correct type and are of adequate quality and quantity to meet the project data quality objectives. The assessment will be consistent with the DQA process in EPA/240/B-06/002, *Data Quality Assessment: A Reviewer's Guide*, and EPA/240/B-06/003, *Data Quality Assessment: Statistical Methods for Practitioners*.

3 Field Sampling Plan

The FSP provides a discussion of the project sampling and analytical requirements, which includes defining the number and location of samples, sampling methods, and analyses that will be performed, overall sampling objectives, and a discussion of waste management.

3.1 Site Background and Objectives

Site background information is contained in Chapter 1. The target analytes are presented in Table 1-1. The objective of the FSP is to identify project sampling and analysis activities clearly. The FSP uses the sampling design identified during the systematic planning process and identifies sampling locations, the total number of samples to be collected and the analyses to be performed.

3.2 Sampling Design

The sampling design consists of liquid grab samples taken from the rinsate collected during the decontamination performed as part of the closure verification activities described in the 277-T Building closure plan.

3.3 Sample Location and Frequency

Table 3-1 provides the sample locations, frequencies, and sampling methods to be used. Grab samples of the rinsate will be collected using a composite liquid waste sampler, liquid grab sampler, or similar device.

3.4 Sampling Methods

To ensure sample and data usability, sampling associated with this SAP will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling. The Project Manager and contractor management are responsible for ensuring that all field procedures are followed completely and that field sampling personnel are adequately trained to perform sampling activities.

Grab sample matrix will consist of containerized rinsate liquid collected in pre-cleaned sample containers. To ensure sample and data usability, sampling will be performed in accordance with established sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Field sampling shall comply with HASQARD (DOE/RL-96-68), Volumes 1 and 2.

Sample preservation, container, and holding time requirements are specified in Table 3-2 for liquid samples. These requirements are in accordance with the analytical method specified. The final container type and volumes will be identified on the SAF and chain-of-custody form. This monitoring plan defines a "sample" as a filled sample bottle for starting the clock for holding-time restrictions.

Table 3-1. Sample Locations, Frequencies, and Sampling Methods

Sampling Objectives	Sample Matrix	Sample Locations	Number of Samples	Number of Quality Assurance Samples	Sampling Methods	Sampling Frequency
Decision unit	Liquid	Grab samples	One sample per container of rinsate	One each of the following samples: full trip blank, field transfer blank, equipment rinsate blank, and field duplicate.	Samples will be taken using a composite liquid waste sampler, liquid grab sampler, or similar device.	Each container will be sampled one time.

Table 3-2. Sample Preservation, Container, and Holding Time for Liquid Samples

Method	Analysis/Analytes	Preservation Requirement	Holding Time	Bottle Type	Minimum Sample Size
EPA 6010	Metals	HNO_3 to pH<2	6 months	G/P	500 mL
EPA 7470	Mercury	HNO_3 to pH<2	28 days	G	500 mL
EPA 8015	Volatile organic analytes	None	14/40 days	G	3 x 40 mL
EPA 8082	Polychlorinated biphenyl	None	None	aG	1000 mL
EPA 8260	Volatile organic analytes	HCl or H_2SO_4 to pH<2	14 days	aG	3 × 40 mL
EPA 8270	Semivolatile organic compound	Cool ~4°C	7/40 days	aG	1000 mL
EPA 200.8	Metals by ICP/MS	HNO_3 to pH<2	6 months	G/P	500 mL

Note:

For four-digit EPA methods, see SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B.*

14/40 days = 14 days from sample collection to extraction; 40 days from extraction to analysis

aG = amber glass
G = glass
H_2SO_4= Sulfuric acid
HCl = Hydrochloric acid
HNO_3= Nitric acid
ICP/MS = inductively coupled plasma/mass spectrometry
P = plastic

3.4.1 Decontamination of Sampling Equipment

To prevent potential contamination of the samples, care should be taken to use decontaminated equipment for each sampling activity.

3.5 Sample Handling

A sampling and data tracking database (e.g., HEIS) is used to track the samples from the point of collection through the laboratory analysis process. Samplers should note any anomaly with a sample (e.g., sample appears unusual) and inform the Project Manager.

Laboratory analytical results are entered and maintained in the HEIS database. HEIS sample numbers are issued to the sampling organization for the project. Each sample is identified and labeled with a unique HEIS sample number.

3.5.1 Packaging

Level I EPA pre-cleaned sample containers will be used for liquid samples collected for chemical analysis. Container sizes may vary depending on laboratory-specific volumes/requirements for meeting analytical detection limits. Preliminary container types and volumes are identified in Table 3-2.

3.5.2 Container Labeling

The sample locations, depths, and corresponding HEIS numbers are documented in the sampler's field logbook. Except for VOA samples, a custody seal (i.e., evidence tape) will be affixed to the lid of each sample container and/or sample collection package in such a way as to indicate potential tampering. The custody seal will be inscribed with the sampler's initials and date. Custody tape is not applied directly to VOA sample containers based on the potential for affecting analyte results and/or fouling of laboratory equipment. Custody seals and any other required labels/documentation can be fixed to the exterior of a plastic bag holding the VOA vials in such a manner that prevents potential tampering.

Each sample container will be labeled with the following information on firmly affixed, water-resistant labels:

- SAF number
- HEIS number
- Sample collection date and time
- Sampler identification
- Analysis required
- Preservation method (if applicable)
- Chain-of-custody identification number

In addition, sample records must include the following:

- Sample location
- Matrix (e.g., water or soil)

3.5.3 Sample Custody

Sample custody will be maintained in accordance with existing Hanford Site protocols to ensure the maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols will be followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity is maintained. A chain-of-custody record is initiated in the field at the time of sampling and will accompany each set of samples shipped to any laboratory.

Shipping requirements will determine how sample shipping containers are prepared for shipment. The analyses requested for each sample will be indicated on the accompanying chain-of-custody form. Each time the responsibility changes for the custody of the sample, the new and previous custodians will sign the record and note the date and time.

The following information is required on a completed chain-of-custody form:

- Project name

- Signature of sampler
- Unique sample number
- Date and time of collection
- Matrix
- Preservatives
- Signatures of individuals involved in sample transfer
- Requested analyses (or reference thereto)

3.5.4 Sample Transportation

All packaging and transportation instructions will be in compliance with the applicable transportation regulations, DOE requirements, and contactor requirements. Regulations for classifying, describing, packaging, marking, labeling, and transporting hazardous materials, hazardous substances, and hazardous waste are mandated by the U.S. Department of Transportation (DOT) as described in 49 CFR 171, "Transportation," "General Information, Regulations, and Definitions," through 49 CFR 177, "Transportation," "Carriage By Public Highway." Carrier specific requirements should also be considered when preparing sample shipments conveyed by air freight providers.

Samples containing hazardous constituents shall be considered hazardous material in transportation and transported according to 49 CFR 173, "Transportation," "Shippers – General Requirements for Shipments and Packagings." Samples shall be screened, or relevant historical data shall be used, to determine if these values are exceeded. When screening or historical data indicate that samples are radioactive, they shall be properly classified, described, packaged, marked, labeled, and transported according to DOT requirements.

3.5.5 Corrective Actions and Deviations for Sampling Activities

The Project Manager, FWS, or designee must document deviations from procedures or other issues pertaining to sample collection, chain-of-custody, target analytes, sample transport, or noncompliance. Examples of deviations include samples not collected because of field conditions, changes in sample locations because of physical obstructions, or additions of sample depths.

As appropriate, such deviations or problems will be documented in the field logbook or on nonconformance report forms in accordance with internal corrective action procedures. The Project Manager, FWS, or designee will be responsible for communicating field corrective action requirements and for ensuring that immediate corrective actions are applied to sampling activities.

Changes in sample locations not affecting the data needs will require notification and approval of the Project Manager. Changes to sample locations affecting the data needs will require concurrence from DOE-RL and the lead regulatory agency. Changes to the SAP will be documented, as noted in Section 2.1.3.

3.6 Documentation of field activities

Logbooks or data forms are required for field activities. Requirements for the logbook are provided in Section 2.1.4. Data forms may be used to collect field information; however, the data forms must follow the same requirements as those for logbooks. The data forms must be referenced in the logbooks. A summary of information to be recorded in logbooks is as follows:

- Purpose of activity
- Day, date, time, and weather conditions
- Names, titles, and organizations of personnel present

- Deviations from the QAPjP or procedures
- All site activities, including field tests
- Materials quality documentation (e.g., certifications)
- Details of samples collected (e.g., preparation, splits, duplicates, matrix spikes, and blanks)
- Location and types of samples
- Chain-of-custody details and variances relating to chain-of-custody
- Field measurements
- Field calibrations and surveys, and equipment identification numbers, as applicable
- Equipment decontaminated, number of decontaminations, and variations to any decontamination procedures
- Equipment failures or breakdowns, and descriptions of any corrective actions

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4 Management of Waste

All waste generated during sampling activities will be managed in accordance with applicable regulations.

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5 Health and Safety

Field operations will be performed in accordance with health and safety requirements and appropriate project requirements. The project's site-specific health and safety plan will be followed. Work control documents will be prepared to control site operations further. Safety documentation will include an activity hazard analysis.

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6 References

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Distribution

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1

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Attachment B

T-Plant 277-T Building RCRA Records Review and Facility Visual Inspection Supporting Documentation

1

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T Plant Complex 277-T Building Storage Area

Purpose:

A visual inspection of the T Plant Complex 277-T Building Storage Area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface, and to denote any remaining waste related items.

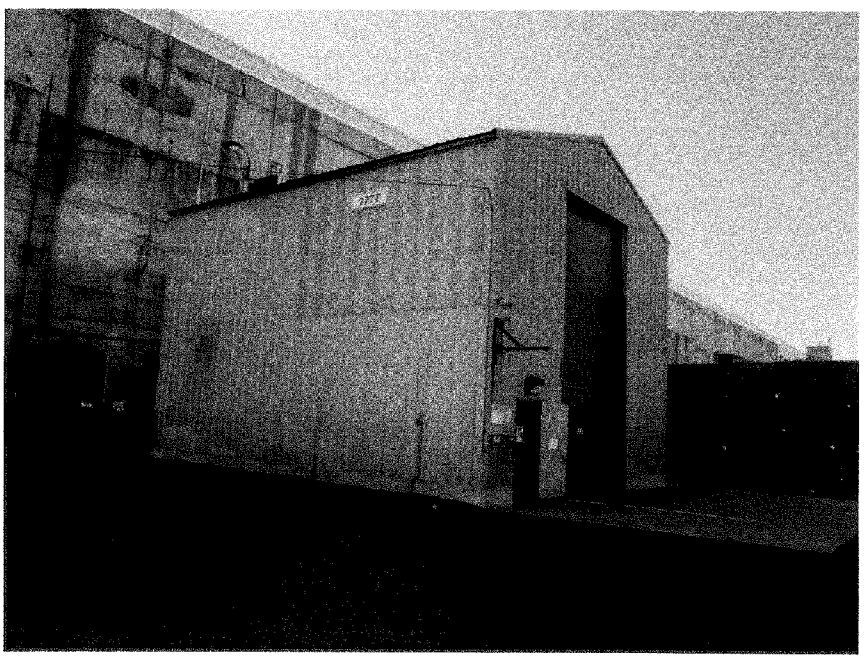
The inspection was performed on September 18, 2013 by David Richards Manager, T Plant (CHPRC).

Results:

Concrete floor inside the 277-T building shows stains from rusting equipment and motor vehicle oil/fluid.

No waste is being stored in this building. Building is currently used to house equipment and supplies: Inorganic absorbents, Perlite, mock up drums for NDA testing, new drum venting assemblies, new spill pallets, fans, vacuums, totes, ducting, new drum lids, test weights, box liners, drum dolly's, carts, and shielding etc.

Area was photographed.



T Plant Complex 277-T Building Storage Area

Signature/date:

David E. Richards 9-26-13

T-Plant Dangerous Waste Inspection Checklist and Operations Logbook Review

Title of Forms:	See attached table and reviewer comments.
Date of Review:	October 8, 2013
Reviewer's Name:	Sarah Horn
Waste Management Units:	221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, 2706-TB Tank System (includes 2706-TB Tank System enclosure building)
Time Frame of Review:	January 1985 through June 2013
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES ___ NO _X_
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Reviewer's Signature and Date:	10/8/2013

Instructions:

Review Weekly Waste Inspection checklists and operations logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Reviewer Comments:

The initial records review was completed in August 2013 which included applicable daily and weekly inspection checklists, and operations logbooks for the period of January 1985 through June 2013 and is detailed in Table 1 below. The August 2013 records review focused on the following dangerous waste management areas scheduled for closure:

- 271-T Cage
- 211-T Pad
- 221-T Sand Filter Pad
- 277-T Outdoor Storage Area
- 221-T R5 Waste Storage Area

The current review included the items of concern identified during the initial August 2013 records review but focused on the following areas:

- 221-T Railroad Cut
- 277-T Building
- 221-T Pipe Gallery Storage
- 221-T Tank System
- 2706-TB Tank System (including enclosure building)

No items of concern were noted for the 221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, or the 2706-TB Tank System. Below is a table that summarizes the original records review completed in August 2013.

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	06/07/1991	12/20/1999	No

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

Addendum H – SWOC Closure Units

H2 T-Plant Complex

H2.J Appendix J – 221-T Pipe Gallery Storage

J1 Introduction

This appendix discusses closure activities for the T-Plant Complex Operating Unit Group (OUG) (T-Plant Complex) 221-T Pipe Gallery Storage dangerous waste management unit (DWMU), hereinafter referred to as the 221-T Pipe Gallery Storage. The Permittee has concluded that the 221-T Pipe Gallery Storage will no longer be utilized for future receipts of dangerous waste and will coordinate closure of the DWMU with final closure of the T-Plant Complex OUG. Closure will be performed in accordance with the included schedule.

This closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure. Amendments to this closure plan will be submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

J1.1 Unit Description

The 221-T Pipe Gallery Storage is located in the 221-T Building. The 221-T Pipe Gallery Storage, installed between 1995 and 1996, was used to manage materials for recycle and dangerous waste in a <90-day storage or satellite accumulation area (SAA) until December 2012.

The 221-T Pipe Gallery Storage area is a coated concrete floor, 9 m (30 ft) long by 2 m (7 ft) wide. The 221-T Pipe Gallery Storage is defined on one side by a concrete wall of the pipe gallery and on the remaining three sides by metal chainlink cage material that includes a sliding gate (Figure J-1).

The 221-T Pipe Gallery Storage does not currently manage dangerous waste. Future storage of dangerous, mixed, or *Toxic Substances Control Act of 1976* (TSCA)-polychlorinated biphenyl (PCB) waste is not authorized within the 221-T Pipe Gallery Storage DWMU. The 221-T Pipe Gallery Storage is located inside of the 221-T Building, which is part of the Canyon Disposition Initiative (CDI). In addition, the T-Plant Complex is included in the Tri-Party Agreement (TPA) (*Hanford Federal Facility Agreement and Consent Order* [Ecology et al., 1989a]), Action Plan (*Hanford Federal Facility Agreement and Consent Order Action Plan* [Ecology et al., 1989b]), Section 6, *Treatment, Storage, and Disposal Unit Process*, and Section 8, *Facility Disposition Process*).

> TPA Action Plan Section 6.1:
> *Some of the TSD groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility, and therefore closed in accordance with the process defined in Section 8.0. These units are those that have physical closure actions that need to be done in conjunction with the physical disposition actions in the facility (e.g. removal of structural components).*

The strategy for the entire T-Plant Complex is a coordinated closure for both *Resource Conservation and Recovery Act of 1976* (RCRA) closing units and CDI activities. The 221-T Pipe Gallery Storage is in a safe configuration for an extended closure period.

J1.1.1 Maximum Waste Inventory

No permitted RCRA-regulated waste container storage at the 221-T Pipe Gallery Storage was identified during the T-Plant operating records review. Therefore, no maximum waste inventory is presented. Weekly inspection records of <90-day storage areas and SAAs identified that the 221-T Pipe Gallery Storage managed non-dangerous, dangerous, mixed, and TSCA-PCB waste.

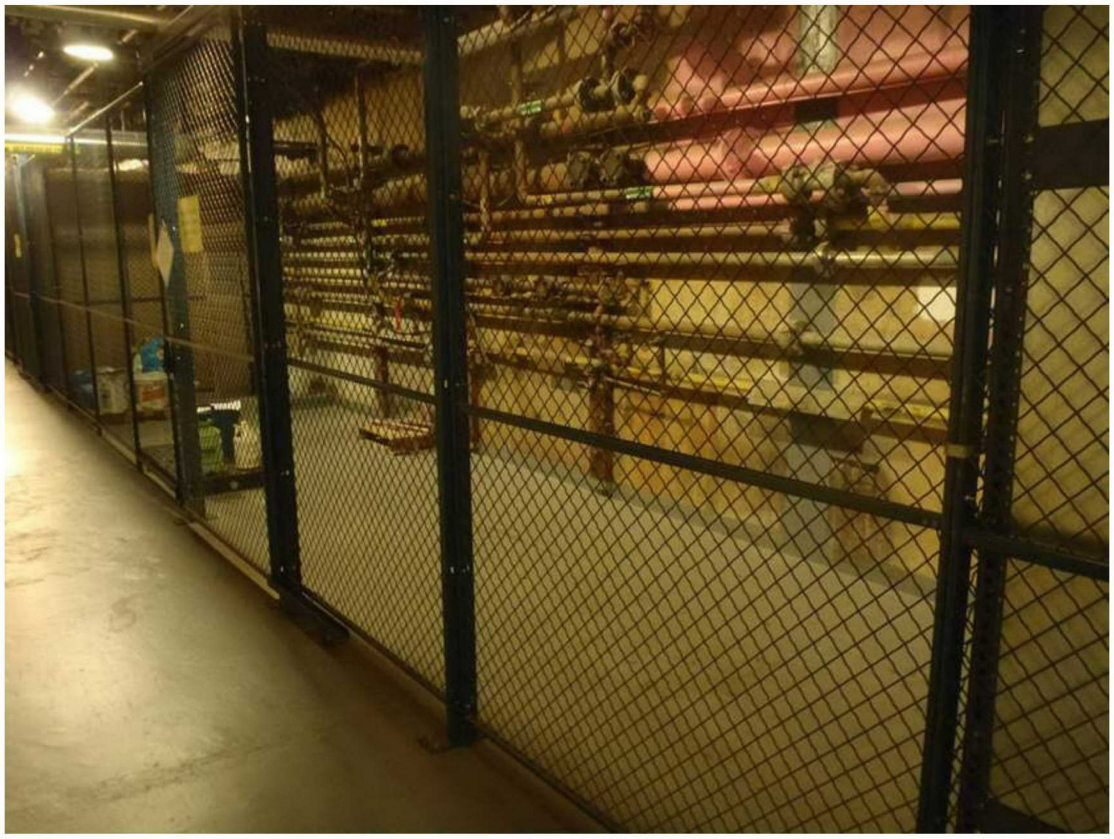


Figure J-1. T-Plant Complex 221-T Pipe Gallery Storage Area

J2 Closure Performance Standards

Closure performance standards for the 221-T Pipe Gallery Storage will be based on WAC 173-303-610(2), which requires closure of the facility in a manner that accomplishes the following objectives:

- Minimizes the need for further maintenance
- Controls, minimizes, or eliminates, to the extent necessary, to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere
- Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

Waste residue is not anticipated to be removed from the 221-T Pipe Gallery Storage; therefore, final closure activities will occur under the T-Plant CDI activities. Closure performance standards for the

221-T Pipe Gallery Storage will include the requirements outlined in WAC 173-303-610(b) concerning post-closure care for units where waste will remain after closure.

These performance standards are addressed in Sections J2.1 and J3.13 of this closure plan.

J2.1 Clean Closure Levels

The 221-T Pipe Gallery Storage will be closed to the performance standards identified in WAC 173-303-610 in coordination with T-Plant Complex CDI activities. The DWMU will close as a landfill in accordance with the requirements outlined in WAC 173-303-645(6), "Dangerous Waste Regulations," "Releases from Regulated Units," and requires post-closure care. The location of the 221-T Pipe Gallery Storage inside of the 221-T Canyon Building and any post-closure care coordinated with the T-Plant Complex CDI activities will control, minimize, or eliminate potential release of any dangerous waste constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or atmosphere. Final closure of the 221-T Pipe Gallery Storage will be achieved in conjunction with T-Plant Complex CDI activities.

J3 Closure Activities

As a waste management unit, closure determination for the 221-T Pipe Gallery Storage will be based on a review of the operational history, operating records (including any dangerous and mixed waste releases), waste management records, and visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, the 221-T Pipe Gallery Storage is concluded to be in a safe configuration and will be closed under RCRA in conjunction with T-Plant Complex CDI activities.

Due to the extended closure period that will be required to complete closure activities, closure activities have been divided into near-term and extended period activities.

The following near-term closure activities are required to achieve and verify clean closure:

- Remove all dangerous waste inventory (completed; see Section J3.2).
- Review waste container storage, operating, and inspection records for periods of dangerous, mixed, and TSCA-PCB waste storage (completed; see Section J3.3).
- Perform a visual inspection of the concrete floor surface (completed; see Section J3.3).
- Add the 221-T Pipe Gallery Storage to the Waste Information Data System (WIDS) database (see Section J3.8).

Extended closure activities include the following:

- Records from August 2010 through December 2012 will be reviewed.
- The 221-T Pipe Gallery Storage will remain in place, and it will be managed under the final T-Plant Complex CDI activities.
- The 221-T Pipe Gallery Storage will be filled with grout in coordination with the T-Plant Complex CDI activities.
- A cover will be placed in coordination with T-Plant Complex CDI activities.

J3.1 Health and Safety Requirements

Closure will be performed in a manner to ensure safety of personnel and the surrounding environment. Qualified personnel will perform any necessary closure activities in compliance with established safety and environmental procedures. Personnel will be equipped with appropriate personal protective equipment. Qualified personnel will be trained in applicable safety and environmental procedures in accordance with the Solid Waste Operations Complex (SWOC) T-Plant, Addendum G, "Personnel Training," and they will have appropriate training and experience in sampling activities. Field operations will be performed in accordance with applicable health and safety requirements.

The Permittees have instituted training or qualification programs to meet training requirements imposed by regulations, U.S. Department of Energy orders, and national standards such as those published by the American National Standards Institute/American Society of Mechanical Engineers. For example, the environmental, safety, and health training program provides workers with the knowledge and skills necessary to execute assigned duties safely. Field personnel typically have completed the following training before starting work:

- Occupational Safety and Health Administration 40-Hour Hazardous Waste Worker Training
- 8-Hour Hazardous Waste Worker Refresher Training (as required)
- Hanford General Employee Training

Project-specific safety training, addressed explicitly to the project and the day's activity, will include the following:

- Training will provide the knowledge and skills needed for sampling personnel to perform work safely and in accordance with quality assurance requirements.
- Samplers are required to be qualified in the type of sampling being performed in the field.

In addition, pre-job briefings will be performed to evaluate activities and associated hazards by considering the following factors:

- Objective of the activities
- Individual tasks to be performed
- Hazards associated with the planned tasks
- Environment in which the job will be performed
- Facility where the job will be performed
- Equipment and material required
- Safety protocols applicable to the job
- Training requirements for individuals assigned to perform the work
- Level of management control
- Proximity of emergency contacts

Training records are maintained for each employee in an electronic training record database. The Permittees training organization maintains the training records system.

J3.2 Removal of Wastes and Waste Residues

The 221-T Pipe Gallery Storage does not currently manage dangerous, mixed, or TSCA-PCB waste, and removal of waste residues is not anticipated. The 221-T Pipe Gallery Storage serves as an equipment and material storage area. Waste management records indicate that dangerous waste has been previously managed in the 221-T Pipe Gallery Storage under <90-day or SAA storage. The 221-T Pipe Gallery Storage will no longer be used for dangerous, mixed, or TSCA-PCB waste management; however, the 221-T Pipe Gallery Storage will be used for equipment and materials storage. The 221-T Pipe Gallery Storage is in a safe configuration and will be tracked in WIDS until final closure in coordination with T-Plant Complex CDI activities.

J3.3 221-T Pipe Gallery Storage RCRA Operating Records Review and Visual Inspection

To support development of this closure plan, T-Plant Complex OUG operating records were reviewed (Table J-1). The records review included the following RCRA operating record documents: facility operating logbooks (including spill reports) and weekly inspections. The RCRA operating record documents that were reviewed focused on the period during active dangerous, mixed, and TSCA-PCB waste management for the T-Plant Complex OUG SWOC Outdoor Container Storage Areas addressed under the T-Plant Complex OUG SWOC Outdoor Container Storage Areas closure plans. The records review included the time period from October 1985 through July 2010. The records review indicated no releases of dangerous waste in the 221-T Pipe Gallery Storage area. A records review for the time period of August 2010 through December 2012 will be performed prior to final closure of the 221-T Pipe Gallery Storage.

A visual inspection was performed on September 18, 2013 to identify any dangerous waste-related staining in the 221-T Pipe Gallery Storage. No waste-related staining was identified during the visual inspection.

Supporting documentation for the RCRA operating records review summary and visual inspection is included in Attachment A.

J3.4 Unit Components, Parts, and Ancillary Equipment

The 221-T Pipe Gallery Storage will remain in place pending final disposition under the CDI activities and RCRA corrective actions associated with the T-Plant Complex OUG.

J3.5 Inspection of Units Before Decontamination

Decontamination activities are not planned for the 221-T Pipe Gallery Storage.

J3.6 Decontamination

Decontamination activities are not planned for the 221-T Pipe Gallery Storage.

J3.7 Identifying and Managing Contaminated Environmental Media

The 221-T Pipe Gallery Storage is located inside the 221-T Canyon Building. Contaminated environmental media are not anticipated.

J3.8 Addition of 221-T Pipe Gallery Storage to the WIDS Database

As part of the near-term closure activities, the 221-T Pipe Gallery Storage will be added to the WIDS database. Addition of the 221-T Pipe Gallery Storage to the WIDS database will help ensure that the 221-T Pipe Gallery Storage is monitored and controlled until the extended closure activities are completed and that no unauthorized activity takes place at the 221-T Pipe Gallery Storage (i.e., waste storage).

J3.9 Confirming Closure

The 221-T Piping Gallery Storage will be closed in conjunction with T-Plant CDI activities. All dangerous or mixed waste has been removed using the practices commonly employed to remove waste from the storage area. The 221-T Pipe Gallery Storage is located inside the 221-T Canyon Building; therefore, any potential releases of dangerous or mixed waste will be contained within the 221-T Canyon Building. Post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated. Post-closure care of the 221-T Pipe Gallery Storage will be identified for the 221-T Canyon Building during the T-Plant Complex CDI.

Both the records review and visual inspection are detailed in Section J3.3 and documented in Attachment A.

All dangerous waste has been previously removed, and there have been no documented spills or releases of dangerous waste. Therefore, post-closure escape of dangerous waste and any associated dangerous waste constituents, leachate, contaminated runoff, and dangerous waste decomposition products to the ground, surface water, groundwater, or air is not anticipated.

During CDI activities for the T-Plant Complex OUG, final clean closure will be confirmed for the 221-T Pipe Gallery Storage. Sampling and analysis of the 221-T Pipe Gallery Storage concrete flooring will occur to confirm that cleanup standards for soil have been achieved.

J3.10 Sampling and Analysis and Constituents to Be Analyzed

J3.10.1 Sampling and Analysis Plan

Sampling and analysis of the 221-T Pipe Gallery Storage waste residue, if deemed necessary, will be identified and performed in conjunction with the T-Plant Complex CDI activities. As part of the CDI, a data quality objectives (DQO) process will be conducted to determine any data needs necessary to support the final disposition of the 221-T Canyon Building. The storage area document review contains waste information that will be used during the DQO process.

Table J-1. Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	221-T Pipe Gallery Storage	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	221-T Pipe Gallery Storage	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T Pipe Gallery Storage	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	221-T Pipe Gallery Storage	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	221-T Pipe Gallery Storage	06/07/1991	12/20/1999	No
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	221-T Pipe Gallery Storage	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	221-T Pipe Gallery Storage	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	221-T Pipe Gallery Storage	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

J3.11 Role of the Independent Qualified Registered Professional Engineer

An independent, qualified, registered, professional engineer will be retained to provide certification of the closure and sign the closure certification as required by WAC 173-303-610(6). The resulting engineering report will be retained in the operating record.

J3.12 Closure Certification

In accordance with WAC 173-303-610(6), within 60 days of completion the 221-T Pipe Gallery Storage DWMU closure, certification that the DWMU has been closed in accordance with the specifications in this closure plan will be submitted to the Ecology by registered mail. The certification will be signed by the owner or operator and by an independent, qualified, registered, professional engineer.

J3.13 Conditions that will be Achieved when Closure is Complete

Upon completion of the near-term closure activities, the 221-T Pipe Gallery Storage will remain in an "as-is" state with the concrete flooring and metal chainlink cage material remaining in place. The 221-T Pipe Gallery Storage will continue to be used for equipment and material storage in support of the 221-T Canyon Building activities. The 221-T Pipe Gallery Storage will undergo final disposition under the CDI activities associated with the T-Plant Complex OUG. A permit modification request will be submitted after final closure to remove the 221-T Pipe Gallery Storage DWMU from the sitewide permit active DWMUs.

J4 Closure Schedule and Time Frame

Several near-term closure activities have been completed and documented in this closure plan. Addition of the 221-T Pipe Gallery Storage to the WIDS database will be completed within 180 days of closure plan approval. This DWMU is located within the 221-T Canyon Building, a large operating facility that currently serves as both waste treatment and storage at Hanford for multiple waste streams. The TPA Action Plan (Ecology et al., 1989b) identified that some treatment, storage, and disposal (TSD) groups/units (primarily those located within large processing facilities) will be integrated with the disposition of the facility. Those units have physical closure actions that need to be complete in conjunction with the physical disposition actions in the facility (e.g., removal of structural components).

Ecology Publication 94-111, *Guidance for Clean Closure of Dangerous Waste Units and Facilities* (Section 11.0, Coordination of Closure and Corrective Action or Other Cleanup Activities), allows for the use of alternative requirements when coordinating RCRA closure activities with other cleanup activities at a facility. An extended closure period is required for the 221-T Pipe Gallery Storage to coordinate closure activities with the T-Plant Complex closure. The extended closure activities will occur under the CDI activities associated with the T-Plant Complex OUG. T-Plant Complex OUG cleanup actions are included in the Central Plateau Cleanup Actions outlined in the annual Hanford Lifecycle Scope, Schedule, and Cost Report required by TPA (Ecology et al., 1989a) Milestone M-036-01.

Approval of this closure plan will grant the Hanford Site an extended closure period for completion of closure activities, in accordance with WAC 173-303-610(4)(c), and a separate extension request will not be filed (Figure J-2).

J5 Closure Costs

An annual report outlining updated projections of anticipated closure costs for the Hanford Facility TSD units having final status is not required per Permit Condition II.H.

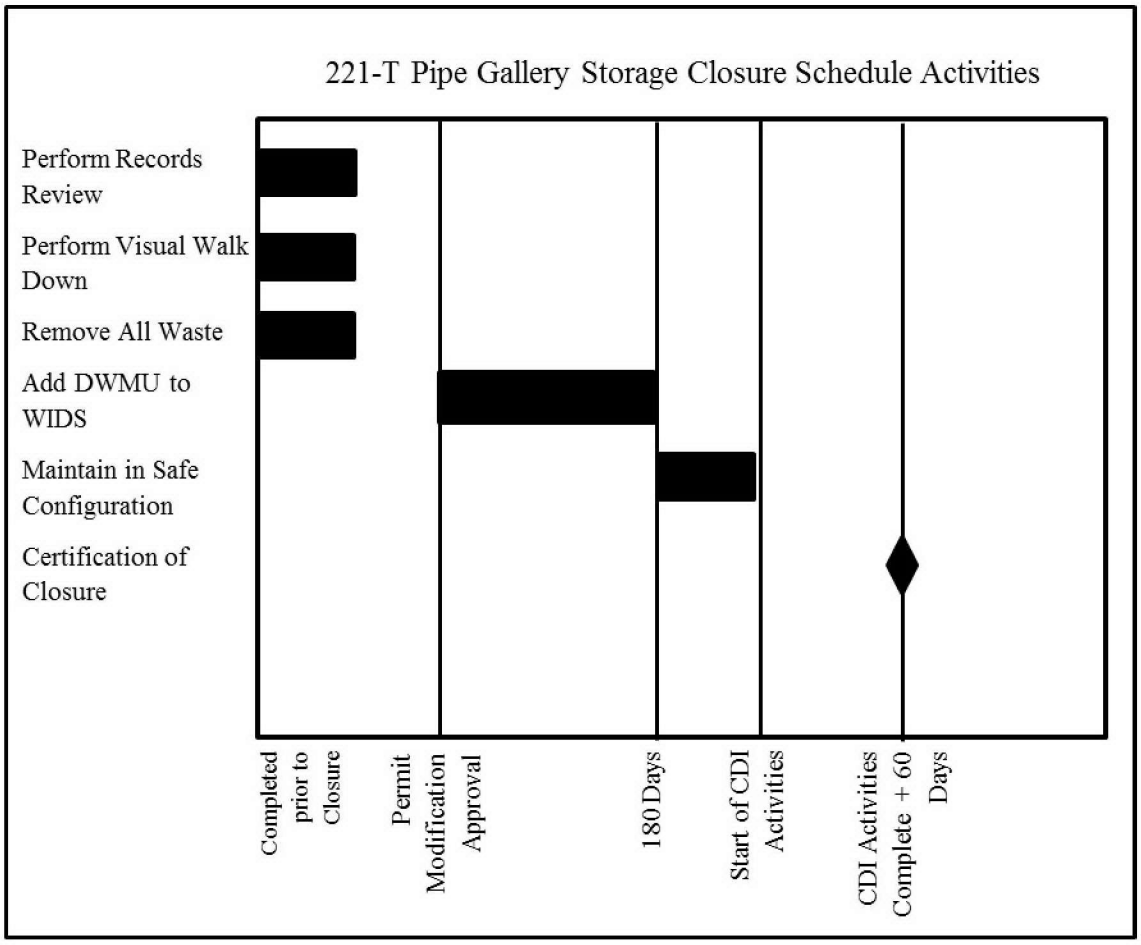


Figure J-2. 221-T Pipe Gallery Storage Closure Schedule Activities

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Attachment A

T-Plant 221-T Pipe Gallery Storage RCRA Records Review and Visual Inspection Supporting Documentation

1

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T Plant Complex 221-T Pipe Gallery Storage Area

Purpose:

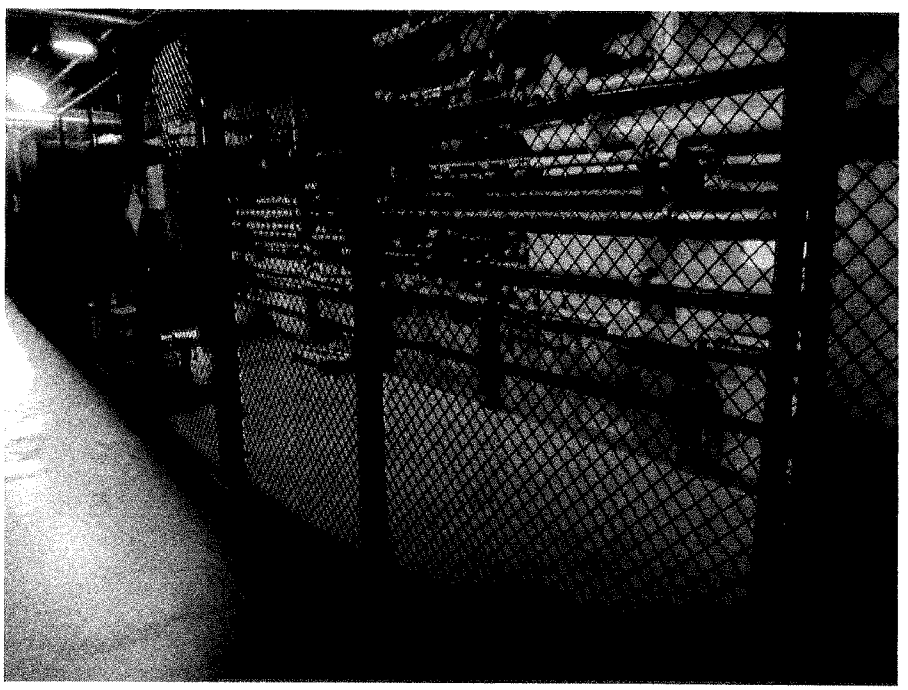
A visual inspection of the T Plant Complex 221-T Pipe Gallery Storage Area was performed to determine if there is any evidence of spills and/or leaks from waste packages containing dangerous waste that was stored at this location from past operations. The inspection was to identify and document by photographing any waste related staining of the storage area surface, and to denote any remaining waste related items.

The inspection was performed on September 18, 2013 by David Richards Manager, T Plant (CHPRC).

Results:

Concrete floor is sealed with paint no evidence of cracking or peeling. Painted floor surface shows no evidence of staining or waste spills. Area contains old process piping along the East wall. Markings on these pipes indicated they are abandoned, no evidence of leakage. No waste is being stored in this area. Area is currently storing spill cleanup material/product; kitty litter and soil cement.

Area was photographed.



T Plant Complex 221-T Pipe Gallery Storage Area

Signature/date:

David E. Richards

T-Plant Dangerous Waste Inspection Checklist and Operations Logbook Review

Title of Forms:	See attached table and reviewer comments.
Date of Review:	October 8, 2013
Reviewer's Name:	Sarah Horn
Waste Management Units:	221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, 2706-TB Tank System (includes 2706-TB Tank System enclosure building)
Time Frame of Review:	January 1985 through June 2013
Items of Concern Noted If "YES", complete entire checklist. If "NO", skip to Reviewer's signature and date.	YES ___ NO _X_
Items of Concerns: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Dates of Corrective Actions: Attach copies of Weekly Inspection sheets noting concern.	_____ _____ _____ _____
Reviewer's Signature and Date:	Sarah Horn 10/8/2013

Instructions:
Review Weekly Waste Inspection checklists and operations logbooks for any references to unplanned spills, releases or discharges associated with dangerous waste containers. Anomalies that would not affect closure of the unit such as missing labels, open containers, or dented containers, do not need to be documented.

If items of concern are noted, check "YES" and complete the entire checklist. If no items of concern are noted, check "NO" and skip to the signature and date field. Note that if no items of concern are noted for an extended period of time, the "Time Frame of Weekly Inspections" can be January 1, 20xx to December 31, 20xx or even several years if no items of concern are noted.

If unplanned spills, releases or discharges are referenced on the inspection checklist, document the item of concern as "spill", "stain", "ruptured container", etc. Also note the date of the corrective action.

Attach copies of weekly waste inspection checklists noting the items of concern and corrective actions.

Complete all review fields as applicable.

Sign and date form and deliver to Stephanie Johansen.

Reviewer Comments:

The initial records review was completed in August 2013 which included applicable daily and weekly inspection checklists, and operations logbooks for the period of January 1985 through June 2013 and is detailed in Table 1 below. The August 2013 records review focused on the following dangerous waste management areas scheduled for closure:

- 271-T Cage
- 211-T Pad
- 221-T Sand Filter Pad
- 277-T Outdoor Storage Area
- 221-T R5 Waste Storage Area

The current review included the items of concern identified during the initial August 2013 records review but focused on the following areas:

- 221-T Railroad Cut
- 277-T Building
- 221-T Pipe Gallery Storage
- 221-T Tank System
- 2706-TB Tank System (including enclosure building)

No items of concern were noted for the 221-T Railroad Cut, 277-T Building, 221-T Pipe Gallery Storage, 221-T Tank System, or the 2706-TB Tank System. Below is a table that summarizes the original records review completed in August 2013.

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
T-Plant Daily Operating Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/02/1985	06/22/2010	No
T-Plant Operation Logbook	Logbook	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	07/27/2010	04/07/2011	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	08/29/2005	12/01/2005	No
Waste Management Area Daily Inspection Data Sheet	Daily Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/01/2007	04/22/2013	No
Weekly Surveillance Log, <90-day Storage Areas and Satellite Accumulation Areas	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	06/07/1991	12/20/1999	No

Table 1. T-Plant Operating Records Review Summary

Document Title	Document Type	Facility	Start Date	End Date	Items of Concern Noted
Treatment Facility Waste Management Weekly Inspection Log Sheet Treatment Facility Waste Management Area Daily Inspection Log Sheet Treatment Facility Waste Management Area Weekly Inspection Data Sheet Treatment Facility Waste Management Area Daily Inspection Data Sheet Weekly Waste Area Surveillance T-Plant Daily Waste Management Area Inspection Data Sheet	Weekly and Daily Dangerous Waste Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	01/2000 01/2005	12/2002 12/2007	No
Waste Management Area Daily Inspection Report Weekly Waste Area Surveillance	Weekly and Daily Inspections	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	2003	2004	Yes*
T-Plant Weekly Waste Management Area Inspection Data Sheet	Weekly Inspection	211-T Pad; 277-T Outdoor Storage Area; 271-T Cage; 221-T R5 Waste Storage Area; 221-T Sand Filter Pad	10/18/2007	06/12/2013	No

* A container of Insulkote was leaking. Product was determined to be non-regulated material.

Addendum I

Inspection Plans

SWOC Closure Units

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Addendum I1

Inspection Requirements

LLBG Trenches 31-34-94

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Addendum I1

Inspection Requirements

I1.1 Inspection Plan

This inspection plan describes the method(s) and schedule for inspection of the Solid Waste Operations Complex (SWOC) Low Level Burial Ground (LLBG) 31-34-94 Closure Units that are undergoing closure. For dangerous waste management units (DWMUs) undergoing closure where dangerous waste is still present, Table I1-1 of this inspection plan provides for continued inspection of waste containers for units where actions to remove the containers are proceeding until such a time as the dangerous waste containers can be moved to another treatment, storage, and disposal location. The inspections specified in Table I1-1 identify leaking containers, check for corroding or degrading containers, verifies proper labeling is on the containers and/or container covers, and checks the safety equipment and/or systems. These inspections ensure that situations do not exist that might cause or lead to the release of dangerous waste constituents to the environment or that might pose a threat to human health. Abnormal conditions identified by inspections must be corrected on a schedule that prevents hazards to personnel, the public, and the environment as determined by facility operations management. In addition to the requirements in Permit Condition II, the Permittees will ensure that these container storage areas are maintained in accordance with WAC 173-303-630(7), "Dangerous Waste Regulations," "Use and Management of Containers," and the requirements in the approved closure plan, that was submitted per WAC 173-303-610, "Dangerous Waste Regulations," "Closure and Post-Closure" requirements. The Permittees will ensure that inspections, at a minimum, meet the requirements of WAC 173-303-320(2), "Dangerous Waste Regulations," "General Inspection," and WAC 173-303-630(6). No LLBG 31-34-94 closure units have dangerous waste present and will, therefore, not undergo inspections using Table I1-1.

For DWMUs undergoing closure where dangerous waste is no longer present, Table I1-2 details the inspection requirements and frequency. The purpose of these inspections is to assess the DWMU closure areas where all dangerous waste containers have been removed and final closure activities are ongoing or may be deferred to coordinate with other cleanup activities. Inspection of these closing DWMUs, where no waste is present, is performed on an annual (calendar year) basis. This inspection assesses the unit for the presence of signage and ensures that there are no unusual conditions associated with the site. The LLBG Trench 31-34-94 closure unit that will undergo inspections using Table I1-2 is FS-1.

I1.1.1 General Inspection Requirements

The content and frequency of inspections are described in this section and Tables I1-1 and I1-2. The inspections are documented on inspection checklists. The schedule and inspection records are maintained in the Hanford Facility Operating Record applicable closure unit file and retained in accordance with Permit Condition II.I.

The inspections are performed by personnel qualified to inspect the DWMU closure areas. The Table I1-1 inspection checklists include items to be assessed during each inspection when dangerous waste is being managed at the location. A yes/no or a check mark/circle response is made for each listed item. A yes or check mark response means that the item is in compliance with the conditions stated on the checklist. Any problems identified during the inspection, as indicated by a no response or a circle on the checklist, are reported to facility operations management. When all dangerous waste has been removed from a closing DWMU, a final weekly inspection will be performed. Closing DWMUs with all dangerous waste removed will be inspected in accordance with the frequency identified in Table I1-2 for the conditions stated in the checklist.

I1.1.1.1 Types of Problems

The conditions of the following items are included in the LLBG 31-34-94 Closure Unit Table I1-1 inspections:

- Storage
- Container condition
- Labels on containers and/or covers
- Safety and emergency equipment
- Proper signage

The SWOC Closure Unit Table I1-2 annual inspection is focused on the following:

- Unusual conditions
- Proper signage

Discrepancies are noted in the additional information/comment section of the checklist. When completed, the inspector prints his/her name, signs, and dates the inspection checklist. The checklist is reviewed by Operations Management and the information is placed in the Hanford Facility Operating Record file. The completed inspection checklist is stored in accordance with Permit Condition II.I.

I1.1.1.2 Frequency of Inspections

In accordance with WAC 173-303-320, the inspection schedule, including the frequency of inspections, is identified in Table I1-1 and Table I1-2.

I1.1.2 Schedule for Remedial Action for Problems Revealed

Problems identified will be remediated in accordance with Permit Condition II.O.2.

I1.1.3 Specific Process Inspection Requirements

Tables I1-1 and I1-2 describe the specific process inspection requirements.

I1.1.3.1 Container Inspection

Table I1-1 identifies specific items and/or problems, to be noted during weekly inspections.

Table I1-1. WAC 173-303-320(2) Inspection Schedule for Closure Units Managing Dangerous Waste

Requirement Description	Frequency	Inspection
Container and container storage areas	Weekly	Check for container condition, aisle space, leaks, spills, and accumulated liquids.
Posted warning signs at each entrance to the facility	Weekly	Verify posted warning signs at each entrance to the Operating Unit Group are present, legible, and visible at 7.6 meters (25 feet).
Container labels (may be on protective container covers)	Weekly	Verify visibility, readability, and adequate identification of risks.
Spill response kits	Quarterly	Verify that equipment is present and functional.
Safety showers, eyewash stations, fire extinguishers	Monthly	Verify that equipment is present and functional.

Sources: WAC 173-303-320, "Dangerous Waste Regulations," "General Inspection."
WAC 173-303-630, "Dangerous Waste Regulations," "Use and Management of Containers."

Table I1-2. WAC 173-303-320(2) Inspection Schedule for Units Where Dangerous Waste Has Been Removed

Requirement Description	Frequency	Inspection
Perform DWMU surveillance	Annual	Verify posted warning signs at each entrance to the Operating Unit Group are present, legible, and visible at 7.6 meters (25 feet). Find no evidence of unusual conditions at the closing DWMU site.

Source: WAC 173-303-320, "Dangerous Waste Regulations," "General Inspection."

DWMU = dangerous waste management unit

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Addendum I2
Inspection Requirements
T-Plant Complex

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Addendum I2

Inspection Requirements

I2.1 Inspection Plan

This inspection plan describes the method(s) and schedule for inspection of the Solid Waste Operations Complex (SWOC) T-Plant areas that are undergoing closure. For dangerous waste management units (DWMUs) undergoing closure where dangerous waste is still present, Table I2-1 of this inspection plan provides for continued inspection of waste containers for units where actions to remove the containers are proceeding until such a time as the dangerous waste containers can be moved to another treatment, storage, and disposal location. The inspections specified in Table I2-1 identify leaking containers, check for corroding or degrading containers verifies proper labeling is on the containers and/or container covers, as applicable, and checks the safety equipment and/or systems. These inspections ensure that situations do not exist that might cause or lead to the release of dangerous waste constituents to the environment or that might pose a threat to human health. Abnormal conditions identified by inspections must be corrected on a schedule that prevents hazards to personnel, the public, and the environment as determined by facility operations management. In addition to the requirements in Permit Condition II, the Permittees will ensure that these container storage areas are maintained in accordance with WAC 173-303-630(7), "Dangerous Waste Regulations," "Use and Management of Containers," and the requirements in the approved closure plan, that was submitted per WAC 173-303-610, "Dangerous Waste Regulations," "Closure and Post-Closure" requirements. The Permittees will ensure that inspections, at a minimum, meet the requirements of WAC 173-303-320(2), "Dangerous Waste Regulations," "General Inspection," and WAC 173-303-630(6). Currently, one T-Plant closing DWMU, the 221-T Tank System, has mixed waste residue waste present and will undergo inspections using Table I2-1. The 221-T Tank System is an unclosed, non-operating tank system containing mixed waste residue and will be inspected annually. See the 221-T Tank System closure plan for further information about the tank system's current status and safe configuration. Due to ALARA considerations, the tanks are not accessible for visual inspection so the inspectors use the following: Monitoring and leak detection equipment, annunciator panels, and alarms.

No container storage units that currently store dangerous waste containers are undergoing closure at the T-Plant Complex. Additional units would be added via the permit modification process in accordance with WAC 173-303-830.

For DWMUs undergoing closure where dangerous waste is no longer present, Table I2-2 details the inspection requirements and frequency. The purpose of these inspections is to assess the DWMU closure areas where all dangerous waste containers have been removed, and final closure activities are ongoing or may be deferred to coordinate with other cleanup activities. Inspection of these closing DWMUs, where no waste is present, is performed on an annual (calendar year) basis. This inspection assesses the unit for the presence of signage and ensures that there are no unusual conditions associated with the site. One Tank System, the 2706-TB Tank System, is currently out of service, does not contain waste, and is blanked off to prevent the addition and discharge to the tanks. The 2706-TB Tank System will be inspected annually.

The T-Plant closure units that will undergo inspections using Table I2-2 are as follows:

- 211-T Pad
- 221-T-R5 waste storage area
- 221-T Pipe Gallery Storage
- 221-T Railroad Cut
- 221-T Sand Filter Pad
- 2706-TB Tank system
- 271-T Cage

- 277-T Building
- 277-T outdoor storage area

I2.1.1 General Inspection Requirements

The content and frequency of inspections are described in this section and Tables I2-1 and I2-2. The inspections are documented on inspection checklists. The schedule and inspection records are maintained in the Hanford Facility Operating Record applicable closure unit file and retained in accordance with Permit Condition II.I.

The inspections are performed by personnel qualified to inspect the DWMU closure areas. The Table I2-1 inspection checklists consist of a listing of items that are to be assessed during each inspection when dangerous waste is being managed at the location. A yes/no or a check mark/circle response is made for each listed item. A yes or check mark response means that the item is in compliance with the conditions stated on the checklist. Any problems identified during the inspection, as indicated by a no response or a circle on the checklist, are reported to the facility operations management. When all dangerous waste has been removed from a closing DWMU, a final weekly inspection will be performed. Closing DWMUs with all dangerous waste removed will be inspected in accordance with the frequency identified in Table I2-2 for the conditions stated in the checklist.

I2.1.1.1 Types of Problems

The conditions of the following items are included in the T Plant Closure Unit Table I2-1 inspections:

- Storage
- Container condition
- Labels on containers and/or covers
- Safety and emergency equipment
- Proper signage

The SWOC Closure Unit Table I2-2 annual inspection is focused on the following:

- Unusual conditions at the site
- Proper signage

Discrepancies are noted in the additional information/comment section of the checklist. When completed, the inspector prints his/her name, signs, and dates the inspection checklist. The checklist is reviewed by Operations Management and the information is placed in the Hanford Facility Operating Record file. The completed inspection checklist is stored in accordance with Permit Condition II.I.

I2.1.1.2 Frequency of Inspections

In accordance with WAC 173-303-320, the inspection schedule, including the frequency of inspections, is identified in Table I2-1 and Table I2-2.

I2.1.2 Schedule for Remedial Action for Problems Revealed

Problems identified will be remediated in accordance with Permit Condition II.O.2.

I2.1.3 Specific Process Inspection Requirements

Tables I2-1 and I2-2 describe the specific process inspection requirements.

I2.1.3.1 Container Inspection

Table I2-1 identifies specific items and/or problems to be noted during weekly inspections.

Table I2-1. WAC 173-303-320(2) Inspection Schedule for Units Managing Dangerous Waste

Requirement Description	Frequency	Inspection
Container Storage Area Inspection Requirements		
Container and container storage areas	Weekly	Check for container condition, aisle space, leaks, spills, and accumulated liquids.
Posted warning signs at each entrance to the facility	Weekly	Verify posted warning signs at each entrance to the Operating Unit Group are present, legible, and visible at 7.6 meters (25 feet).
Container labels (may be on protective container covers)	Weekly	Verify visibility, readability, and adequate identification of risks.
Spill response kits	Quarterly	Verify that equipment is present and functional.
Safety showers, eyewash stations, fire extinguishers	Monthly	Verify that equipment is present and functional.
Tank system Inspection Requirements		
221-T Tank System	Annually	Check tank level remote indicators, annunciator panels, and alarms. Assess sump for change in conditions.

Sources: WAC 173-303-320, "Dangerous Waste Regulations," "General Inspection."
WAC 173-303-630, "Dangerous Waste Regulations," "Use and Management of Containers."

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Table I2-.2. WAC 173-303-320(2) Inspection Schedule For Units Where Dangerous Waste Has Been Removed

Requirement Description	Frequency	Inspection
Perform DWMU surveillance	Annual	Verify posted warning signs at each entrance to the Operating Unit Group are present, legible, and visible at 7.6 meters (25 feet). Find no evidence of unusual conditions at the closing DWMU site.
2706-TB Tank system	Annual	Visually check for leaks, spills, and accumulated liquids.

Source: WAC 173-303-320, "Dangerous Waste Regulations," "General Inspection."
DWMU = dangerous waste management unit

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Addendum I3

Inspection Requirements

CWC-WRAP

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Addendum I3

Inspection Requirements

I3.1 Inspection Plan

This inspection plan describes the method(s) and schedule for inspection of the Solid Waste Operations Complex (SWOC) Central Waste Complex (CWC)-Waste Receiving and Processing (WRAP) areas that are undergoing closure. For dangerous waste management units (DWMUs) undergoing closure where dangerous waste is still present, Table I3-1 of this inspection plan provides for continued inspection of waste containers for units where actions to remove the containers are proceeding until such a time as the dangerous waste containers can be moved to another treatment, storage, and disposal location. The inspections specified in Table I3-1 identify leaking containers, check for corroding or degrading containers verifies proper labeling is on the containers and/or container covers, as applicable, and checks the safety equipment and/or systems. These inspections ensure that situations do not exist that might cause or lead to the release of dangerous waste constituents to the environment or that might pose a threat to human health. Abnormal conditions identified by inspections must be corrected on a schedule that prevents hazards to personnel, the public, and the environment as determined by facility operations management. In addition to the requirements in Permit Condition II, the Permittees will ensure that these container storage areas are maintained in accordance with WAC 173-303-630(7), "Dangerous Waste Regulations," "Use and Management of Containers," and the requirements in the approved closure plan, that was submitted per WAC 173-303-610, "Dangerous Waste Regulations," "Closure and Post-Closure" requirements. The Permittees will ensure that inspections, at a minimum, meet the requirements of WAC 173-303-320(2), "Dangerous Waste Regulations," "General Inspection," and WAC 173-303-630(6). Currently CWC-WRAP closing DWMUs with dangerous waste present that will undergo inspections using Table I3-1 are as follows:

- Outside Storage A
- Outside Storage B

For DWMUs undergoing closure where dangerous waste is no longer present, Table I3-2 details the inspection requirements and frequency. The purpose of these inspections is to assess the DWMU closure areas where all dangerous waste containers have been removed, and final closure activities are ongoing or may be deferred to coordinate with other cleanup activities. Inspection of these closing DWMUs, where no waste is present, is performed on an annual (calendar year) basis. This inspection assesses the unit for the presence of signage and ensures that there are no unusual conditions associated with the site. The CWC-WRAP closure unit that will undergo inspections using Table I3-2 is Building 2401-W.

I3.1.1 General Inspection Requirements

The content and frequency of inspections are described in this section and Tables I3-1 and I3-2. The inspections are documented on inspection checklists. The schedule and inspection records are maintained in the Hanford Facility Operating Record applicable closure unit file and retained in accordance with Permit Condition II.I.

The inspections are performed by personnel qualified to inspect the DWMU closure areas. The Table I3-1 inspection checklists include items to be assessed during each inspection when dangerous waste is being managed at the location. A yes/no or a check mark/circle response is made for each listed item. A yes or check mark response means that the item is in compliance with the conditions stated on the checklist. Any problems identified during the inspection, as indicated by a no response or a circle on the checklist, are reported to facility operations management. When all dangerous waste has been removed from a closing DWMU, a final weekly inspection will be performed. Closing DWMUs with all dangerous waste removed will be inspected in accordance with the frequency identified in Table I3-2 for the conditions stated in the checklist.

I3.1.1.1 Types of Problems

The conditions of the following items are included in the CWC-WRAP Closure Unit Table I3-1 inspections:

- Storage
- Container condition
- Labels on containers and/or covers
- Safety and emergency equipment
- Proper signage

The SWOC Closure Unit Table I3-2 annual inspection is focused on the following:

- Unusual conditions
- Proper signage

Discrepancies are noted in the additional information/comment section of the checklist. When completed, the inspector prints his/her name, signs, and dates the inspection checklist. The checklist is reviewed by Operations Management and the information is placed in the Hanford Facility Operating Record file. The completed inspection checklist is stored in accordance with Permit Condition II.I.

I3.1.1.2 Frequency of Inspections

In accordance with WAC 173-303-320, the inspection schedule, including the frequency of inspections, is identified in Table I3-1 and Table I3-.2.

I3.1.2 Schedule for Remedial Action for Problems Revealed

Problems identified will be remediated in accordance with Permit Condition II.O.2.

I3.1.3 Specific Process Inspection Requirements

Tables I3-1 and I3-2 describe the specific process inspection requirements.

I3.1.3.1 Container Inspection

Table I3-1 identifies specific items and/or problems to be noted during weekly inspections.

Table I3-1. WAC 173-303-320(2) Inspection Schedule for Units Managing Waste

Requirement Description	Frequency	Inspection
Containers and container storage areas	Weekly	Check for container condition, aisle space, leaks, spills, and accumulated liquids.
Posted warning signs at each entrance to the facility	Weekly	Verify posted warning signs at each entrance to the Operating Unit Group are present, legible, and visible at 7.6 meters (25 feet).
Container labels (may be on protective container covers)	Weekly	Verify visibility, readability, and adequate identification of risks.
Spill response kits	Quarterly	Verify that equipment is present and functional.
Safety showers, eyewash stations, fire extinguishers	Monthly	Verify that equipment is present and functional.

Sources: WAC 173-303-320, "Dangerous Waste Regulations," "General Inspection."
WAC 173-303-630, "Dangerous Waste Regulations," "Use and Management of Containers."

Table I3-2. WAC 173-303-320(2) Inspection Schedule for Units Where Dangerous Waste Has Been Removed

Requirement Description	Frequency	Inspection
Perform DWMU surveillance	Annual	Verify posted warning signs at each entrance to the Operating Unit Group are present, legible, and visible at 7.6 meters (25 feet). Find no evidence of unusual conditions at the closing DWMU site.

Source: WAC 173-303-320, "Dangerous Waste Regulations," "General Inspection."
DWMU = dangerous waste management unit

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WASHINGTON STATE DEPARTMENT OF ECOLOGY

Addendum A

Part A Form

Date Received				Reviewed by:		Date:								
Month		Day		Year		Approved by:		Date:						

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:**
	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

825 Jadwin

City or Town	State	ZIP Code
Richland	WA	99352

County Code (if known)	County Name
005	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 (Attachment C) for Central Waste Complex and Waste Receiving & Processing OUG-6 (CWC-WRAP)		03	02	1943

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**
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 CWC-WRAP*	(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. Owner Type	C. Does the name in VII.A. reflect a proposed change in owner?		If yes, provide the scheduled date for the change: Month / Day / Year
F		☐ Yes	
		☒ No	

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 / Day / Year

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)
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	C. Does the name in VIII.A reflect a proposed change in owner?		If yes, provide the scheduled date for the change: Month / Day / Year
F		☐ Yes	
		☒ No	

IX. NAICS Codes (5/6 digit codes)

A. First							B. Second						
5	6	2	2	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		Research & Development in the Physical, Engineering, & Life Sciences							

X. Other Environmental Permits (see instructions)

A. Permit Type	B. Permit Number	C. Description
E	AOP00-05-006	Title V Air Operating Permit
E	DE01NWP-002	WAC 173-400 & -460 Criteria & Toxics approval
E	FF-01-439	WAC 246-247 Radioactive Air Emissions approval, AIR 08-801, Emission Unit 439
E	FF-01-461	WAC 246-247 Radioactive Air Emissions approval, AIR 08-801, Emission Unit 461
E	FF-01-486	WAC 246-247 Radioactive Air Emissions approval, AIR 11-1006, Emission Unit 486
E	FF-01-1183	WAC 246-247 Radioactive Air Emissions approval, AIR 12-301, Emission Unit 1183
E	FF-01-193	WAC 246-247 Radioactive Air Emissions approval, AIR 12-301, Emission Unit 193

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

SEE ATTACHMENT A for further description

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and operated by the U.S. Department of Energy. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed on the Hanford Facility.

The Central Waste Complex and Waste Receiving and Processing Operating Unit Group (WRAP) Operating Unit Group (CWC-WRAP) is located in Hanford's 200 West Area. Waste management operations began at CWC in August 1988. The WRAP began waste management operations in March 1997. The CWC provides container storage and treatment for dangerous and/or mixed waste generated both onsite at Hanford and offsite, including the retrievably stored transuranic waste being retrieved from the Hanford Facility Low-Level Burial Grounds. The WRAP provides storage and treatment for dangerous waste and/or mixed waste generated both on and off the Hanford Site.

T04 (Treatment-Other):

Treatment-other within WRAP-CWC DWMUs consists of sorting and segregation; solidification and/or absorption of liquids; puncture and decant aerosol cans and/or cylinders; mercury amalgamation; deactivation (includes deactivation of ignitable, corrosive and reactive characteristics which may be performed by methods including but not limited to: neutralization; cementing; encapsulation; absorption; and controlled reaction with water.); microencapsulation/macroencapsulation (includes radioactive lead solids , debris and radioactive lead acid batteries); stabilization; and volume reduction.
The total process design capacity for treatment-other is 592.1 metric tons per day. Each DWMU can treat up to 592.1 metric tons per day; however, the total volume of treatment in the CWC-WRAP cannot exceed this amount.

S01 (Container Storage). The storage (S01) process design capacity is 27,166,700 liters (7,176,682 gallons).

EXAMPLE FOR COMPLETING ITEMS XII and XIII (shown in lines numbered X-1, X-2, and X-3 below):
Afacility 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					
		B. Process Design Capacity					B. Process Design Capacity		C. Process Total Number of Units	
Line Number	A. Process Codes	1. Amount	2. Unit of Measure	C. Process Total Number of Units	Line Number	A. Process Codes	1. Amount	2. Unit of Measure		D. Process Description
X1	***S02***	***1,600***	***G***	***002***	***X1***	***T04***	***700***	***C***	***001***	***In situ vitrification***
X2	***T03***	***20***	***E***	***001***						
X3	***T04***	***700***	***C***	***001***						
1	S01	27,166,700	L	013	1	T04	7	S	004	Solidification and/or absorption of liquids
2	T04	592	S	004	2	T04	1	S	004	Puncture and decant aerosol cans and/or cylinders
3					3	T04	0.1	S	004	Mercury Amalgamation
4					4	T04	3	S	004	Deactivation (includes deactivation of ignitable, corrosive and reactive characteristics)
5					5	T04	80	S	004	Microencap-sulation/ Macroencap-sulation
6					6	T04	41	S	004	Stabilization
7					7	T04	230	S	004	Volume reduction
8					8	T04	230	S	004	Sorting and segregation
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										

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	D. Processes (2) Process Description [If a code is not entered in D.(1)]
X1	*D 0 0 2*	*400*	*P*	*S 0 1 T 0 1*	
X2	*D 0 0 1*	*100*	*P*	*S 0 2 T 0 1*	
X3	*D 0 0 2*				***Included with above***

SEE ATTCHMENT B

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.

A topographic map of the Hanford Facility has been provided separately. A topographic map for CWC-WRAP is located in Attachment C.

XVI. Facility Drawing

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

Facility drawings of the Hanford Facility have been provided separately. Drawings for the CWC-WRAP are located in Attachment C.

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).

Photographs of the Hanford Facility have been provided separately. Photographs for the CWC-WRAP are located in Attachment C.

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 U.S. Department of Energy Richland Operations Office By Matthew S. McCormick, Manager	**Signature**	**Date Signed** 10/4/13
Co-Operator Name and Official Title CH2M HILL Plateau Remediation Company By John C. Fulton, President and Chief Executive Officer	**Signature**	**Date Signed** 10/3/2013

Co-Operator – Address and Telephone Number
P.O. Box 1600
Richland, WA 99352
(509) 376-0556

Facility-Property Owner Name and Official Title U.S. Department of Energy Richland Operations Office By Matthew S. McCormick, Manager	**Signature**	**Date Signed** 10/4/13

Comments

Section XI. Refer to Attachment A for further description.

Section XIV. Refer to Attachment B for waste codes for storage and treatment at the CWC-WRAP. The waste codes have been divided into two groups for CWC-WRAP based on the two main processes at CWC-WRAP: storage and treatment.

Section XV. A topographic map of the Hanford Facility has been provided separately. Topographic map for CWC-WRAP is located in Attachment C.

Section XVI. Facility drawings of the Hanford Facility have been provided separately. Drawings for the CWC-WRAP are located in Attachment C.

Section XVII. Photographs of the Hanford Facility have been provided separately. Photographs for the CWC-WRAP are located in Attachment C.

Attachment A

Section XI - Nature of Business

A1 Introduction

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and operated by the U.S. Department of Energy, Richland Operations Office. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed within the Hanford Facility.

The Central Waste Complex (CWC) Waste Receiving and Processing (WRAP) Operating Unit Group (OUG) is located in the 200 West Area on the Hanford Site (Photo A-1). Waste management operations began at CWC in August 1988, and WRAP began waste management operations in March 1997. The CWC provides container storage and treatment for dangerous and/or mixed waste, including the retrievably stored transuranic (TRU) waste being retrieved from the Hanford Facility Low-Level Burial Grounds. The waste received and processed by CWC has been generated both on and off the Hanford Site. The primary mission for WRAP is to process TRU and transuranic-mixed (TRUM) waste to meet the Waste Isolation Pilot Plant (WIPP) acceptance requirements; however, WRAP also has processing capabilities to disposition low-level waste (LLW) and mixed low-level waste (MLLW). The waste received and processed by WRAP has been generated both on and off the Hanford Site.

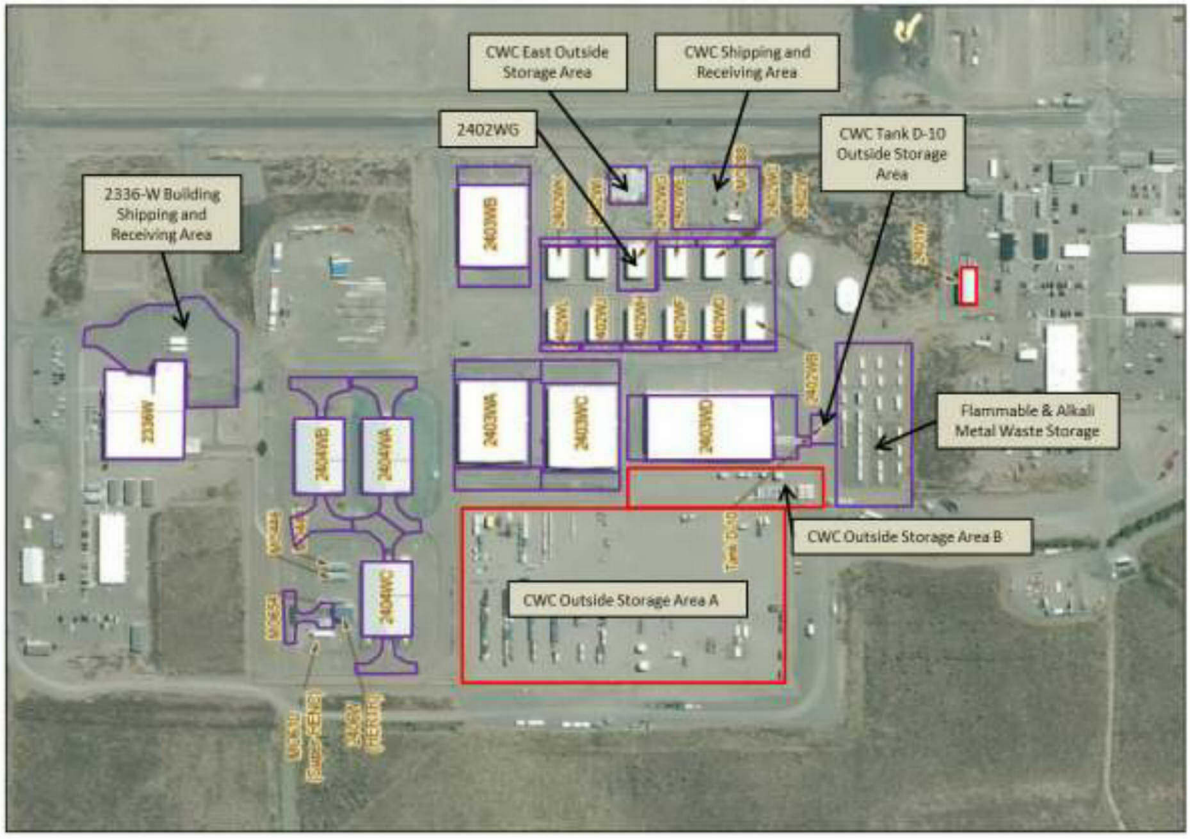
Previously, CWC and WRAP were managed as separate OUGs; however, due to similar missions and operational capabilities, they are now being combined into one OUG.

A2 General Description of On-Site Activities

CWC-WRAP provides storage for dangerous and/or mixed waste from Hanford onsite generating locations, including waste from the Waste Retrieval Project (WRP), and offsite generators.
The CWC-WRAP Dangerous Waste Management Units (DWMUs) are designed for storage; in addition, treatment of mixed waste is provided in the following DWMUs: 2402-WG, 2403-WD, 2404-WC, and the 2336-W Building Process Area.

These storage and/or treatment DWMUs provide space for the storage and processing of mixed and non-mixed radioactive wastes, including *Toxic Substances Control Act of 1976* (TSCA) polychlorinated biphenyl (PCB) contaminated mixed and non-mixed radioactively contaminated wastes.

Table A-1 identifies the operating DWMUs in the CWC-WRAP where dangerous and mixed waste is treated or stored. The type of DWMU and the corresponding treatment authorization are indicated in Table A-2.



Photograph Date: August 2010

Photo A-1. Aerial Photo of the CWC-WRAP

Table A-1. Central Waste Complex-Waste Receiving and Processing Dangerous Waste Management Units for Part A

OPERATING DWMUs			
DWMUs Name	**Treatment**	**Storage**	**Notes**
Flammable and Alkali Metal Waste Storage Modules	NO	YES	Includes outdoor areas around storage modules
2402-WG Waste Storage Building	YES	YES	Includes outdoor areas
2402-W, WB through WF, and WH through WL	NO	YES	Includes outdoor areas
2403-WA through WC Series Waste Storage Buildings	NO	YES	Includes outdoor areas
2403-WD Waste Storage Building	YES	YES	Includes outdoor areas
CWC Tank D-10 Outside Storage Area	NO	YES	
CWC East Outside Storage Area	NO	YES	
CWC Shipping and Receiving Area	NO	YES	Includes outdoor areas
2336-W Building Process Area	YES	YES	Treatment within gloveboxes only
2336-W Building NDA/NDE Area	NO	YES	Includes outdoor areas
2336-W Building Shipping and Receiving Area	NO	YES	Includes outdoor areas
2336-W Building Room 152	NO	YES	
2404-WA and WB Waste Storage Building	NO	YES	Includes outdoor areas
2404-WC Waste Storage Building	YES	YES	Includes outdoor areas
HERTR and Super HENC Waste Outdoor Storage Area	NO	YES	
CLOSING DWMUs			
DWMUs Name	**CAFO Unit**	**Notes**	
CWC Outside Storage Area A	**YES**	Currently storing mixed waste; see closure plan for additional information	
CWC Outside Storage Area B	**YES**	Currently storing mixed waste; see closure plan for additional information	
CWC 2401W Waste Storage Building	**YES**		

CAFO = Consent Agreement and Final Order
CWC = Central Waste Complex
DWMU = dangerous waste management unit
NDA = nondestructive assay
NDE = nondestructive examination
HENC = High Energy Neutron Counter
HERTR = High Energy Real Time Radiography

Table A-2. Summary of Central Waste Complex-Waste Receiving and Processing Operating Dangerous Waste Management Units Treatment and Storage Authorization

Management Unit Type	CWC-WRAP Operating Unit Group DWMUs	Part A Treatment Type	Part A Storage Type
Container (Storage)	Flammable and Alkali Metal Waste Storage Modules CWC Tank D-10 Outside Storage Area CWC East Outside Storage Area CWC Shipping and Receiving Area 2336-W Building NDA/NDE Area 2336-W Building Shipping and Receiving Area 2336-W Building Room 152 2402-W, WB through WF, and WH through W Waste Storage Buildings HERTR and Super HENC Waste Outdoor Storage Area	N/A	S01
Container (Storage and Treatment)	2402-WG Waste Storage Building 2404-WA Waste Storage Building 2336-W Building Process Area 2404-WC Waste Storage Building	T04	S01

CWC = Central Waste Complex
DWMU = dangerous waste management unit
NDA = nondestructive assay
NDE = nondestructive examination
HENC = High Energy Neutron Counter
HERTR = High Energy Real Time Radiography

A3 Operating DWMUs

The function of each operating DWMU is provided in the following subsections.

A3.1 Flammable and Alkali Metal Waste Storage Modules (Storage)

The Flammable and Alkali Metal Waste Storage Modules are pre-engineered structures that vary in size and weight. As a result, there is no set "standard" module. Currently, there are 24 Flammable Waste Storage Modules and 4 Alkali Metal Waste Storage Modules (AMW01-AMW04), as listed in Table A-3.

All modules have a vented catch sump under the storage floor, which provides spill containment and precludes spills from affecting other containers by keeping the storage deck clean. Each sump has a capacity of 1,500 to 7,600 L, (396 to 2008 gal) depending on the size of the module.

The Flammable and Alkali Metal Waste Storage Modules are designed to meet the storage requirements for ignitable, reactive, and corrosive dangerous or mixed waste. Only compatible waste occupies any one storage module or dedicated secondary containment system at any one time.

No treatment of dangerous and/or mixed waste is authorized within the Flammable and Alkali Metal Waste Storage Modules.

A3.2 2402-WG Waste Storage Building DWMU (Storage and Treatment)

The 2402-WG Waste Storage Building is a pre-engineered steel structure. The building is approximately 15 m (50 ft) wide, by 24 m (79 ft) long, by 6 m (20 ft) high (to the eave), for a total waste management area of 360 m^2 (3950 ft^2). The foundation is integrated into a perimeter concrete curb 15.2 cm (6 in.) above grade. Ramps are across the curb for loading and unloading operations. The floors are coated with an epoxy resin floor surfacing system compatible with the stored waste.

The outside storage area consists of the approach aprons and access paths to the vehicle entrance roll-up doors for the building. These areas provide a place to stage waste packages being prepared for transfer to/from another CWC-WRAP DWMU, to another Hanford OUG, or for offsite shipment to another treatment, storage, and disposal facility (TSDF). Additionally, shipping conveyances (e.g., flatbed trailers, van trailers, and casks) are staged at these locations and loaded with waste containers. The storage areas are constructed of concrete next to the building (i.e., approach aprons) and asphalt further out (i.e., access paths). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c), "Dangerous Waste Regulations," "Use and Management of Containers," are stored on standard pallets to ensure elevation off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

Treatment of dangerous and/or mixed waste will be performed within 2402-WG. Treatments anticipated in this building include sorting and segregation, solidification and/or absorption of liquids, puncture and decant aerosol cans and or cylinders, mercury amalgamation, deactivation (This includes deactivation of ignitable, corrosive and reactive characteristics. This may be performed by methods including but not limited to: neutralization; cementing; encapsulation; absorption; and controlled reaction with water.), microencapsulation/macroencapsulation (includes radioactive lead solids, debris, and radioactive lead acid batteries), stabilization, and volume reduction. The building may contain temporary structures (e.g., a greenhouse) for radiological containment purposes.

A3.3 2402-W, WB through WF, and WH through WL Waste Storage Buildings DWMU (Storage)

The 2402-W, WB through WF, and WH through WL Waste Storage Buildings are pre-engineered steel structures. Each of the 11 buildings is approximately 15 m (50 ft) wide, by 24 m (79 ft) long, by 6 m (20 ft) high (to the eave), for a total waste management area of 360 m^2 (3950 ft^2). The foundation of each building is integrated into a perimeter concrete curb 15.2 cm (6 in.) above grade. Ramps are across the curb for loading and unloading operations. The floors are coated with an epoxy resin floor surfacing system compatible with the stored waste.

The outside storage area consists of the approach aprons and access paths to the vehicle entrance roll-up doors for the buildings. These areas provide a place to stage waste packages being prepared for transfer to/from another CWC-WRAP DWMU, to another Hanford OUG, or for offsite shipment to another TSDF. Additionally, shipping conveyances (e.g., flatbed trailers, van trailers, and casks) are staged at

these locations and loaded with waste containers. The storage areas are constructed of concrete next to the building (i.e., approach aprons) and asphalt further out (i.e., access paths). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment is authorized in the 2402-W, WB through WF, and WH through WL Waste Storage Buildings.

A3.4 2403-WA through WC Waste Storage Buildings DWMU (Storage)

The 2403-WA through WC Waste Storage Buildings DWMU are approximately 52 m (171 ft) wide, 61 m (200 ft) long, and 6 m (20 ft) high (to the eave), each with a total waste management area of 3,172 m^2 (34,200 ft^2).

The floor areas are divided into quadrants by concrete curbs that are approximately 12.7 cm (5 in) high. The floors were coated with an epoxy resin floor surfacing system that is compatible with the stored waste. Aisle space is provided through the centers of the 2403-WA through WC Waste Storage Buildings to accommodate loading and unloading operations. Curbs are arranged so that the curbs do not interfere with forklift travel, and ramps are provided over curbs.

The outside storage area consists of the approach aprons and access paths to the two vehicle entrance roll-up doors for the 2403-WA through WC Buildings. This area provides a place to stage waste packages being prepared for transfer to/from another CWC-WRAP DWMU, to another Hanford OUG, or for offsite shipment to another TSDF. Additionally, shipping conveyances (e.g., flatbed trailers, van trailers, and casks) are staged at these locations and loaded with waste containers. The storage areas are constructed of concrete next to the building (i.e., approach aprons) and asphalt further out (i.e., access paths). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment is authorized in the 2403-WA through WC Waste Storage Buildings DWMU.

A3.5 2403-WD Waste Storage Building DWMU (Storage and Treatment)

The 2403-WD Waste Storage Building is a large storage building that is approximately 52 m (171 ft) wide, 99 m (325 ft) long, and 6 m (20 ft) high (to the eave), for a total waste management area of 5,148 m^2 (55,575 ft^2).

The floor areas are divided into quadrants by concrete curbs that are approximately 12.7 cm (5 in) high. The floor areas are coated with an epoxy resin floor surfacing system that is compatible with the stored waste.

Aisle space is provided through the center of the 2403-WD Storage Building to accommodate loading and unloading operations. Curbs are arranged so that the curbs do not interfere with forklift travel. Ramps are provided over curbs.

Adjacent areas to the building are stabilized and are graded to slope away from the 2403-WD Waste Storage Building to preclude water collection.

The 2403-WD Waste Storage Building is maintained at atmospheric pressure. Ventilation complies with International Conference of Building Officials requirements (ICBO, 1997, *Uniform Building Code*).

The outside storage area consists of the approach aprons and access paths to the two vehicle entrance roll-up doors for the 2403-WA through WC Buildings. This area provides a place to stage waste packages being prepared for transfer to/from another CWC-WRAP DWMU, to another Hanford OUG, or for offsite shipment to another TSDF. Additionally, shipping conveyances (e.g., flatbed trailers, van trailers, and casks) are staged at these locations and loaded with waste containers. The storage areas are constructed of concrete next to the building (i.e., approach aprons) and asphalt further out (i.e., access paths). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevations off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

Treatment of dangerous and/or mixed waste will be performed within this building. Treatments anticipated in this building include sorting and segregation, solidification and/or absorption of liquids, puncture and decant aerosol cans and or cylinders, mercury amalgamation, deactivation (This includes deactivation of ignitable, corrosive and reactive characteristics. This may be performed by methods including but not limited to: neutralization; cementing; encapsulation; absorption; and controlled reaction with water.), microencapsulation/macroencapsulation (includes radioactive lead solids, debris, and radioactive lead acid batteries), stabilization, and volume reduction. The building may contain temporary structures (e.g., a greenhouse) for radiological containment purposes.

A3.6 CWC Tank D-10 Outside Storage Area (Storage)

CWC Tank D-10 Outside Storage Area is located between the 2403-WD building and the Flammable and Alkali Metal Waste Storage Modules Area and is a gravel pad. It currently stores the U-Plant D-10 Tank.

No treatment of dangerous or mixed waste is authorized within the CWC Tank D-10 Outside Storage Area.

A3.7 CWC East Outside Storage Area (Storage)

The CWC East Outside Storage Area is located east of the 2402 Series buildings, north of the CWC Shipping and Receiving Area, and approximately 27 m (89 ft) wide by 30 m (98 ft) long, for a total of 818 m^2 (8,722 ft^2). The area is curbed with 15.2 cm (6 in.) of concrete. The CWC East Outside Storage Area is provided with an access ramp and a rainwater collection and removal system. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the concrete. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment of dangerous or mixed waste is authorized within the CWC East Outside Storage Area.

A3.8 CWC Shipping and Receiving Area (Storage)

The CWC Shipping and Receiving Area is located east of the 2402 Series buildings, south of CWC East Outside Storage Area, and is an asphalt pad that is approximately 62 m (203 ft) long and 46 m (151 ft) wide for a total area of 2,862 m^2 (30,653 ft^2). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the concrete. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment of dangerous or mixed waste is authorized within the CWC Shipping and Receiving Area.

A3.9 2336-W Building Process Area DWMU (Storage And Treatment)

This DWMU houses four gloveboxes used for the inspection, repackaging, and treatment of the various types of radioactively contaminated waste that is received in to the facility. The gloveboxes provide worker protection from the radiological hazards associated with the waste. Waste is loaded in to the gloveboxes and physically inspected, sorted, size reduced and repackaged in to new containers that are acceptable for WIPP certification or other receiving TSDF waste acceptance criteria. Two gloveboxes have compactors built into them: one for compacting drums containing LLW, and the other for compacting empty drums.

Treatment of dangerous and/or mixed waste will be performed within the the 2336-W Building Process Area WMU. To meet WIPP acceptance requirements, some of the TRUM waste needs to be sorted and segregated; treated to render the liquids non-liquid by means of solidification and/or absorption; puncture and decant aerosol cans; amalgamate mercury using various metals or sulfur based reactants; neutralization of corrosives; deactivation of corrosives, ignitables, and reaction of reactive waste. Additionally, treatment of MLLW in the 2336-W Building Process Area will include sorting and segregation, solidification and/or absorption of liquids, puncture and decant aerosol cans and or cylinders, mercury amalgamation, deactivation (This includes deactivation of ignitable, corrosive and reactive characteristics. This may be performed by methods including but not limited to: neutralization; cementing; encapsulation; absorption; and controlled reaction with water.), microencapsulation/macroencapsulation (includes radioactive lead solids, debris, and radioactive lead acid batteries), stabilization, and volume reduction.

Waste storage in this area consists of containerized (drums) waste stored on the drum carousels, on conveyors, and on the floor. During the processing of waste, uncontainerized waste may be stored inside the gloveboxes. This area is designed and operated to store waste packages containing free liquids per WAC 173-303-630(7)(a) and (b) (e.g., epoxy sealed slab-on-grade floor, 15 cm (6 in) high curbing, and weekly inspections).

A3.10 2336-W Building NDA/NDE Area DWMU (Storage)

This DWMU houses the nondestructive assay (NDA) and nondestructive examination (NDE) equipment used in support of certifying TRU/M waste for WIPP acceptance. Various sized drums and standard waste boxes (SWBs) are normally managed in this area.

Waste storage in this area consists of both inside and outside storage areas:

- The inside storage area stores mixed and non-mixed waste containers on drum carousels, conveyors and on the floor. This area is designed to store waste packages containing free liquids per

WAC 173-303-630(7)(a) and (b) (e.g., epoxy sealed slab-on-grade floor, 15 cm (6 in) high curbing, weekly inspections).

- The outside storage area (also known by 2336-W Outdoor Storage Area) consists of a 12 m (40 ft) by 12 m (40 ft) unsealed concrete pad located just outside of Roll-Up Door 103. This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the concrete. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment of dangerous or mixed waste is authorized within the 2336-W Building NDA/NDE area.

A3.11 2336-W Building Shipping and Receiving Area DWMU (Storage)

This DWMU houses the waste shipping and receiving equipment and storage space for WRAP. There are four (4) shipping/receiving roll-up doors into and out-of the facility in this area, and this area houses the TRUPACT-II container loading bay.

Waste storage in this area consists of both inside and outside storage areas:

- The inside storage area stores mixed waste containers on conveyors, the Automated Stacker/Retrieval System (AS/RS), on the floor, and in WIPP shipping conveyances. This area is designed to store waste packages containing free liquids per WAC 173-303-630(7)(a) and (b) (e.g., epoxy sealed slab-on-grade floor, 15 cm high curbing, catch pans designed in with the AS/RS, and weekly inspections).

- The outside storage section consists of two areas: the 2336-W Loading Dock Area and the WIPP Conveyance Staging Area. Both areas are paved with unsealed asphalt, and they do not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets, trailers or other devices, to ensure elevation off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment of dangerous or mixed waste is authorized within the 2336-W Building Shipping and Receiving Area.

A3.12 2336-W Building Room 152 DWMU (Storage)

The 2336-W Building Room 152 DWMU is a small inside room (nominally 3 m (10 ft) by 9 m (28 ft)) located next to the material receiving dock on the east side of the 2336-W Building. This DWMU is used to store nonradioactive dangerous waste, universal waste, recyclables, and materials storage such as chemicals.

The floor of Room 152 is sealed concrete that does not provide secondary containment. Dangerous waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the concrete floor. Dangerous waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment such as spill pallets meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment of dangerous or mixed waste is authorized within the 2336-W Building Room 152.

A3.13 2404-WA through WB, Waste Storage Building DWMU (Storage)

The 2404-WA and 2404-WB Waste Storage Building DWMU consists of a storage building and outside storage pads. Each unit stores many different types (e.g., drums and boxes) and sizes (e.g., 85 gal drums, 55 gal drums, SWBs, and 9 ft by 5 ft by 5 ft boxes) mixed waste containers. The building measures nominally 55 m (180 ft) by 37 m (120 ft) and has engineered containment berms, liquids collection sumps, and a sealed concrete surface meeting WAC 173-303-630(7)(a) and (b) for containers that contain free liquids. The building is not insulated and has power roof ventilators with filtered air inlets around the perimeter of the building that provide basic ventilation during forklift operations with in the building.

The outside storage area consists of the approach aprons and access paths to the two vehicle entrance roll-up doors for the respective building. This area provides a place to stage waste packages being prepared for transfer to/from another WRAP DWMU, to another Hanford OUG, or for offsite shipment to another TSDF. Additionally, shipping conveyances (e.g., flatbed trailers, van trailers, and casks) are staged at these locations and loaded with waste containers. The storage area is constructed of concrete next to the building (i.e., approach aprons) and asphalt further out (i.e., access paths). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No treatment of dangerous or mixed waste is authorized within the 2404-WA and 2404-WB Waste Storage Building DWMU.

A3.14 2404-WC, Waste Storage Building DWMU (Storage and Treatment)

This DWMU consists of a storage building and outside storage pads. This unit stores many different types (e.g., drums and boxes) and sizes (e.g., 85 gal drums, 55 gal drums, SWBs and 9 ft by 5 ft by 5 ft boxes) mixed waste containers. The building measures nominally 55m (180 ft) by 37 m (120 ft) and has engineered containment berms, liquids collection sumps, and a sealed concrete surface meeting WAC 173-303-630(7)(a) and (b) for containers that contain free liquids. The building is insulated and has a heating, ventilating, and air conditioning system providing a temperature controlled environment in support of specific WIPP certification activities (e.g., Head Gas Sampling and NDE), and to provide basic ventilation during forklift use and other operational activities within the building.

This building will be used for treatment of mixed waste in support of WIPP certification requirements and/or disposition of large container TRUM and MLLW. Treatments anticipated in this building include sorting and segregation, solidification and/or absorption of liquids, puncture and decant aerosol cans and or cylinders, mercury amalgamation, deactivation (This includes deactivation of ignitable, corrosive and reactive characteristics. This may be performed by methods including but not limited to: neutralization; cementing; encapsulation; absorption; and controlled reaction with water.), microencapsulation/macroencapsulation (includes radioactive lead solids, debris, and radioactive lead acid batteries), stabilization, and volume reduction.. The building may contain temporary structures (e.g., a greenhouse) for radiological containment purposes.

The outside storage area consists of the approach aprons and access paths to the two vehicle entrance roll-up doors for the 2404-WC Building. This area provides a place to stage waste packages being prepared for transfer to/from another WRAP DWMU, to another Hanford OUG, or for offsite shipment to another TSDF. Additionally, shipping conveyances (e.g., flatbed trailers, van trailers, and casks) are staged at this location and loaded with waste containers. The storage area is constructed of concrete next

to the building (i.e., approach aprons) and asphalt further out (i.e., access paths). This area does not have built-in engineered containment. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the asphalt. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b). No waste treatment is performed in the outside area of this DWMU, only storage.

A3.15 HERTR and Super HENC Waste Outdoor Storage Area DWMU (Previously Known as Storage Area B) (Storage)

The High Energy Real Time Radiography (HERTR) and Super High Energy Neutron Counter (HENC) Waste Outdoor Storage Area DWMU consists of an outside storage pad servicing the HERTR and Super HENC. The pad consists of a concrete section, adjacent to the Super HENC, and asphalt leading up to the HERTR and the concrete pad section. This area provides temporary storage while staging containers that will be ran through the HERTR and Super HENC.

This area does not have built-in engineered containment, nor are the surfaces sealed. Mixed waste containers meeting the criteria specified in WAC 173-303-630(7)(c) are stored on standard pallets to ensure elevation off of the surface. Waste packages not meeting the criteria specified in WAC 173-303-630(7)(c) (e.g., waste package containing free liquids) are placed on portable spill containment equipment, such as spill pallets and portable berms, meeting the criteria specified in WAC 173-303-630(7)(a) and (b).

No waste treatment is authorized in the HERTR and Super HENC Waste Outdoor Storage Area.

A4 Closing DWMUs

CWC-WRAP includes DWMUs currently undergoing closure activities per an approved closure plan. These units are not authorized to accept dangerous and/or mixed waste into the units.

A4.1 CWC West Outside Storage Area A (Closing)

The CWC West Outside Storage Area A is an outside area west of the 2403 Series buildings that is approximately 252 m (823 ft) long and 140 m (460 ft) wide for a total area of 35,260 m^2 (378,580 ft^2). The CWC Outside Storage Area A is an uncovered area that is graded and leveled with gravel. The CWC West Outside Storage Area A was primarily intended for management of waste boxes. The CWC West Outside Storage Area A currently contains mixed waste, as described in the closure plan for this DWMU.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized within Area A.

A4.2 CWC West Outside Storage Area B (Closing)

The CWC-WRAP Outside Storage Area B was activated in December 2006 with the primary purpose of storing large TRUM waste boxes removed from storage as part of the WRP. Outside Storage Area B is located between the CWC Outside Storage Area A and the 2403 Series buildings. Area B is approximately 257 m (843 ft) long and 20 m (66 ft) wide for a total area of 5,140 m^2 (55,327 ft^2). Area B is an uncovered area that is graded and leveled with gravel. The CWC West Outside Storage Area B was primarily intended for management of waste boxes. The CWC West Outside Storage Area B currently contains mixed waste, as described in the closure plan for this DWMU.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized within Area B.

A4.3 CWC 2401W Waste Storage Building (Closing)

The 2401-W Waste Storage Building (2401-W Building) (Photo C-26) is a pre-engineered steel structure. It is 15.2 m (49.9 ft) wide, by 24.4 m (80.1 ft) long, by 6.1 m (20 ft) high (to the eave), with a total waste management area of 371 m^2 (3,993 ft^2). The foundation is integrated into a perimeter concrete curb, 15.2 cm (6 in.) above grade. Ramps are placed across the curb for loading and unloading operations. The floors are coated with an epoxy resin floor surfacing system that is compatible with the stored waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized within the 2401W Building.

A5 Treatment and Storage Capacities

The following subsections describe treatment and storage capacities shown in Table A-3.

A5.1 T04 (Treatment-Other)

Treatment-other within WRAP-CWC DWMUs consists of sorting and segregation, solidification and/or absorption of liquids, puncture and decant aerosol cans and or cylinders, mercury amalgamation, deactivation (This includes deactivation of ignitable, corrosive and reactive characteristics. This may be performed by methods including but not limited to: neutralization; cementing; encapsulation; absorption; and controlled reaction with water.), microencapsulation/macroencapsulation (includes radioactive lead solids, debris, and radioactive lead acid batteries), stabilization, and volume reduction..

The total process design capacity for treatment-other is 592.1metric tons (mt) (1,305,357 lb) per day and is shown in Table A-3 for each DWMU at CWC-WRAP. To determine maximum treatment capacity, calculations were performed that conservatively estimated the maximum volume of waste expected to be treated using the volume of containers expected to be managed at CWC-WRAP in a day. Each DWMU authorized for treatment can treat up to 592.1 mt (1,305,357 lb) per day; however, the total volume of treatment in the CWC-WRAP cannot exceed this amount.

A5.2 S01 (Container Storage)

The total storage (S01) process design capacity is 27,166,700 L (7,176,682 gal).

The maximum total volume (in liters) is shown in Table A-3 within each DWMU at CWC-WRAP, as well as the resulting total storage capacity of CWC-WRAP. A diverse range of waste containers are managed within the CWC-WRAP DWMUs including, but not limited to, 19 L (5 gal), 114 L (30 gal), 208 L (55 gal), 322 L (85 gal), 379 L (100 gal), and 416 L (110 gal) drums, and waste boxes are of various sizes up to 50,000 L (13,210 gal). To calculate the maximum capacity of waste containers stored at the CWC-WRAP OUG, calculations were performed for conservative computation of the maximum waste volume expected to be stored in each DWMU.

The number of containers specified for each structure was calculated based on the storage needs and requirements associated with the area and the following limitations:

- Assumed four containers per pallet
- Maximum of three stacked pallets
- 36 in.(0.9 m) aisle space between rows of pallets/containers

1

Table A-3. Treatment and Storage Volume for Central Waste Complex Dangerous Waste Management Units

DWMU	Max. Treatment Rate (Metric Tons/Day)**	Max. Stored Vol. (Liters)*
2402-W Waste Storage Building	0	334,500
2402-WB Waste Storage Building	0	334,500
2402-WC Waste Storage Building	0	334,500
2402-WD Waste Storage Building	0	334,500
2402-WE Waste Storage Building	0	334,500
2402-WF Waste Storage Building	0	334,500
2402-WG Waste Storage Building	592.1**	334,500
2402-WH Waste Storage Building	0	334,500
2402-WI Waste Storage Building	0	334,500
2402-WJ Waste Storage Building	0	334,500
2402-WK Waste Storage Building	0	334,500
2402-WL Waste Storage Building	0	334,500
2403-WA Waste Storage Building	0	3,619,500
2403-WB Waste Storage Building	0	3,619,500
2403-WC Waste Storage Building	0	3,619,500
2403-WD Waste Storage Building	592.1**	5,460,000
2404-WA Waste Storage Building	0	1,600,000
2404-WB Waste Storage Building	0	1,600,000
2404-WC Waste Storage Building	592.1**	1,600,000
Flammable Waste Storage Module 1 (FS-01)	0	9,000
Flammable Waste Storage Module 2 (FS-02)	0	9,000
Flammable Waste Storage Module 3 (FS-03)	0	18,000
Flammable Waste Storage Module 5 (FS-05)	0	10,500
Flammable Waste Storage Module 6 (FS-06)	0	10,500
Flammable Waste Storage Module 7 (FS-07)	0	10,500
Flammable Waste Storage Module 9 (FS-09)	0	10,500
Flammable Waste Storage Module 10 (FS-10)	0	10,500

Table A-3. Treatment and Storage Volume for Central Waste Complex Dangerous Waste Management Units

DWMU	Max. Treatment Rate (Metric Tons/Day)**	Max. Stored Vol. (Liters)*
Flammable Waste Storage Module 11 (FS-11)	0	10,500
Flammable Waste Storage Module 12 (FS-12)	0	10,500
Flammable Waste Storage Module 14 (FS-14)	0	18,000
Flammable Waste Storage Module 15 (FS-15)	0	10,500
Flammable Waste Storage Module 16 (FS-16)	0	13,500
Flammable Waste Storage Module 17 (FS-17)	0	13,500
Flammable Waste Storage Module 18 (FS-18)	0	13,500
Flammable Waste Storage Module 19 (FS-19)	0	9,000
Flammable Waste Storage Module 20 (FS-20)	0	9,000
Flammable Waste Storage Module 21 (FS-21)	0	10,500
Flammable Waste Storage Module 22 (FS-22)	0	10,500
Flammable Waste Storage Module 23 (FS-23)	0	10,500
Flammable Waste Storage Module 24 (FS-24)	0	10,500
Flammable Waste Storage Module 25 (FS-25)	0	10,500
Flammable Waste Storage Module 26 (FS-26)	0	15,000
Flammable Waste Storage Module 27 (FS-27)	0	15,000
Alkali Metal Waste Storage Module 1 (AMW01)	0	10,500
Alkali Metal Waste Storage Module 2 (AMW02)	0	10,500
Alkali Metal Waste Storage Module 3 (AMW03)	0	10,500
Alkali Metal Waste Storage Module 4 (AMW04)	0	10,500
CWC East Outside Storage Area	0	157,500
CWC Shipping and Receiving Area	0	550,500
CWC Tank D-10 Outside Storage Area	0	774,900
2336-W Building Shipping and Receiving Area	0	129,000
2336-W Building NDE/NDA Area	0	84,000
2336-W Building Process Area	591.2**	16,000
2336-W Building Room 152	0	1,300
Totals	592.1**	27,166,700

Table A-3. Treatment and Storage Volume for Central Waste Complex Dangerous Waste Management Units

DWMU	Max. Treatment Rate (Metric Tons/Day)**	Max. Stored Vol. (Liters)*

* In accordance with WAC 173-303-630(7)(a)(iii), "Dangerous Waste Regulations," "Use and Management of Containers," secondary containment must have a sufficient capacity to contain 10% of the volume of waste containing free liquids, or waste designated as F020, F021, F022, F023, F026, or F027. In buildings where secondary containment is provided, the maximum volume for the waste types listed will not exceed 10 times the corresponding secondary containment capacity.

** The maximum treatment rate for all of CWC-WRAP is 592.1 mt/day. This treatment rate can be realized in any of the DWMUs having treatment capability; however, the combined daily treatment rate cannot exceed 592.1 mt /day.

CWC = Central Waste Complex
DWMU = dangerous waste management unit
NDA = nondestructive assay
NDE = nondestructive examination
HENC = High Energy Neutron Counter
HERTR = High Energy Real Time Radiography

A6 Waste Generated

CWC-WRAP receives dangerous and mixed waste from various onsite and offsite waste generators (e.g., Plutonium Finishing Plant, Pacific Northwest National Laboratory, and Perma-Fix Northwest). The waste received at CWC-WRAP is TRUM, non-TRUM, MLLW, non-MLLW, and TSCA PCB contaminated TRUM, TRU, MLLW, and LLW.

CWC-WRAP also generates dangerous and mixed wastes from routine maintenance and processing operations. Waste includes batteries, oils, solvents, paint waste, miscellaneous debris waste, and discarded chemicals.

A7 Universal Waste

Universal waste is managed at the CWC-WRAP and includes batteries, mercury thermostats, and lamps under WAC 173-303-573, "Dangerous Waste Regulations," "Standards for Universal Waste Management."

A8 Corrective Actions Statement

There are no historical or ongoing corrective actions taken at the CWC-WRAP under WAC 173-303; WAC 173-340, "Model Toxics Control Act—Cleanup;" or federal regulations.

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Attachment B

Section XIV – Description of Dangerous Waste

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1	D001	44,000	K	S01	Storage
2	D002				Included with above
3	D003				Included with above
4	D004				Included with above
5	D005				Included with above
6	D006				Included with above
7	D007				Included with above
8	D008				Included with above
9	D009				Included with above
10	D010				Included with above
11	D011				Included with above
12	D012				Included with above
13	D013				Included with above
14	D014				Included with above
15	D015				Included with above
16	D016				Included with above
17	D017				Included with above
18	D018				Included with above
19	D019				Included with above
20	D020				Included with above
21	D021				Included with above
22	D022				Included with above
23	D023				Included with above
24	D024				Included with above
25	D025				Included with above
26	D026				Included with above
27	D027				Included with above
28	D028				Included with above
29	D029				Included with above
30	D030				Included with above
31	D031				Included with above
32	D032				Included with above
33	D033				Included with above
34	D034				Included with above
35	D035				Included with above
36	D036				Included with above
37	D037				Included with above
38	D038				Included with above
39	D039				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
40	D040				Included with above
41	D041				Included with above
42	D042				Included with above
43	D043				Included with above
44	WSC2				Included with above
45	WT01				Included with above
46	WT02				Included with above
47	WP01				Included with above
48	WP02				Included with above
49	WP03				Included with above
50	WPCB				Included with above
51	F001				Included with above
52	F002				Included with above
53	F003				Included with above
54	F004				Included with above
55	F005				Included with above
56	F006				Included with above
57	F007				Included with above
58	F008				Included with above
59	F009				Included with above
60	F010				Included with above
61	F011				Included with above
62	F012				Included with above
63	F019				Included with above
64	F020				Included with above
65	F021				Included with above
66	F022				Included with above
67	F023				Included with above
68	F026				Included with above
69	F027				Included with above
70	F028				Included with above
71	F039				Included with above
72	U001				Included with above
73	U002				Included with above
74	U003				Included with above
75	U004				Included with above
76	U005				Included with above
77	U006				Included with above
78	U007				Included with above
79	U008				Included with above
80	U009				Included with above
81	U010				Included with above
82	U011				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
83	U012				Included with above
84	U014				Included with above
85	U015				Included with above
86	U016				Included with above
87	U017				Included with above
88	U018				Included with above
89	U019				Included with above
90	U020				Included with above
91	U021				Included with above
92	U022				Included with above
93	U023				Included with above
94	U024				Included with above
95	U025				Included with above
96	U026				Included with above
97	U027				Included with above
98	U028				Included with above
99	U029				Included with above
100	U030				Included with above
101	U031				Included with above
102	U032				Included with above
103	U033				Included with above
104	U034				Included with above
105	U035				Included with above
106	U036				Included with above
107	U037				Included with above
108	U038				Included with above
109	U039				Included with above
110	U041				Included with above
111	U042				Included with above
112	U043				Included with above
113	U044				Included with above
114	U045				Included with above
115	U046				Included with above
116	U047				Included with above
117	U048				Included with above
118	U049				Included with above
119	U050				Included with above
120	U051				Included with above
121	U052				Included with above
122	U053				Included with above
123	U055				Included with above
124	U056				Included with above
125	U057				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
126	U058				Included with above
127	U059				Included with above
128	U060				Included with above
129	U061				Included with above
130	U062				Included with above
131	U063				Included with above
132	U064				Included with above
133	U066				Included with above
134	U067				Included with above
135	U068				Included with above
136	U069				Included with above
137	U070				Included with above
138	U071				Included with above
139	U072				Included with above
140	U073				Included with above
141	U074				Included with above
142	U075				Included with above
143	U076				Included with above
144	U077				Included with above
145	U078				Included with above
146	U079				Included with above
147	U080				Included with above
148	U081				Included with above
149	U082				Included with above
150	U083				Included with above
151	U084				Included with above
152	U085				Included with above
153	U086				Included with above
154	U087				Included with above
155	U088				Included with above
156	U089				Included with above
157	U090				Included with above
158	U091				Included with above
159	U092				Included with above
160	U093				Included with above
161	U094				Included with above
162	U095				Included with above
163	U096				Included with above
164	U097				Included with above
165	U098				Included with above
166	U099				Included with above
167	U101				Included with above
168	U102				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
169	U103				Included with above
170	U105				Included with above
171	U106				Included with above
172	U107				Included with above
173	U108				Included with above
174	U109				Included with above
175	U110				Included with above
176	U111				Included with above
177	U112				Included with above
178	U113				Included with above
179	U114				Included with above
180	U115				Included with above
181	U116				Included with above
182	U117				Included with above
183	U118				Included with above
184	U119				Included with above
185	U120				Included with above
186	U121				Included with above
187	U122				Included with above
188	U123				Included with above
189	U124				Included with above
190	U125				Included with above
191	U126				Included with above
192	U127				Included with above
193	U128				Included with above
194	U129				Included with above
195	U130				Included with above
196	U131				Included with above
197	U132				Included with above
198	U133				Included with above
199	U134				Included with above
200	U135				Included with above
201	U136				Included with above
202	U137				Included with above
203	U138				Included with above
204	U140				Included with above
205	U141				Included with above
206	U142				Included with above
207	U143				Included with above
208	U144				Included with above
209	U145				Included with above
210	U146				Included with above
211	U147				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
212	U148				Included with above
213	U149				Included with above
214	U150				Included with above
215	U151				Included with above
216	U152				Included with above
217	U153				Included with above
218	U154				Included with above
219	U155				Included with above
220	U156				Included with above
221	U157				Included with above
222	U158				Included with above
223	U159				Included with above
224	U160				Included with above
225	U161				Included with above
226	U162				Included with above
227	U163				Included with above
228	U164				Included with above
229	U165				Included with above
230	U166				Included with above
231	U167				Included with above
232	U168				Included with above
233	U169				Included with above
234	U170				Included with above
235	U171				Included with above
236	U172				Included with above
237	U173				Included with above
238	U174				Included with above
239	U176				Included with above
240	U177				Included with above
241	U178				Included with above
242	U179				Included with above
243	U180				Included with above
244	U181				Included with above
245	U182				Included with above
246	U183				Included with above
247	U184				Included with above
248	U185				Included with above
249	U186				Included with above
250	U187				Included with above
251	U188				Included with above
252	U189				Included with above
253	U190				Included with above
254	U191				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
255	U192				Included with above
256	U193				Included with above
257	U194				Included with above
258	U196				Included with above
259	U197				Included with above
260	U200				Included with above
261	U201				Included with above
262	U202				Included with above
263	U203				Included with above
264	U204				Included with above
265	U205				Included with above
266	U206				Included with above
267	U207				Included with above
268	U208				Included with above
269	U209				Included with above
270	U210				Included with above
271	U211				Included with above
272	U213				Included with above
273	U214				Included with above
274	U215				Included with above
275	U216				Included with above
276	U217				Included with above
277	U218				Included with above
278	U219				Included with above
279	U220				Included with above
280	U221				Included with above
281	U222				Included with above
282	U223				Included with above
283	U225				Included with above
284	U226				Included with above
285	U227				Included with above
286	U228				Included with above
287	U234				Included with above
288	U235				Included with above
289	U236				Included with above
290	U237				Included with above
291	U238				Included with above
292	U239				Included with above
293	U240				Included with above
294	U243				Included with above
295	U244				Included with above
296	U246				Included with above
297	U247				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
298	U248				Included with above
299	U249				Included with above
300	U271				Included with above
301	U278				Included with above
302	U279				Included with above
303	U280				Included with above
304	U328				Included with above
305	U353				Included with above
306	U359				Included with above
307	U364				Included with above
308	U367				Included with above
309	U372				Included with above
310	U373				Included with above
311	U387				Included with above
312	U389				Included with above
313	U394				Included with above
314	U395				Included with above
315	U404				Included with above
316	U409				Included with above
317	U410				Included with above
318	U411				Included with above
319	P001				Included with above
320	P002				Included with above
321	P003				Included with above
322	P004				Included with above
323	P005				Included with above
324	P006				Included with above
325	P007				Included with above
326	P008				Included with above
327	P009				Included with above
328	P010				Included with above
329	P011				Included with above
330	P012				Included with above
331	P013				Included with above
332	P014				Included with above
333	P015				Included with above
334	P016				Included with above
335	P017				Included with above
336	P018				Included with above
337	P020				Included with above
338	P021				Included with above
339	P022				Included with above
340	P023				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
341	P024				Included with above
342	P026				Included with above
343	P027				Included with above
344	P028				Included with above
345	P029				Included with above
346	P030				Included with above
347	P031				Included with above
348	P033				Included with above
349	P034				Included with above
350	P036				Included with above
351	P037				Included with above
352	P038				Included with above
353	P039				Included with above
354	P040				Included with above
355	P041				Included with above
356	P042				Included with above
357	P043				Included with above
358	P044				Included with above
359	P045				Included with above
360	P046				Included with above
361	P047				Included with above
362	P048				Included with above
363	P049				Included with above
364	P050				Included with above
365	P051				Included with above
366	P054				Included with above
367	P056				Included with above
368	P057				Included with above
369	P058				Included with above
370	P059				Included with above
371	P060				Included with above
372	P062				Included with above
373	P063				Included with above
374	P064				Included with above
375	P065				Included with above
376	P066				Included with above
377	P067				Included with above
378	P068				Included with above
379	P069				Included with above
380	P070				Included with above
381	P071				Included with above
382	P072				Included with above
383	P073				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
384	P074				Included with above
385	P075				Included with above
386	P076				Included with above
387	P077				Included with above
388	P078				Included with above
389	P081				Included with above
390	P082				Included with above
391	P084				Included with above
392	P085				Included with above
393	P087				Included with above
394	P088				Included with above
395	P089				Included with above
396	P092				Included with above
397	P093				Included with above
398	P094				Included with above
399	P095				Included with above
400	P096				Included with above
401	P097				Included with above
402	P098				Included with above
403	P099				Included with above
404	P101				Included with above
405	P102				Included with above
406	P103				Included with above
407	P104				Included with above
408	P105				Included with above
409	P106				Included with above
410	P108				Included with above
411	P109				Included with above
412	P110				Included with above
413	P111				Included with above
414	P112				Included with above
415	P113				Included with above
416	P114				Included with above
417	P115				Included with above
418	P116				Included with above
419	P118				Included with above
420	P119				Included with above
421	P120				Included with above
422	P121				Included with above
423	P122				Included with above
424	P123				Included with above
425	P127				Included with above
426	P128				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
427	P185				Included with above
428	P188				Included with above
429	P189				Included with above
430	P190				Included with above
431	P191				Included with above
432	P192				Included with above
433	P194				Included with above
434	P196				Included with above
435	P197				Included with above
436	P198				Included with above
437	P199				Included with above
438	P201				Included with above
439	P202				Included with above
440	P203				Included with above
441	P204				Included with above
442	P205				Included with above
443	D001	57,500	M	T04	Other Treatment
444	D002				Included with above
445	D003				Included with above
446	D004				Included with above
447	D005				Included with above
448	D006				Included with above
449	D007				Included with above
450	D008				Included with above
451	D009				Included with above
452	D010				Included with above
453	D011				Included with above
454	D012				Included with above
455	D013				Included with above
456	D014				Included with above
457	D015				Included with above
458	D016				Included with above
459	D017				Included with above
460	D018				Included with above
461	D019				Included with above
462	D020				Included with above
463	D021				Included with above
464	D022				Included with above
465	D023				Included with above
466	D024				Included with above
467	D025				Included with above
468	D026				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
469	D027				Included with above
470	D028				Included with above
471	D029				Included with above
472	D030				Included with above
473	D031				Included with above
474	D032				Included with above
475	D033				Included with above
476	D034				Included with above
477	D035				Included with above
478	D036				Included with above
479	D037				Included with above
480	D038				Included with above
481	D039				Included with above
482	D040				Included with above
483	D041				Included with above
484	D042				Included with above
485	D043				Included with above
486	WSC2				Included with above
487	WT01				Included with above
488	WT02				Included with above
489	WP01				Included with above
490	WP02				Included with above
491	WP03				Included with above
492	WPCB				Included with above
493	F001				Included with above
494	F002				Included with above
495	F003				Included with above
496	F004				Included with above
497	F005				Included with above
498	F006				Included with above
499	F007				Included with above
500	F008				Included with above
501	F009				Included with above
502	F010				Included with above
503	F011				Included with above
504	F012				Included with above
505	F019				Included with above
506	F020				Included with above
507	F021				Included with above
508	F022				Included with above
509	F023				Included with above
510	F026				Included with above
511	F027				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
512	F028				Included with above
513	F039				Included with above
514	U001				Included with above
515	U002				Included with above
516	U003				Included with above
517	U004				Included with above
518	U005				Included with above
519	U006				Included with above
520	U007				Included with above
521	U008				Included with above
522	U009				Included with above
523	U010				Included with above
524	U011				Included with above
525	U012				Included with above
526	U014				Included with above
527	U015				Included with above
528	U016				Included with above
529	U017				Included with above
530	U018				Included with above
531	U019				Included with above
532	U020				Included with above
533	U021				Included with above
534	U022				Included with above
535	U023				Included with above
536	U024				Included with above
537	U025				Included with above
538	U026				Included with above
539	U027				Included with above
540	U028				Included with above
541	U029				Included with above
542	U030				Included with above
543	U031				Included with above
544	U032				Included with above
545	U033				Included with above
546	U034				Included with above
547	U035				Included with above
548	U036				Included with above
549	U037				Included with above
550	U038				Included with above
551	U039				Included with above
552	U041				Included with above
553	U042				Included with above
554	U043				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
555	U044				Included with above
556	U045				Included with above
557	U046				Included with above
558	U047				Included with above
559	U048				Included with above
560	U049				Included with above
561	U050				Included with above
562	U051				Included with above
563	U052				Included with above
564	U053				Included with above
565	U055				Included with above
566	U056				Included with above
567	U057				Included with above
568	U058				Included with above
569	U059				Included with above
570	U060				Included with above
571	U061				Included with above
572	U062				Included with above
573	U063				Included with above
574	U064				Included with above
575	U066				Included with above
576	U067				Included with above
577	U068				Included with above
578	U069				Included with above
579	U070				Included with above
580	U071				Included with above
581	U072				Included with above
582	U073				Included with above
583	U074				Included with above
584	U075				Included with above
585	U076				Included with above
586	U077				Included with above
587	U078				Included with above
588	U079				Included with above
589	U080				Included with above
590	U081				Included with above
591	U082				Included with above
592	U083				Included with above
593	U084				Included with above
594	U085				Included with above
595	U086				Included with above
596	U087				Included with above
597	U088				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
598	U089				Included with above
599	U090				Included with above
600	U091				Included with above
601	U092				Included with above
602	U093				Included with above
603	U094				Included with above
604	U095				Included with above
605	U096				Included with above
606	U097				Included with above
607	U098				Included with above
608	U099				Included with above
609	U101				Included with above
610	U102				Included with above
611	U103				Included with above
612	U105				Included with above
613	U106				Included with above
614	U107				Included with above
615	U108				Included with above
616	U109				Included with above
617	U110				Included with above
618	U111				Included with above
619	U112				Included with above
620	U113				Included with above
621	U114				Included with above
622	U115				Included with above
623	U116				Included with above
624	U117				Included with above
625	U118				Included with above
626	U119				Included with above
627	U120				Included with above
628	U121				Included with above
629	U122				Included with above
630	U123				Included with above
631	U124				Included with above
632	U125				Included with above
633	U126				Included with above
634	U127				Included with above
635	U128				Included with above
636	U129				Included with above
637	U130				Included with above
638	U131				Included with above
639	U132				Included with above
640	U133				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
641	U134				Included with above
642	U135				Included with above
643	U136				Included with above
644	U137				Included with above
645	U138				Included with above
646	U140				Included with above
647	U141				Included with above
648	U142				Included with above
649	U143				Included with above
650	U144				Included with above
651	U145				Included with above
652	U146				Included with above
653	U147				Included with above
654	U148				Included with above
655	U149				Included with above
656	U150				Included with above
657	U151				Included with above
658	U152				Included with above
659	U153				Included with above
660	U154				Included with above
661	U155				Included with above
662	U156				Included with above
663	U157				Included with above
664	U158				Included with above
665	U159				Included with above
666	U160				Included with above
667	U161				Included with above
668	U162				Included with above
669	U163				Included with above
670	U164				Included with above
671	U165				Included with above
672	U166				Included with above
673	U167				Included with above
674	U168				Included with above
675	U169				Included with above
676	U170				Included with above
677	U171				Included with above
678	U172				Included with above
679	U173				Included with above
680	U174				Included with above
681	U176				Included with above
682	U177				Included with above
683	U178				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
684	U179				Included with above
685	U180				Included with above
686	U181				Included with above
687	U182				Included with above
688	U183				Included with above
689	U184				Included with above
690	U185				Included with above
691	U186				Included with above
692	U187				Included with above
693	U188				Included with above
694	U189				Included with above
695	U190				Included with above
696	U191				Included with above
697	U192				Included with above
698	U193				Included with above
699	U194				Included with above
700	U196				Included with above
701	U197				Included with above
702	U200				Included with above
703	U201				Included with above
704	U202				Included with above
705	U203				Included with above
706	U204				Included with above
707	U205				Included with above
708	U206				Included with above
709	U207				Included with above
710	U208				Included with above
711	U209				Included with above
712	U210				Included with above
713	U211				Included with above
714	U213				Included with above
715	U214				Included with above
716	U215				Included with above
717	U216				Included with above
718	U217				Included with above
719	U218				Included with above
720	U219				Included with above
721	U220				Included with above
722	U221				Included with above
723	U222				Included with above
724	U223				Included with above
725	U225				Included with above
726	U226				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
727	U227				Included with above
728	U228				Included with above
729	U234				Included with above
730	U235				Included with above
731	U236				Included with above
732	U237				Included with above
733	U238				Included with above
734	U239				Included with above
735	U240				Included with above
736	U243				Included with above
737	U244				Included with above
738	U246				Included with above
739	U247				Included with above
740	U248				Included with above
741	U249				Included with above
742	U271				Included with above
743	U278				Included with above
744	U279				Included with above
745	U280				Included with above
746	U328				Included with above
747	U353				Included with above
748	U359				Included with above
749	U364				Included with above
750	U367				Included with above
751	U372				Included with above
752	U373				Included with above
753	U387				Included with above
754	U389				Included with above
755	U394				Included with above
756	U395				Included with above
757	U404				Included with above
758	U409				Included with above
759	U410				Included with above
760	U411				Included with above
761	P001				Included with above
762	P002				Included with above
763	P003				Included with above
764	P004				Included with above
765	P005				Included with above
766	P006				Included with above
767	P007				Included with above
768	P008				Included with above
769	P009				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
770	P010				Included with above
771	P011				Included with above
772	P012				Included with above
773	P013				Included with above
774	P014				Included with above
775	P015				Included with above
776	P016				Included with above
777	P017				Included with above
778	P018				Included with above
779	P020				Included with above
780	P021				Included with above
781	P022				Included with above
782	P023				Included with above
783	P024				Included with above
784	P026				Included with above
785	P027				Included with above
786	P028				Included with above
787	P029				Included with above
788	P030				Included with above
789	P031				Included with above
790	P033				Included with above
791	P034				Included with above
792	P036				Included with above
793	P037				Included with above
794	P038				Included with above
795	P039				Included with above
796	P040				Included with above
797	P041				Included with above
798	P042				Included with above
799	P043				Included with above
800	P044				Included with above
801	P045				Included with above
802	P046				Included with above
803	P047				Included with above
804	P048				Included with above
805	P049				Included with above
806	P050				Included with above
807	P051				Included with above
808	P054				Included with above
809	P056				Included with above
810	P057				Included with above
811	P058				Included with above
812	P059				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
813	P060				Included with above
814	P062				Included with above
815	P063				Included with above
816	P064				Included with above
817	P065				Included with above
818	P066				Included with above
819	P067				Included with above
820	P068				Included with above
821	P069				Included with above
822	P070				Included with above
823	P071				Included with above
824	P072				Included with above
825	P073				Included with above
826	P074				Included with above
827	P075				Included with above
828	P076				Included with above
829	P077				Included with above
830	P078				Included with above
831	P081				Included with above
832	P082				Included with above
833	P084				Included with above
834	P085				Included with above
835	P087				Included with above
836	P088				Included with above
837	P089				Included with above
838	P092				Included with above
839	P093				Included with above
840	P094				Included with above
841	P095				Included with above
842	P096				Included with above
843	P097				Included with above
844	P098				Included with above
845	P099				Included with above
846	P101				Included with above
847	P102				Included with above
848	P103				Included with above
849	P104				Included with above
850	P105				Included with above
851	P106				Included with above
852	P108				Included with above
853	P109				Included with above
854	P110				Included with above
855	P111				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
856	P112				Included with above
857	P113				Included with above
858	P114				Included with above
859	P115				Included with above
860	P116				Included with above
861	P118				Included with above
862	P119				Included with above
863	P120				Included with above
864	P121				Included with above
865	P122				Included with above
866	P123				Included with above
867	P127				Included with above
868	P128				Included with above
869	P185				Included with above
870	P188				Included with above
871	P189				Included with above
872	P190				Included with above
873	P191				Included with above
874	P192				Included with above
875	P194				Included with above
876	P196				Included with above
877	P197				Included with above
878	P198				Included with above
879	P199				Included with above
880	P201				Included with above
881	P202				Included with above
882	P203				Included with above
883	P204				Included with above
884	P205				Included with above

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Attachment C

Section XVII – Photographs

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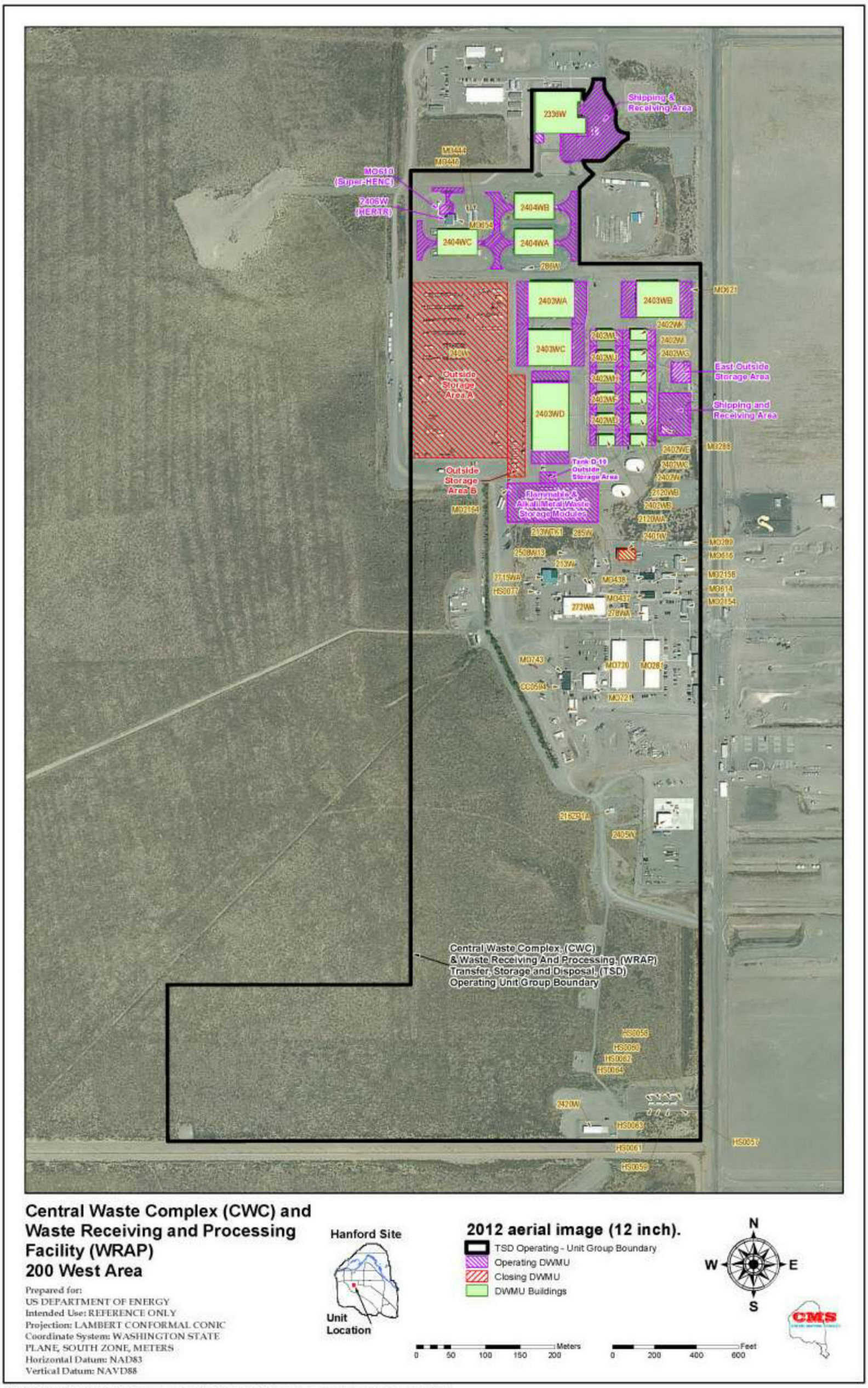


Figure C-1. CWC-WRAP Aerial Photo Operating and Closing Units

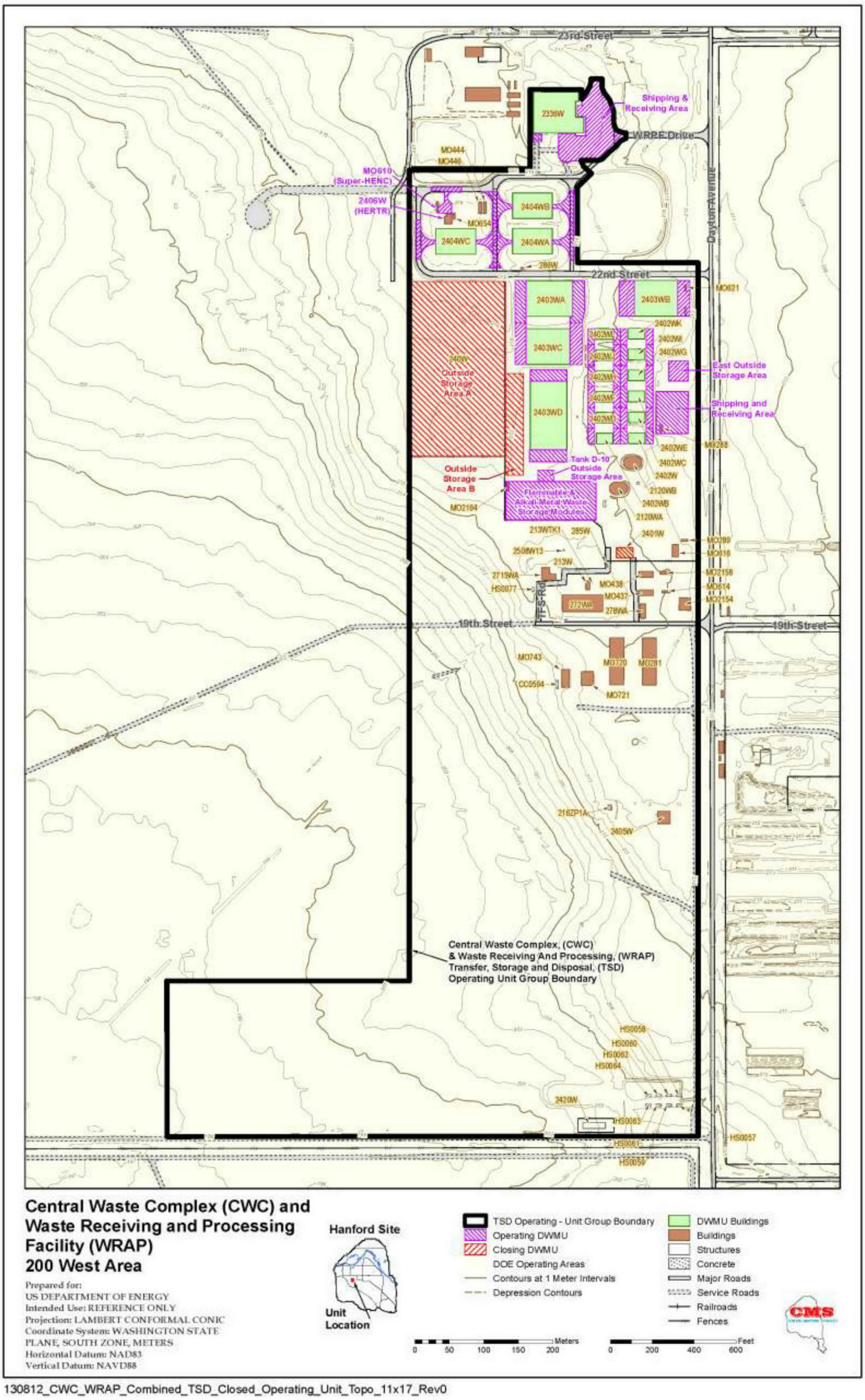


Figure C-2. Topographic Map of the CWC-WRAP Operating and Closing Units

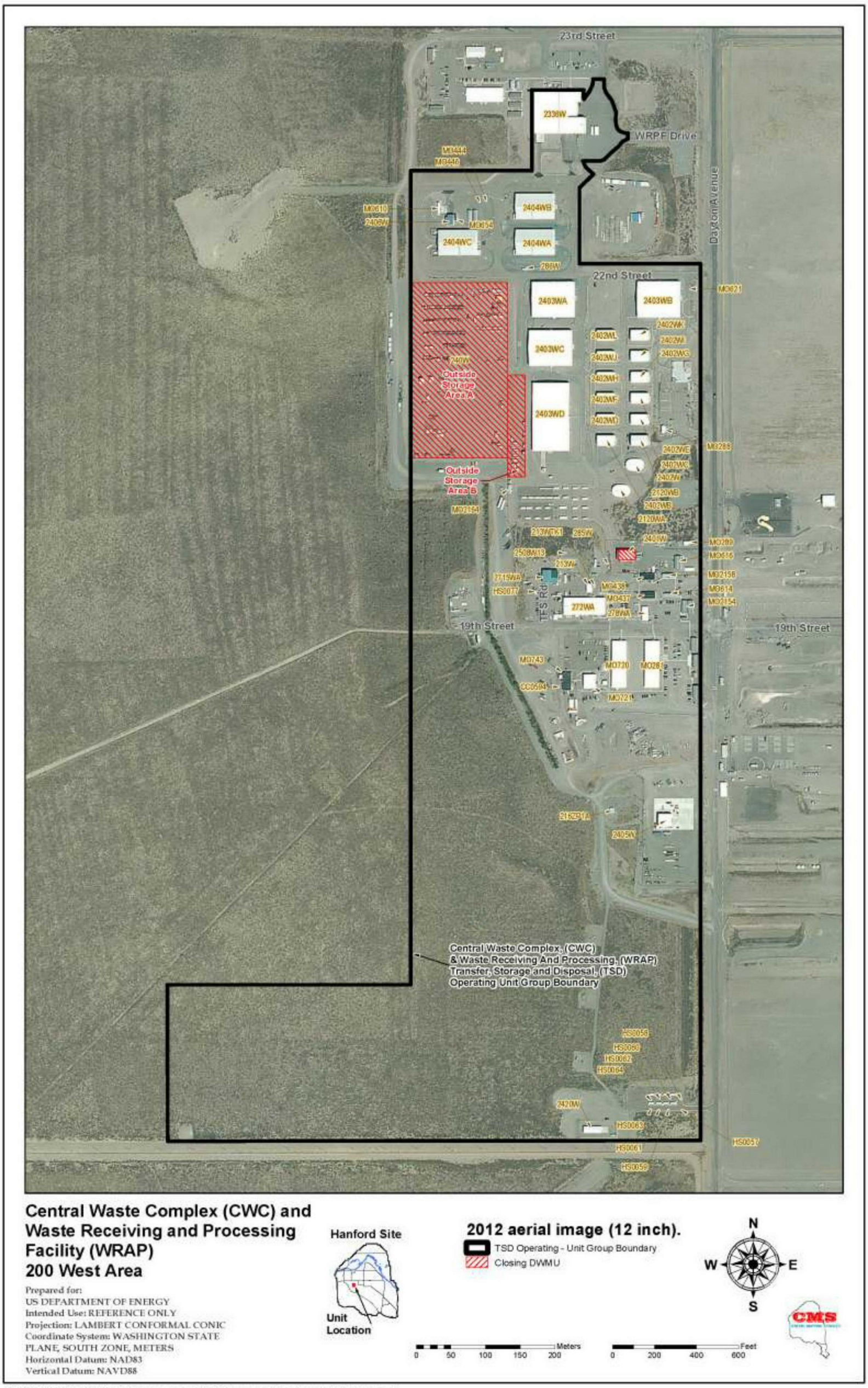
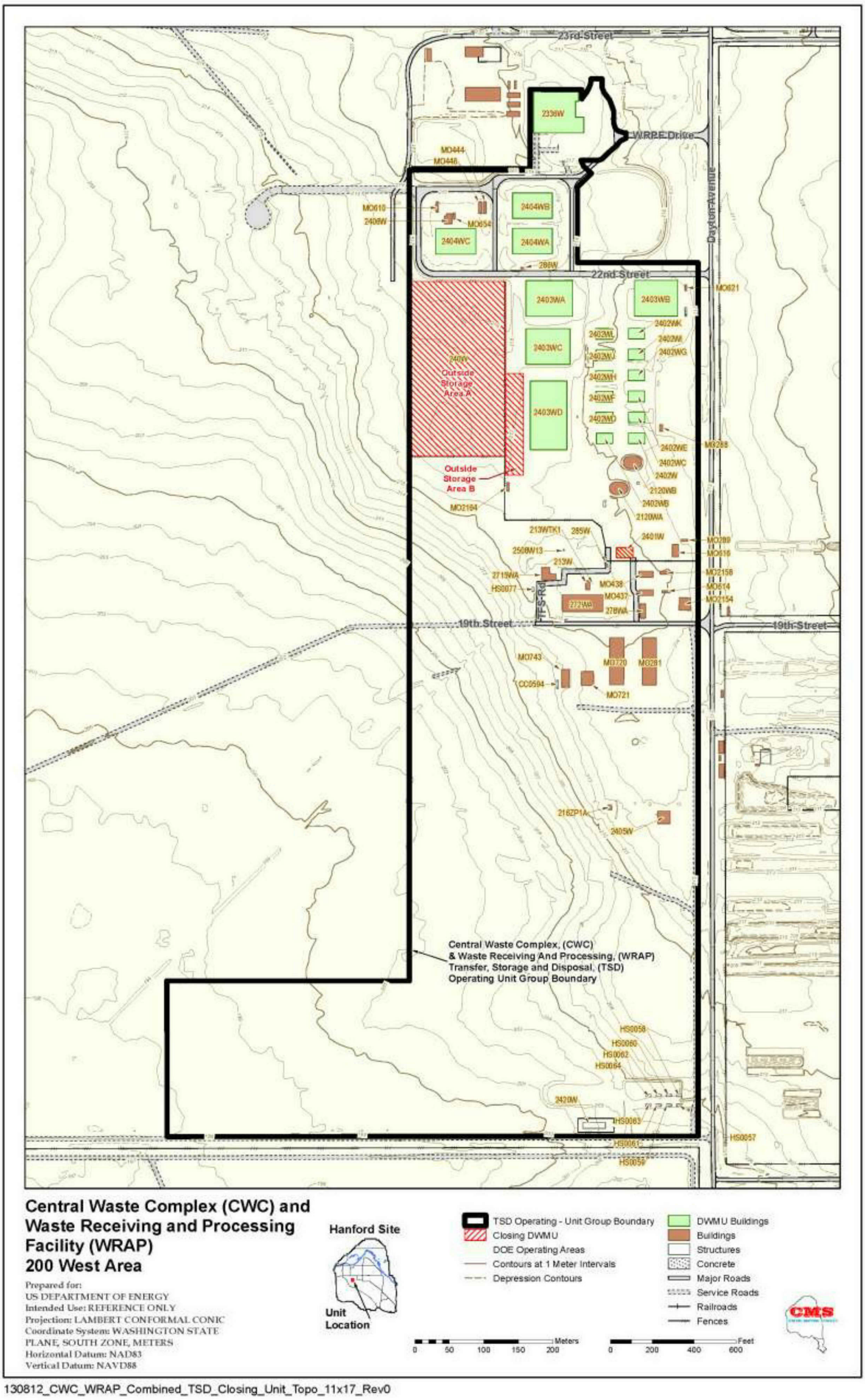


Figure C-3. CWC-WRAP Aerial Photo Closing Units Only



130812_CWC_WRAP_Combined_TSD_Closing_Unit_Topo_11x17_Rev0

Figure C-4. Topographic Map of the CWC-WRAP Closing Units Only

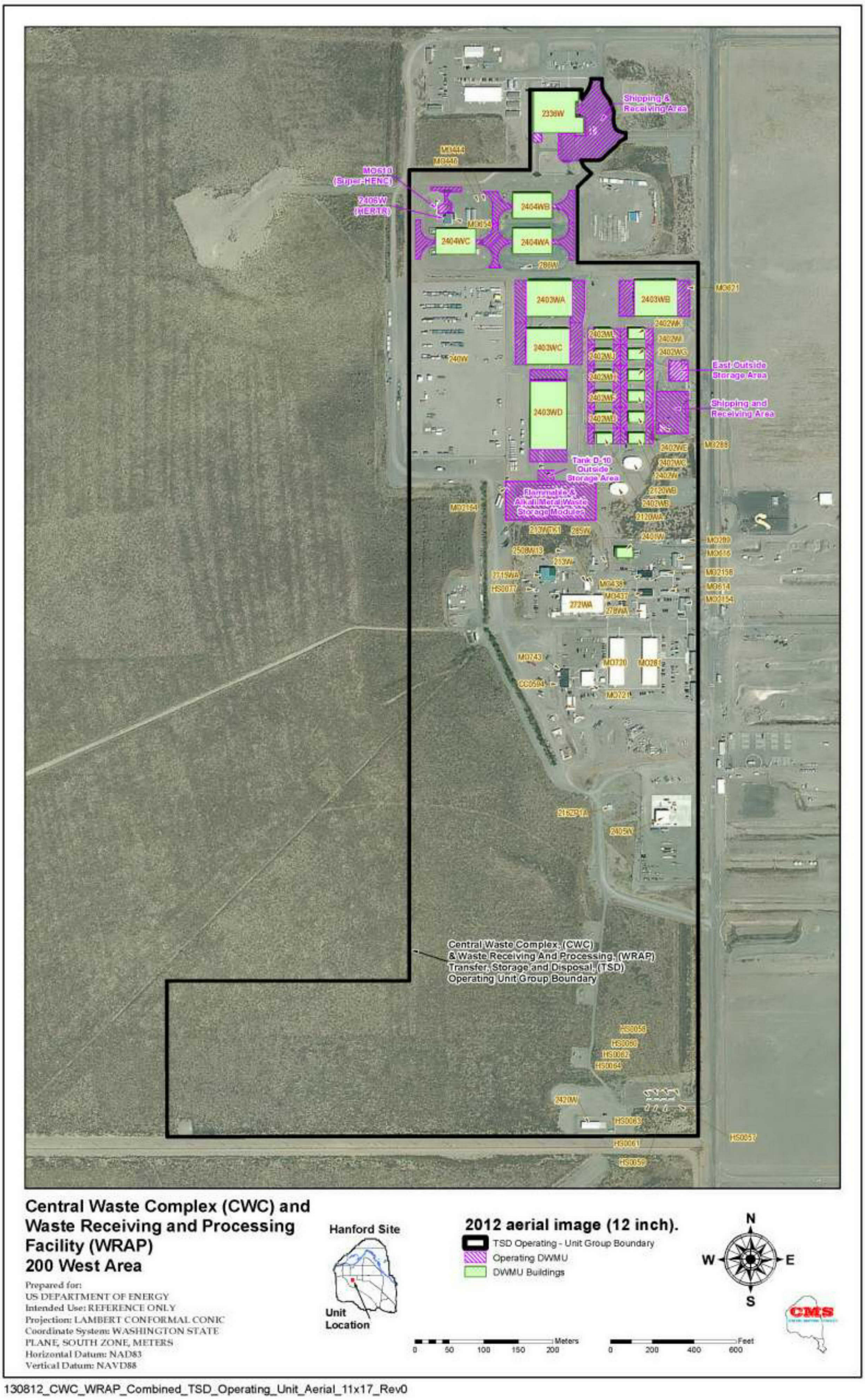


Figure C-5. CWC-WRAP Aerial Photo Operating Units Only

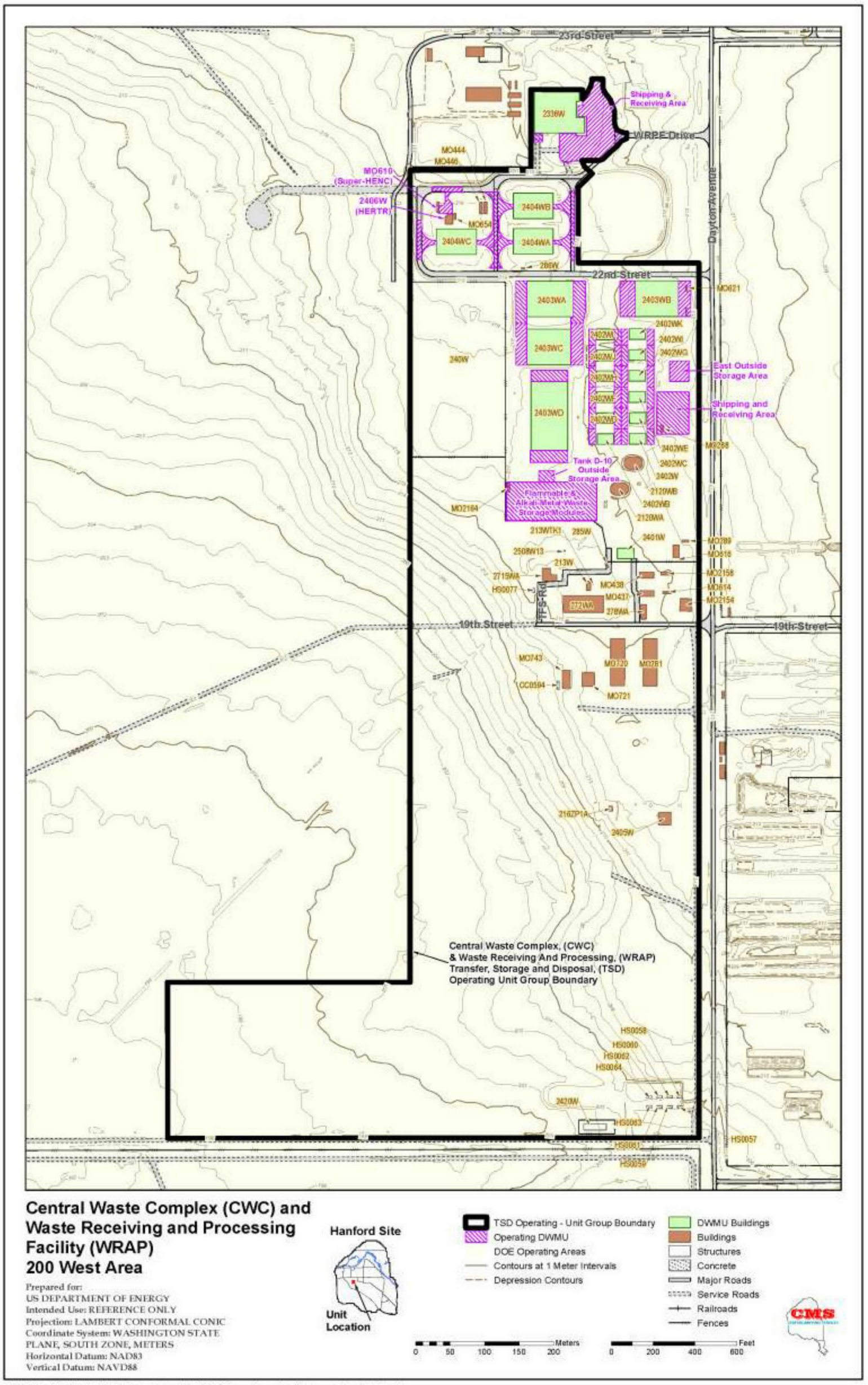


Figure 6. Topographic Map of the Operating Units Only

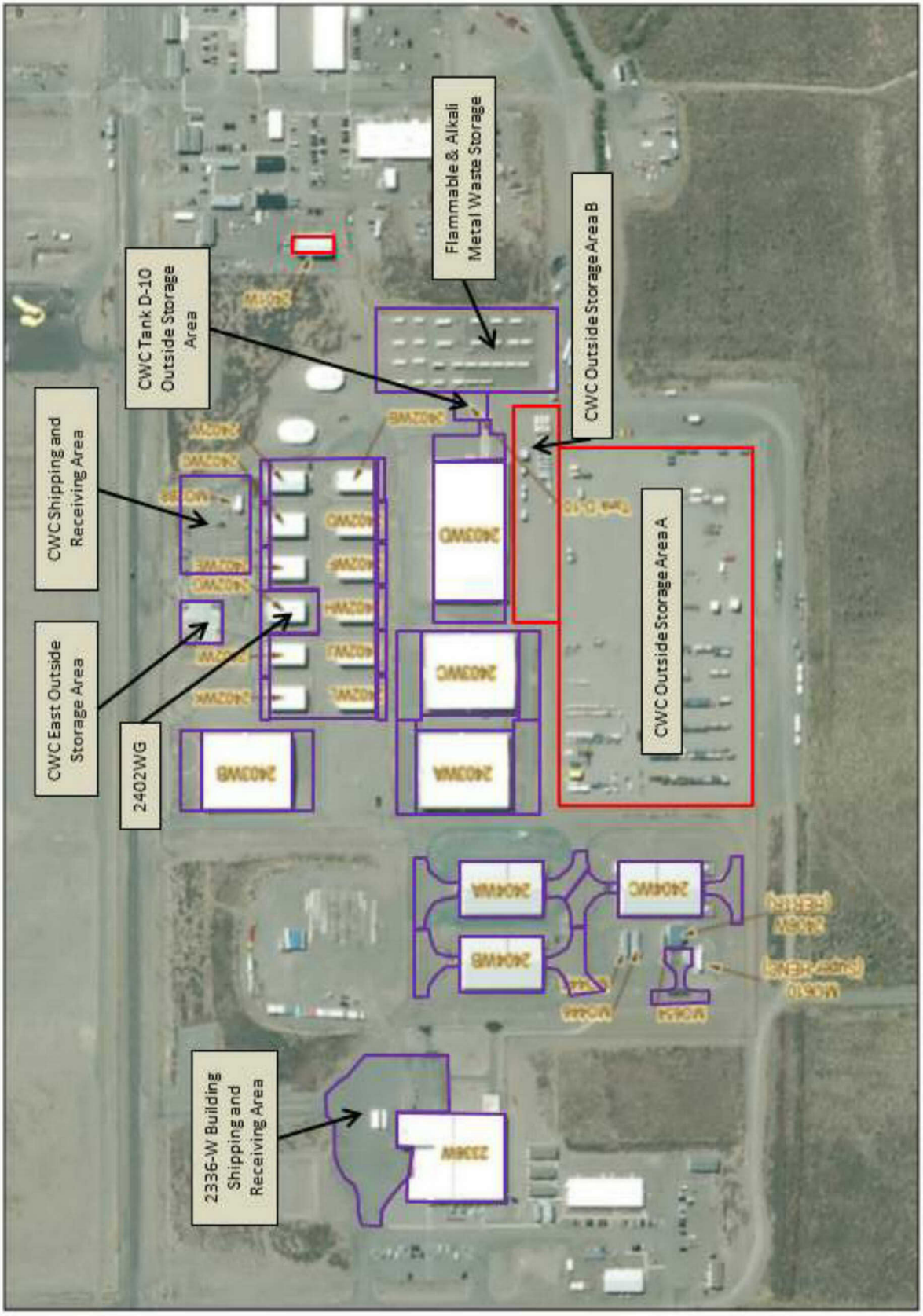


Photo C-1. CWC-WRAP Aerial Photo (August 2010)

Photo C-2. AMW-4 (Typical Alkali Metal Waste Storage Module, March 2013)

Photo C-3. FS-23 (Typical Flammable Waste Storage Module, March 2013)

Photo C-4. 2402-W Series Waste Storage Buildings (March 2013)

Photo C-5. 2402-WI (Typical of Outdoor areas associated with 2402-Series Waste Storage Buildings, March 2013)

Photo C-6. 2403-WB (Typical of 2403-WA through WC-Series Waste Storage Buildings, including outdoor area, March 2013)

Photo C-7. 2403-WD Waste Storage Building (including outdoor area, March 2013)

Photo C-8. 2404-WA Waste Storage Building (including outdoor area, March 2013)

Photo C-9. CWC Tank D-10 Outside Storage Area (March 2013)

Photo C-10. CWC East Outside Storage Area (March 2013)

Photo C-11. CWC Shipping and Receiving Area (includes outdoor areas, March 2013)

Photo C-12. 2336-W Building Process Area (April 2012)

Photo C-13. 2336-W Building NDA/NDE Area (April 2012)

Photo C-14. 2336-W Building NDA/NDE Area, Outdoor Storage Area (February 2013)

Photo C-15. 2336-W Building Shipping and Receiving Area (April 2012)

Photo C-16. 2336-W Building Shipping and Receiving Area, WIPP Conveyance Staging Area (outdoor area, 2010)

Photo C-17. 2336-W Building Shipping and Receiving Area, Building 2336W Loading Dock (outdoor area, February 2013)

Photo C-18. 2336-W Building Room 152 (January 2013)

(Typical of the 2404-series buildings, including entry apron, February 2013)

Photo C-19. 2404-WC Waste Storage Building

Photo C-20. HERTR and Super-HENC Waste Outdoor Storage Area (near Super-HENC, February 2013)

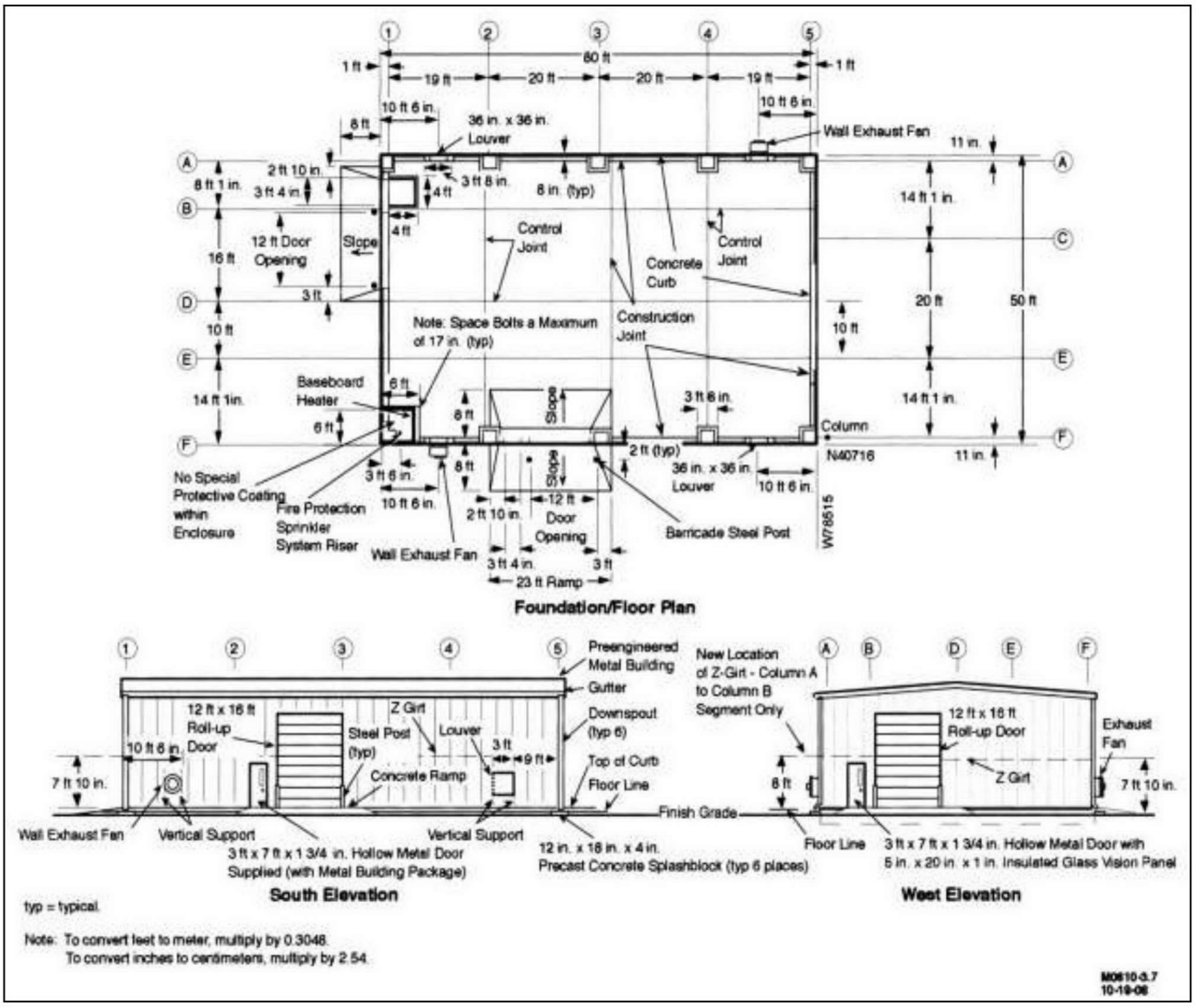
Photo C-21. HERTR and Super-HENC Waste Outdoor Storage Area (near HERTR, April 2012)

Photo C-22. HERTR and Super-HENC Waste Outdoor Storage Area (near Super-HENC, February 2013)

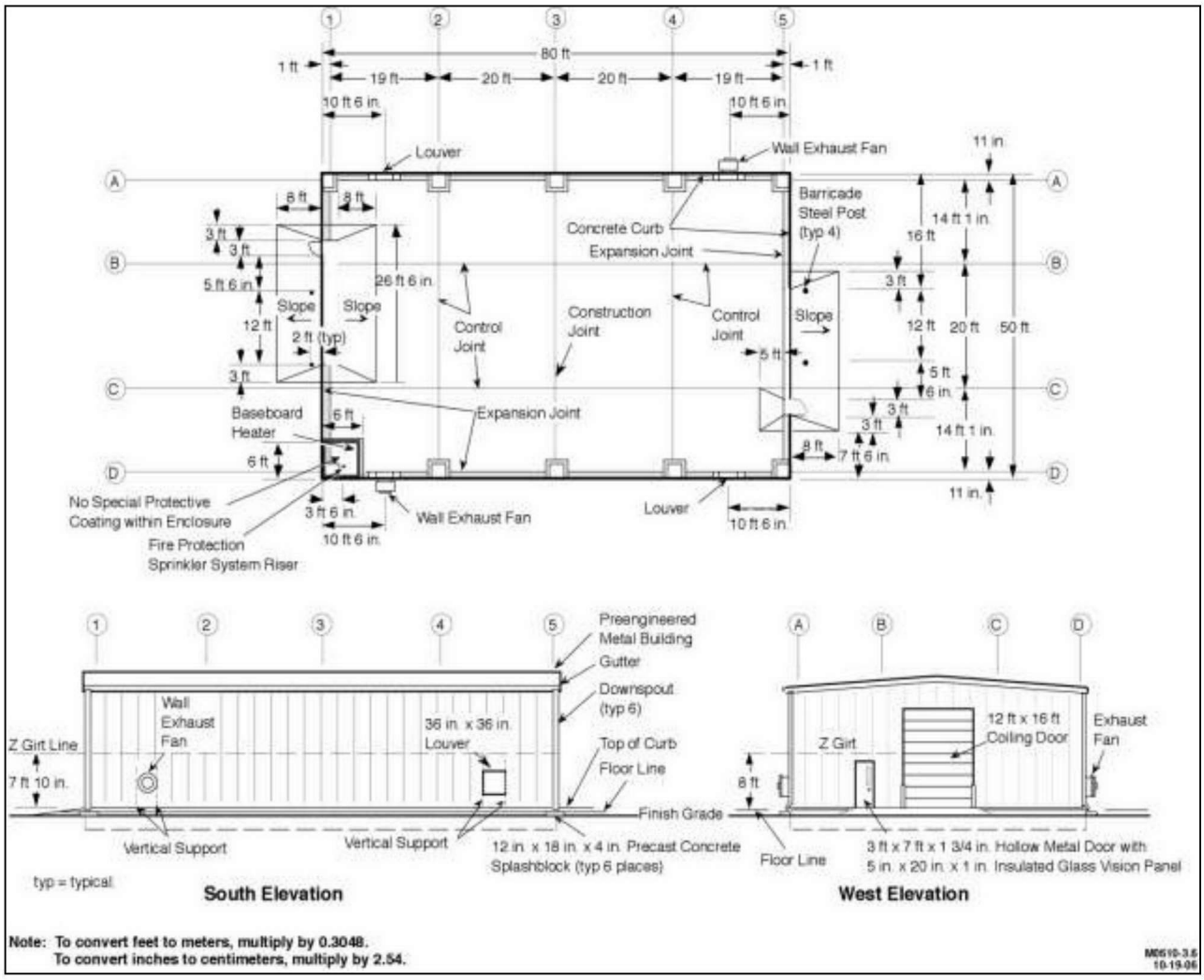
Photo C-23. CWC West Outside Storage Area A (Closing DWMU, March 2013)

Photo C-24. CWC West Outside Storage Area B (Closing DWMU, March 2013)

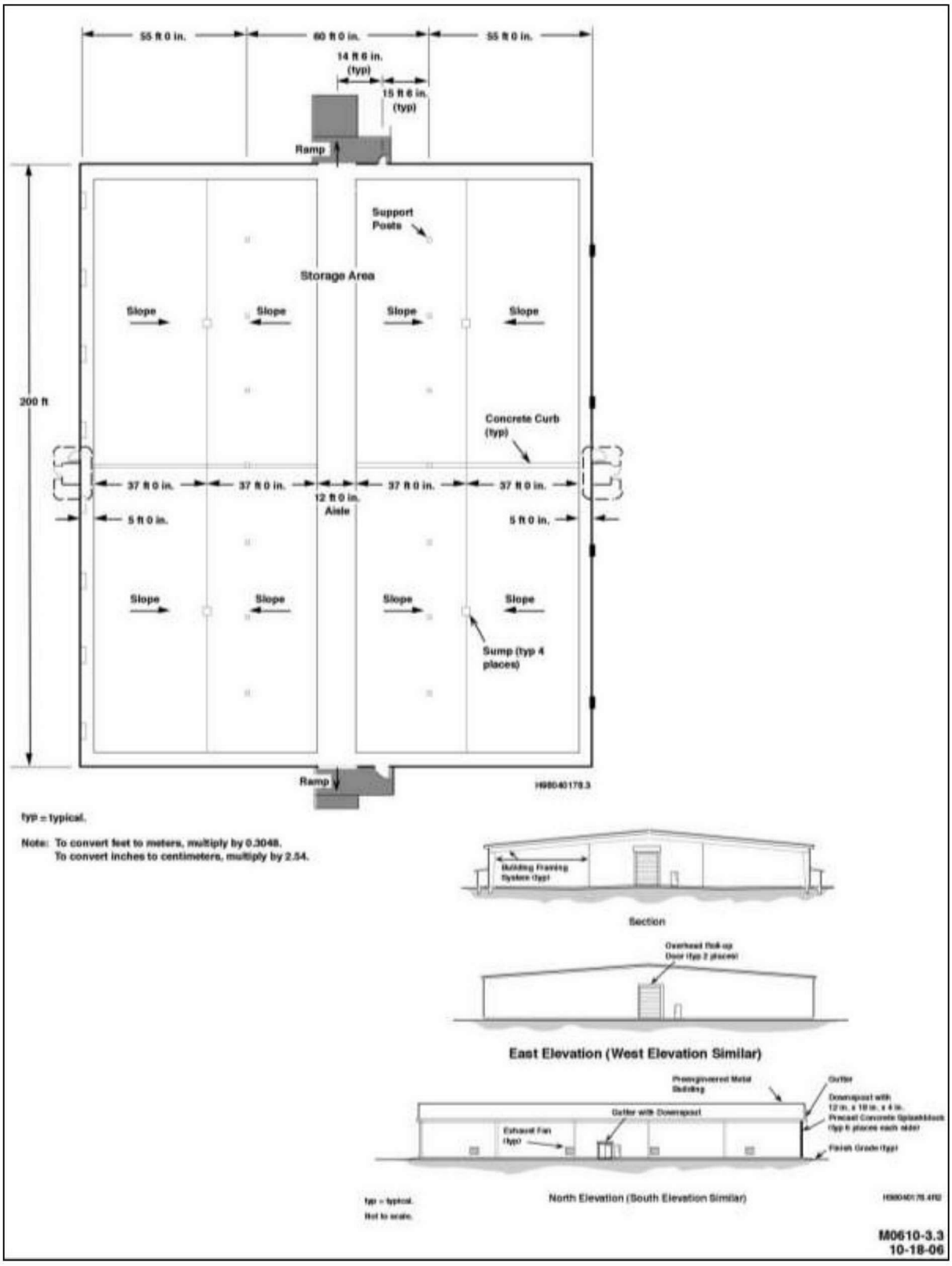
Photo C-25. CWC 2401W Waste Storage Building (Closing DWMU, September 2013)



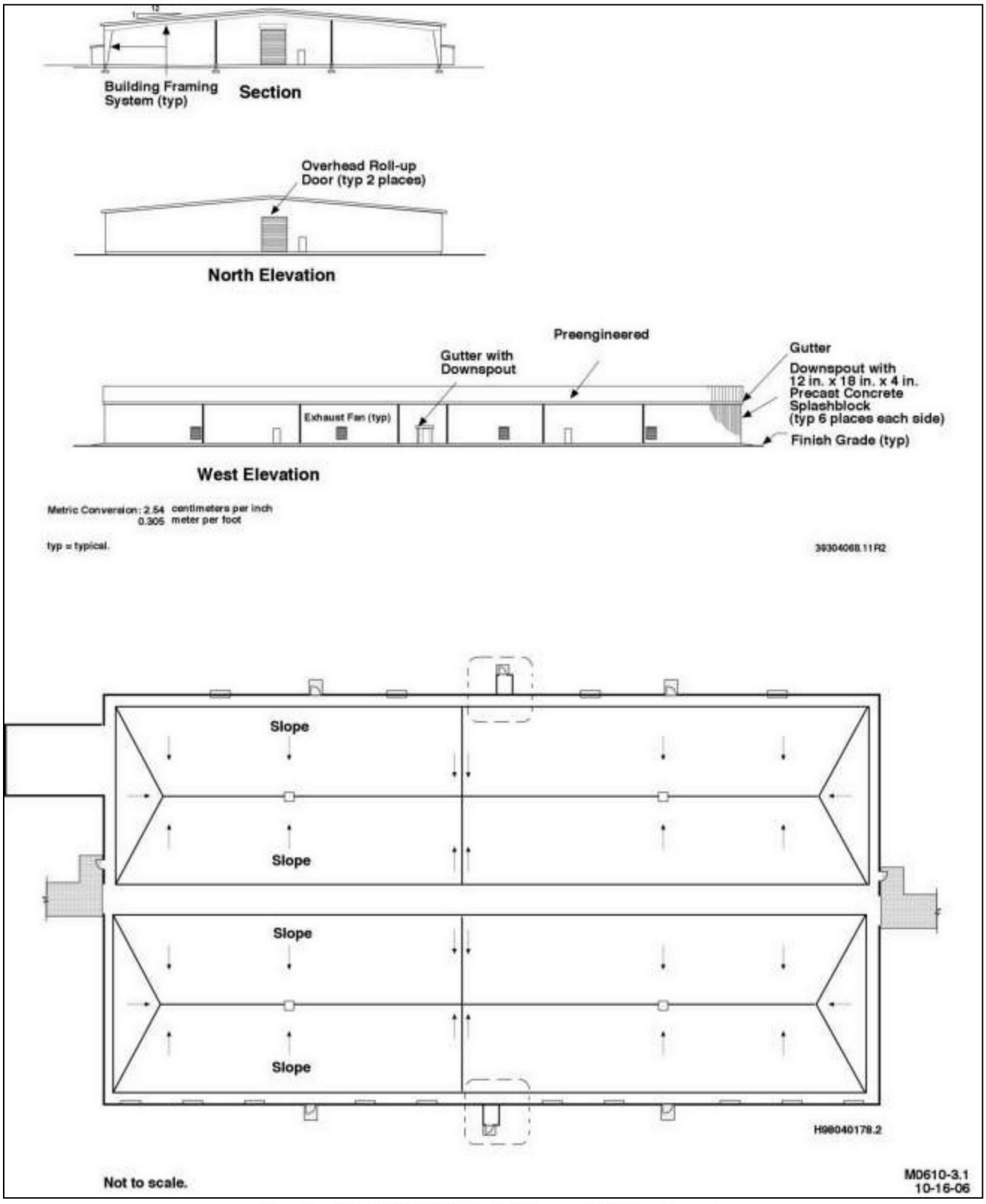
Drawing C-1. CWC 2401W Waste Storage Building Layout (Closing DWMU)



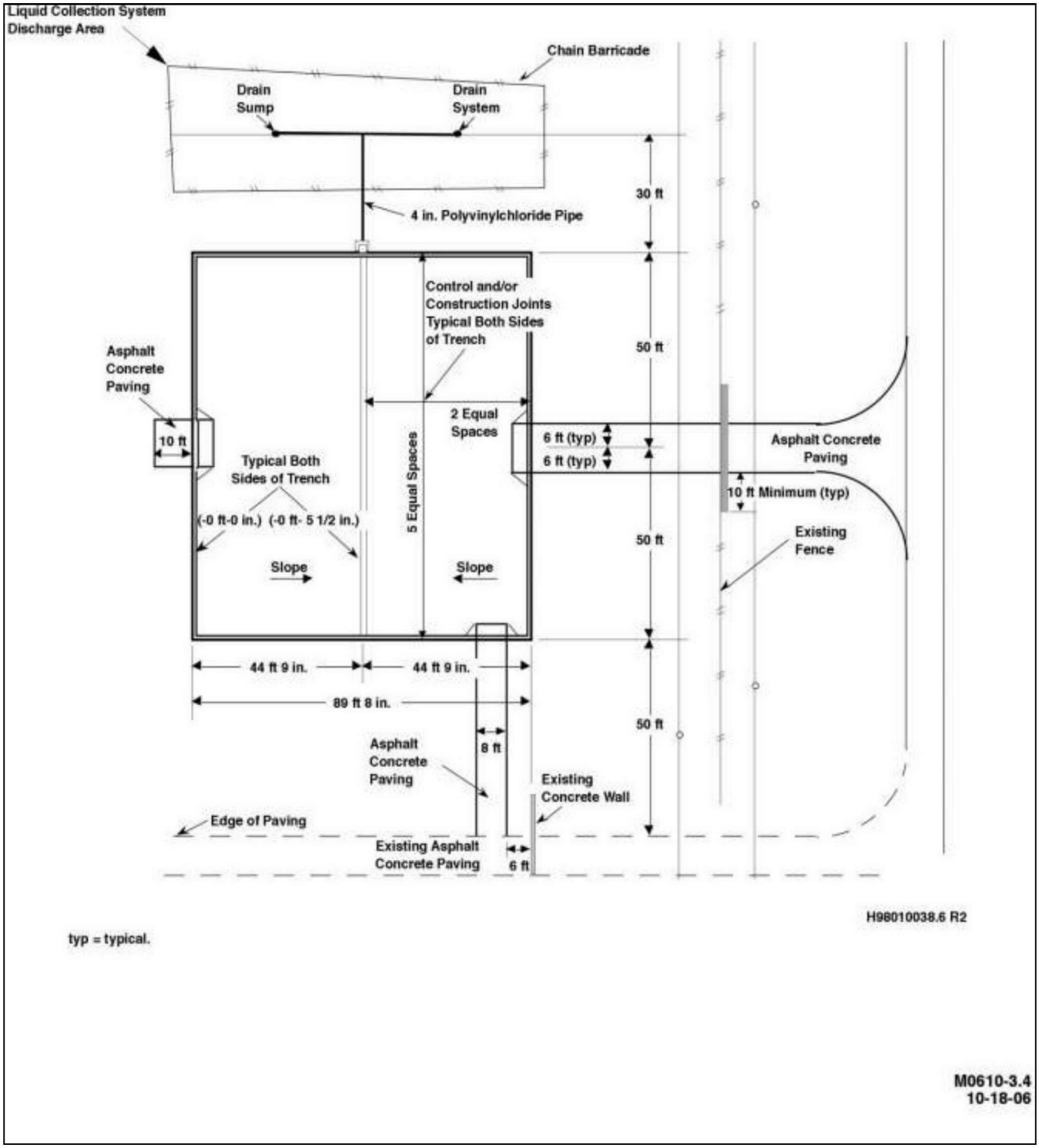
Drawing C-2. 2402-W Series Waste Storage Buildings Layout



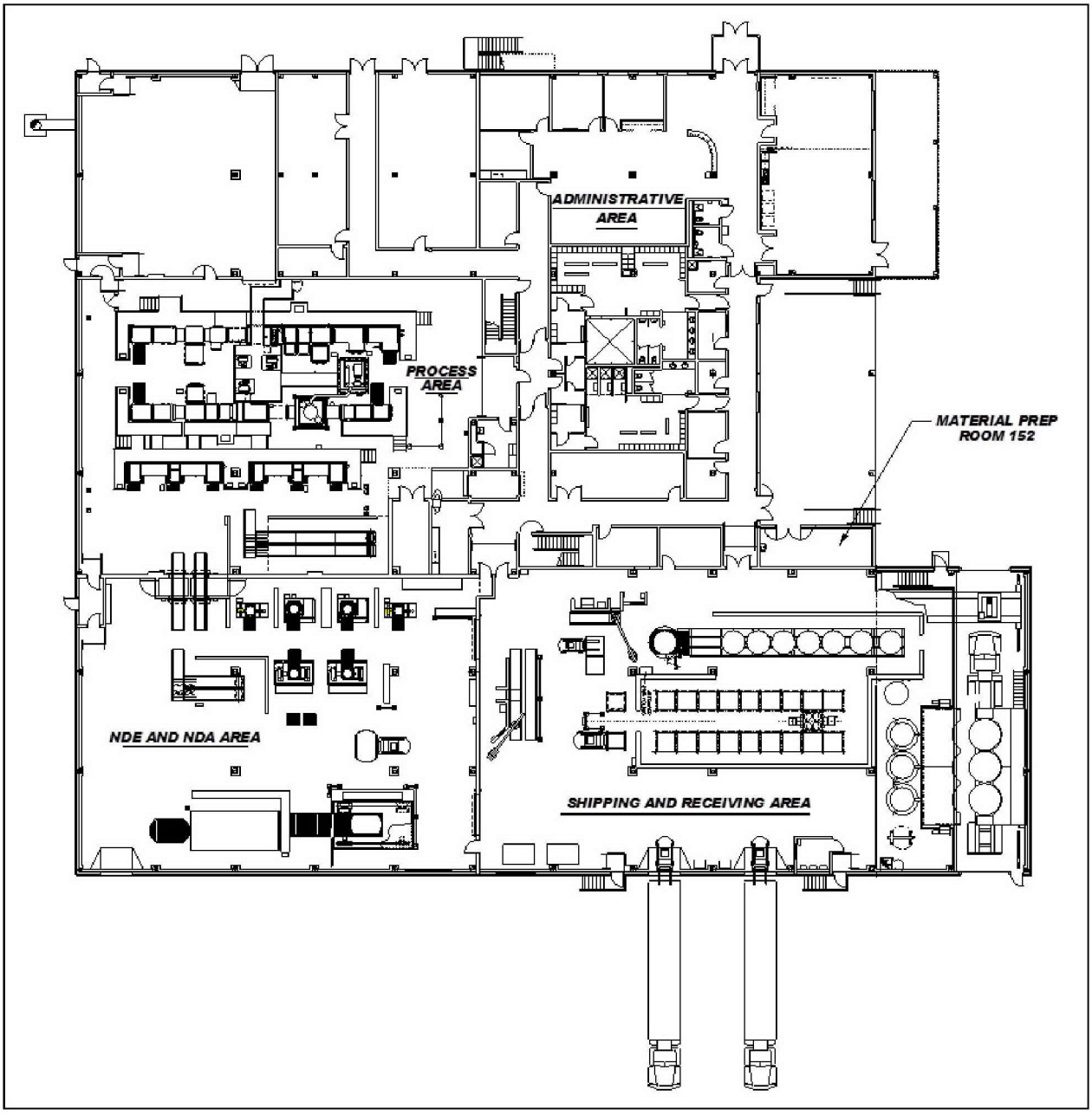
Drawing C-3. 2403-WA through WC Series Waste Storage Buildings Layout



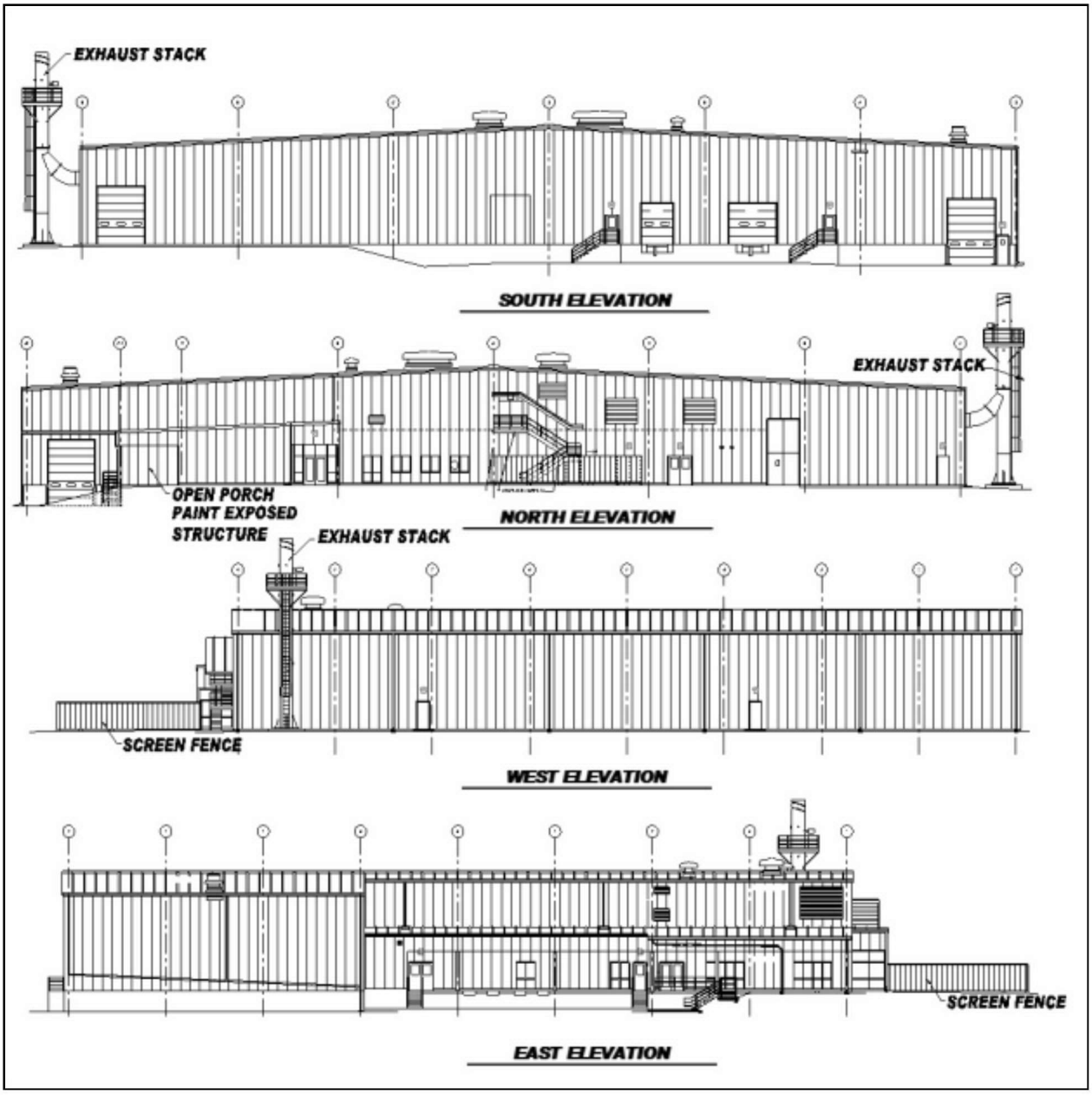
Drawing C-4. 2403-WD Waste Storage Building Layout



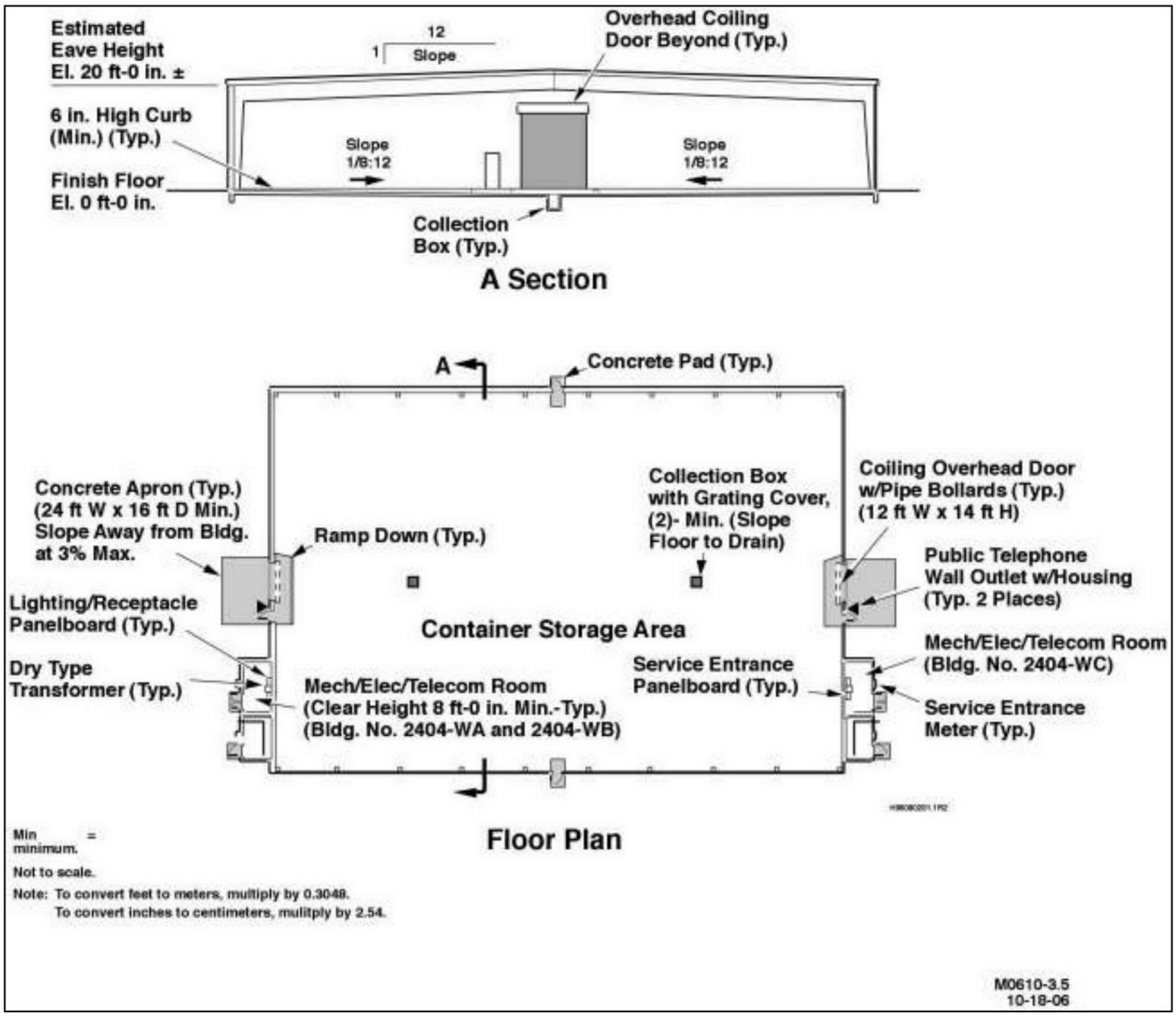
Drawing C-5. CWC East Outside Storage Area Layout



Drawing C-6. Building 2336W Layout



Drawing C-7. Building 2336W Elevations



Drawing C-8. 2404-WA and WB Waste Storage Building Layout

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WASHINGTON STATE DEPARTMENT OF ECOLOGY

Addendum A
Part A Form

Date Received			Reviewed by:		Date:								
Month	Day	Year	Approved by:		Date:								

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:**
	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

825 Jadwin

City or Town	State	ZIP Code
Richland	WA	99352

County Code (if known)	County Name
005	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 (Attachment C) for LLBG Trenches 31, 34, and 94 OUG-17 (LLBG Trenches 31-34-94)		03	02	1943

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**
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 LLBG Trenches 31-34-94*	(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. Owner Type	C. Does the name in VIII.A reflect a proposed change in owner?		If yes, provide the scheduled date for the change:
F		☐ Yes ☒ No	Month / Day / Year

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 / Day / Year

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)**
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	C. Does the name in VIII.A reflect a proposed change in owner?		If yes, provide the scheduled date for the change:
F		☐ Yes ☒ No	Month / Day / Year

IX. NAICS Codes (5/6 digit codes)

A. First						B. Second						
5	6	2	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	1		Research & Development in the Physical, Engineering, & Life Sciences							

X. Other Environmental Permits (see instructions)

A. Permit Type	B. Permit Number	C. Description
E	AOP00-05-006	Title V Air Operating Permit
	FF-01-472	WAC 246-247 Radioactive Air Emissions approval, AIR 12-315, Emission Unit 472
E	FF-01-473	WAC 246-247 Radioactive Air Emissions approval, AIR 12-315, Emission Unit 473
E	FF-01-486	WAC 246-247 Radioactive Air Emissions approval, AIR 11-1006, Emission Unit 486
E	FF-01	WAC 246-247 Radioactive Air Emissions approval, AIR 12-339

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

SEE ATTACHMENT A for further description

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and operated by the U.S. Department of Energy. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed on the Hanford Facility.

The Low Level Burial Ground (LLBG) Trenches 31-34-94 Operating Unit Group (hereinafter referred to as LLBG Trenches 31-34-94), are comprised of the following three trenches: LLBG Trench 31 and LLBG Trench 34 in the 200 West Area of the Hanford site, and LLBG Trench 94 in the 200 East Area of the Hanford Facility. In addition, there are two waste storage and treatment pads located above the disposal trenches. Each is described in general below; additional information is located in Attachment A.

LLBG Trenches 31 and 34:

LLBG Trenches 31 and 34 are two large rectangular excavations in the southwest corner of the 218-W-5 Burial Ground operated as units for disposal of treated and land disposal restriction (LDR) compliant dangerous and/or mixed waste (D81). LLBG Trenches 31 and 34 are rectangular, and at the top are approximately 137 m (450 ft) long by 91 m (300 ft) wide, and 9 m (30 ft) in depth. LLBG Trenches 31 and 34 began receiving waste for disposal on September 15, 1999. The LLBG Trenches 31 and 34 disposal cells are constructed with polyethylene liners and leachate collection system. In addition, there are two waste storage pads (LLBG Trench 31 Waste Storage and Treatment Pad and LLBG Trench 34 Waste Storage and Treatment Pad) that provide storage containerized mixed waste before disposal. Treatment is also provided at these pads as described in Attachment A and below.

D80: The disposal volume is based on trench floor dimensions of 76 m (250 ft) long by 31 m (100 ft) wide and a depth of 9 m (30 ft). The process design capacity for disposal of mixed waste in LLBG Trenches 31-34 is approximately 21,408 m^3 (28,000 yd^3) per trench for a total process design capacity of 42,816 m^3 (56,000 yd^3).

S01: The LLBG Trench 31 Waste Storage and Treatment Pad and LLBG Trench 34 Waste Storage and Treatment Pad are constructed with an asphalt base. Each area has a total area of approximately 2,090 sq m (22,500 sq ft) [45.7 m (150 ft)

wide by 45.7 meters (150 ft) long]. The corner of each pad near the ramp measuring approximately 30.4 m (100 ft) by 30.4 m (100 ft) is constructed over the corner of the trench liner. The container storage process design capacity for each of these storage areas is 690 m^3 (902 yd^3) for a combined process design capacity of 1,380 m^3 (1,804 yd^3), which is equivalent to 1,380,000 Liters.

T04: Treatment to meet the LDR requirements will be performed within the storage pads above LLBG Trenches 31 and 34. The treatment capability consists of the use of immobilization technologies for mixed waste debris as listed under 40 CFR 268.45, Table 1, Alternative Treatment Standards for Hazardous Debris and MACRO in 40 CFR 268.42. In addition, the mixed waste containers will meet the 90 percent full container requirements following treatment. Treatment would be limited to those technologies that can be employed in/on containerized mixed waste. The process design capacity for treatment is estimated to be 115,000 liters (115 m^3) per day.

LLBG Trench 94:

The Low Level Burial Ground (LLBG) Trench 94 is a land-based unit located in the 200 East Area of the Hanford Facility in the northeast corner of 218-E-12B Burial Ground. Trench 94 covers a total area of approximately 49 hectares and is designed for the receipt and final disposal of decommissioned, defueled, reactor compartments (RCs).

The current excavated area of LLBG Trench 94 (excluding the north access ramp) is approximately 540 m (1,770 ft) long by 140 m (460 ft) wide at grade level [494 m (1,620 ft) by 98 m (320 ft) on the floor], and typically about 14 m (45 ft) in depth where the defueled reactor compartments packages are placed. Unused portions of the trench can be deeper that 15 m (50 ft). The horizontal and vertical side slopes of LLBG Trench 94 are approximately 1V:1-1/2H.

D80: The process design capacity of the LLBG Trench 94 is approximately 1,500,000 m^3 (1,962,000 yd^3).

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.*

XII. Process Codes and Design Capacities					XIII. Other Process Codes					
		B. Process Design Capacity					B. Process Design Capacity		C. Process Total Number of Units	
Line Number	A. Process Codes	1. Amount	2. Unit of Measure	C. Process Total Number of Units	Line Number	A. Process Codes	1. Amount	2. Unit of Measure		D. Process Description
X1	***S02***	***1,600***	***G***	***002***	***X1***	***T04***	***700***	***C***	***001***	***In situ vitrification***
X2	***T03***	***20***	***E***	***001***						
X3	***T04***	***700***	***C***	***001***						
1	D80	1,542,816,000	L	003	1	T04	115,000	V	2	Debris Immobilization
2	S01	1,380,000	L	002						
3	T04	115,000	V	002						
4										
5										
6										
7										
8										
9										
10										
11										
12										

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	D. Processes (2) Process Description [If a code is not entered in D.(1)]
X1	*D 0 0 2*	*400*	*P*	*0 1 T 0 1*	
X2	*D 0 0 1*	*100*	*P*	*0 2 T 0 1*	
X3	*D 0 0 2*				*Included with above*
1					

A description of the Dangerous Wastes managed in LLBGs Trenches 31-34-94 is provided in Attachment B.

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.

A topographic map of the Hanford Facility has been provided separately. Topographic maps for LLBG Trenches 31-34-94 are located in Attachment C.

XVI. Facility Drawing

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

Facility drawings of the Hanford Facility have been provided separately. Drawings for the LLBG Trenches 31 and 34 are located in Attachment C.

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).

Photographs of the Hanford Facility have been provided separately. Photographs for LLBG Trenches 31-34-94 are located in Attachment C.

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	Signature	Date Signed
Name and Official Title U.S. Department of Energy Richland Operations Office By Matthew S. McCormick, Manager		10/3/2013
Operator Name and Official Title CH2M HILL Plateau Remediation Company By John C. Fulton, President and Chief Executive Officer	**Signature**	**Date Signed** 10/3/2013

Co-Operator – Address and Telephone Number*
P.O. Box 1600
Richland, WA 99352
(509) 376-0556

Facility-Property Owner	Signature	Date Signed
Name and Official Title U.S. Department of Energy Richland Operations Office By Matthew S. McCormick, Manager		10/3/2013

Comments

Section XI. Refer to Attachment A for further description.

Section XII. Volumes for disposal, treatment, and container storage are the sum of all the DWMUs at the LLBG Trenches 31-34-94.

Section XIV. Refer to Attachment B for waste codes for storage and treatment at the LLBG Trenches 31-34-94. The waste codes at are divided into 5 groups to reflect the three main processes at LLBG Trenches 31-34-94: storage, treatment, and disposal as well as the different physical locations of the trenches.

Section XV. A topographic map of the Hanford Facility has been provided separately. Topographic map for LLBG Trenches 31-34-94 is located in Attachment C.

Section XVI. Facility drawings of the Hanford Facility have been provided separately. Drawings for the LLBG Trenches 31-34-94 are located in Attachment C.

Section XVII. Photographs of the Hanford Facility have been provided separately. Photographs for the LLBG Trenches 31-34-94 are located in Attachment C.

Attachment A

Section XI – Nature of Business

A1 Introduction

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and operated by the U.S. Department of Energy (DOE), Richland Operations Office. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed within the Hanford Facility.

The Low Level Burial Ground (LLBG) Trenches 31-34-94 Operating Unit Group (OUG; hereinafter referred to as LLBG Trenches 31-34-94) comprises the following three trenches: LLBG Trenches 31 and 34 in the Hanford 200 West Area , and LLBG Trench 94 in the Hanford 200 East Area. Previously, LLBG Trenches 31 and 34, and LLBG Trench 94 were managed as separate OUGs. However, due to similar missions and operational capabilities they are now combined into one OUG.

LLBG Trenches 31 and 34 are two large rectangular excavations in the southwest corner of the 218-W-5 Burial Ground operated as units for disposal of treated and land disposal restriction (LDR) compliant mixed waste (D80). LLBG Trenches 31 and 34 are rectangular, and at the top are approximately 137 m (450 ft) long by 91 m (300 ft) wide, and 9 m (30 ft) deep. LLBG Trenches 31 and 34 began receiving waste for disposal on September 15, 1999. The LLBG Trenches 31 and 34 are each constructed with polyethylene liners and a leachate collection system. In addition, two waste storage pads (LLBG Trench 31 Waste Storage and Treatment Pad and LLBG Trench 34 Waste Storage and Treatment Pad) hold containerized mixed waste before disposal. Treatment provided at the LLBG Trenches 31 and 34 Waste Storage and Treatment Pads consists of using immobilization technologies for mixed waste debris to meet 40 CFR 268.45. This treatment would allow the compliant LDR waste containers to be moved into the trenches below for final disposal.

LLBG Trench 94 is a land-based unit located in the 200 East Area of the Hanford Facility in the northeast corner of 218-E-12B Burial Ground. Trench 94, which covers a total area of approximately 49 ha (121 ac), is designed for the receipt and final disposal of decommissioned, defueled reactor compartments (RCs). The first defueled RC was placed in Trench 94 in April 1986. The RCs are prepared for disposal by the Puget Sound Naval Shipyard (PSNS) in Bremerton, Washington, and transported by barge to the Port of Benton at the Hanford Site.

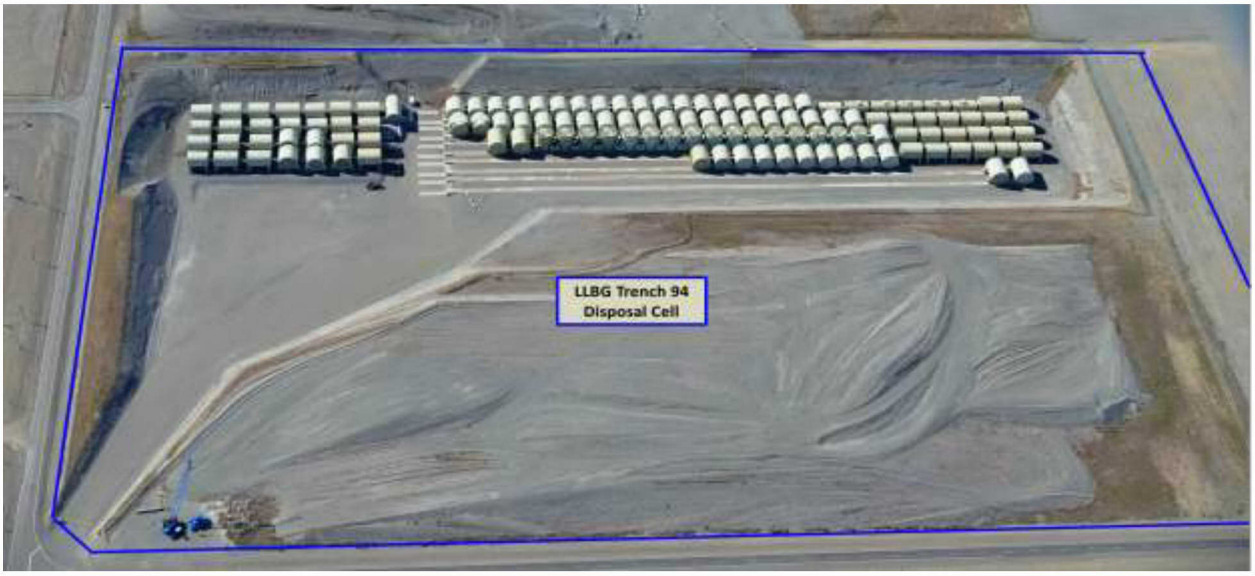
A2 General Description of Onsite Activities

The LLBG Trenches 31-34-94 provide storage, treatment, and disposal for dangerous and/or mixed waste from Hanford onsite and off-site generators. LLBG Trenches 31 and 34 are large rectangular excavations in the southwest corner of the 218-W-5 Burial Ground operated as units for disposal of dangerous and/or mixed waste (Figure C.1). The LLBG Trenches 31 and 34 are constructed with polyethylene liners and leachate collection system. All mixed waste destined for disposal in LLBG Trenches 31 and 34 must meet LDR requirements [40 CFR Part 268, incorporated by reference by WAC 173-303-140] or a site specific treatability variance approved by Ecology. Mixed waste to be disposed in LLBG Trenches 31 and 34 may include bulk waste, and containerized waste can include long-length contaminated equipment. A diverse range of waste containers can be disposed at LLBG Trenches 31 and 34 including, but not limited to, containers/drums, waste boxes, and miscellaneous equipment. The LLBG Trench 94 disposal cell is designed for the receipt and final disposal of decommissioned, defueled reactor compartments.

The LLBG Trenches 31 and 34 Waste Storage and Treatment Pads - Dangerous Waste Management Units (DWMUs) are located above the disposal cells at ground surface level and provide storage of waste containers prior to final disposal within the disposal cells underneath. Treatment to be performed on these pads consists of the use of immobilization technologies for mixed waste debris to meet LDR requirements prior to disposal in the cells.

Photograph Date: November 2011

Photo A-1. Aerial Photo of LLBG Trenches 31-34 Operating and Closing DWMU



Photograph Date: 2011

Photo A-2. Aerial Photo of LLBG Trench 94

Table A-1 identifies the operating DWMUs in the LLBG Trenches 31-34-94 where dangerous and mixed waste is treated or stored. Table A-2 indicates the type of DWMU and the corresponding treatment authorization.

The LLBG Trenches 31-34-94 include a DWMU currently undergoing closure activities, as shown in Table A-1. DOE has agreed through a Consent Agreement and Final Order (CAFO) with the Environmental Protection Agency (EPA) to close this DWMU. The closure units are not authorized to accept dangerous and/or mixed waste. Maps and photographs of the DWMUs are located in Attachment C of this Part A application.

Table A-1. LLBG Trenches 31-34-94 DWMUs

Operating DWMUs			
DWMUs Name	**Treatment**	**Storage**	**Disposal**
Trench 31 Disposal Cell	No	No	Yes
Trench 34 Disposal Cell	No	No	Yes
Trench 94 Disposal Cell	No	No	Yes
Trench 31 Waste Storage and Treatment Pad	Yes	Yes	No
Trench 34 Waste Storage and Treatment Pad	Yes	Yes	No

Closing DWMUs		
DWMUs Name	**CAFO Unit**	**Notes**
FS-1 outdoor container storage area	Yes	

DWMU = Dangerous Waste Management Unit
CAFO = Consent Agreement and Final Order

Table A-2. Summary of LLBG Trenches 31-34-94 Operating DWMUs

Management Unit Type	T-Plant Operating Unit Group DWMUs	Part A Treatment Type	Part A Storage Type	Part A Disposal Type
Container (disposal)	Trench 31 Disposal Cell Trench 34 Disposal Cell Trench 94 Disposal Cell	N/A	N/A	D80
Container (storage and treatment)	Trench 31 Waste Storage and Treatment Pad Trench 34 Waste Storage and Treatment Pad	T04	S01	N/A

DWMU = Dangerous Waste Management Unit

A3 Operating DWMUs

The following subsections describe the function of each operating DWMU:

A3.1 Trenches 31 and 34 Disposal Cells (Disposal)

LLBG Trenches 31 and 34 Disposal Cell DWMUs are large rectangular excavations in the southwest corner of the 218-W-5 Burial Ground operated as units for disposal of mixed waste. The trench cells are constructed with polyethylene liners and a leachate collection system. At the top of the trenches, LLBG Trenches 31 and 34 are approximately 137 m (450 ft) long by 91 m (300 ft) wide, and approximately 9 m (30 ft) deep. The trenches are rectangular with 3H:1V (horizontal:vertical) side slopes. The trench floors are approximately 76 m (250 ft) long by 31 m (100 ft) wide.

The lined trenches in LLBG Trenches 31 and 34 are founded in undisturbed native soils, generally ranging from salty sands to well-graded gravels. Each lined trench has an access ramp. A truck unloading area is located at the top of the access ramp to provide an area for transfer of containerized waste from over-the-road trucks to forklifts or other vehicles/equipment that place the waste in the lined trench. All areas of the lined trenches floor (except sump bottoms) are graded at a slope of at least 1 percent to facilitate drainage and avoid ponding on the liners.

The liner system for LLBG Trenches 31 and 34 is designed to prevent migration of leachate out of the lined trenches during its active life. The trench liner systems comply with requirements for dangerous waste landfills (40 CFR Part 265 Subpart N-landfills, which is incorporated by reference in WAC 173-303-400). The active life consists of the operational period and the closure period. The liner system is designed to meet the dangerous waste landfill requirements in WAC 173-303-665.

LLBGs Trenches 31 and 34 DWMUs are equipped with a leachate collection and removal system that provides sufficient storage volume to collect and retain, in a timely manner, fluids falling on or moving through the waste. The leachate collection system collects and conveys leachate to the primary sump for removal and includes the following components: Primary geomembrane liner, primary admix liner, secondary leachate collection system, secondary geomembrane liner, and secondary admix liner. The LLBG Trenches 31-34 are each supported by above ground less-than-90-day leachate collection tanks operated in accordance with the generator provisions of WAC 173-303-200.

All mixed waste destined for disposal in LLBG Trenches 31 and 34 must meet LDR requirements [40 CFR Part 268, incorporated by reference by WAC 173-303-140] or a site-specific treatability variance approved by Ecology. Mixed waste to be disposed in LLBG Trench 31 and 34 may include bulk waste, and containerized waste that can include long-length contaminated equipment. A diverse range of waste containers can be disposed at Trenches 31 and 34 including, but not limited to, containers/drums, waste boxes, and miscellaneous equipment.

All newly generated mixed waste accepted for disposal at LLBG Trenches 31 and 34 will be packaged in approved containers (U.S. Department of Transportation and/or DOE), unless alternate packages are dictated by the size, shape, or form of waste [49 CFR 173] (e.g., metal boxes). Free liquids will not be accepted unless the requirements of WAC 173-303-140 (4) (b)(ii) are met. Waste containers accepted for disposal at Trenches 31 and 34 must be at least 90 percent full.

No storage or treatment of dangerous and/or mixed waste is authorized within the LLBGs Trench 31 and 34 Disposal Cells DWMUs.

A3.2 LLBG Trench 94 Disposal Cell (Disposal)

The LLBG Trench 94 Disposal Cell is a land-based unit located in the 200 East Area of the Hanford Facility in the northeast corner of 218-E-12B Burial Ground. Trench 94, which covers a total area of approximately 49 ha (121 ac), is designed for the receipt and final disposal of decommissioned, defueled RCs from submarines and surface ships. The first defueled RC was placed in LLBG Trench 94 in April 1986. The RCs are prepared for disposal by PSNS in Bremerton, Washington, and transported by barge to the Port of Benton at the Hanford Site.

The current excavated area of LLBG Trench 94 (excluding the north access ramp) is approximately 540 m (1,770 ft) long by 140 m (460 ft) wide at grade level [494 m (1,620 ft) by 98 m (320 ft) on the floor], and typically about 14 m (45 ft) deep where the defueled RC packages are placed. Unused portions of the trench can be deeper than 15 m (50 ft). The horizontal and vertical side slopes of LLBG Trench 94 are approximately 1V:1-1/2H.The RCs destined for disposal in LLBG Trench 94 Disposal Cell are considered mixed waste and meet LDR requirements [WAC 173-303-140, and RCW-70.105].

No storage or treatment of dangerous and/or mixed waste is authorized within the LLBGs Trench 94 Disposal Cell DWMU.

A3.3 LLBG Trenches 31 and 34 Waste Storage and Treatment Pads (Treatment and Storage)

The LLBG Trenches 31 and 34 Waste Storage and Treatment Pads [previously known as Mixed Storage 1 (MS1) and Staging Area Mixed (SAM)] are two asphalt-paved areas located on the southeast corner of LLBG Trenches 31 and 34 up on the liner aprons. Each has a total area of approximately 2,090 m^2 (22,500ft^2) [45.7 m (150 ft) wide by 45.7 m (150 ft) long]. The northwest corner of each pad measuring approximately 30.4 m (100 ft) by 30.4 m (100 ft) is constructed over an extension of the trench liner. Both the asphalt surface and the underlying drainage system of the unloading area direct all surface runoff into the primary leachate collection system of the lined trench. The storage design capacity for each of these storage areas is 690 m^3 (902 yd^3).

Mixed waste stored on the Waste Storage and Treatment Pads will be containerized. The containerized waste must meet LDR requirements, except when the waste is destined for treatment at the pads. Containers stored outside at the LLBG 31 and 34 Waste Storage and Treatment Pads DWMUs are subject to the requirements of WAC 173-303-630 (7), which is incorporated by reference in WAC 173-303-400 (3)(a)(ii)].

Treatment to meet the LDR requirements will be performed at the LLBG Waste Storage and Treatment Pads DWMUs, which are located above LLBG Trenches 31 and 34 disposal cells DWMUs. The treatment capability consists of the use of immobilization technologies for mixed waste debris as listed under 40 CFR 268.45, Table 1, “Alternative Treatment Standards for Hazardous Debris” and macroencapsulation (MACRO) in 40 CFR 268.42. In addition, the mixed waste containers will meet the 90 percent full container requirements following treatment. Treatment will be limited to those technologies that can be employed in/on containerized mixed waste.

A4 CLOSING DWMUs

LLBG Trenches 31-34-94 OUG includes one DWMU currently undergoing closure activities per an approved closure plan (FS-1). This unit is not authorized to accept dangerous and/or mixed waste into the unit.

A4.1 FS1 Outdoor Container Storage Area (Closing)

The LLBG Trenches 31 and 34 FS-1 outdoor container storage area DWMU (FS-1 Outdoor Container Storage Area) is located along the south side of Trench 34. The FS-1 Outside Container Storage Area is a gravel covered, rectangular area approximately 14 m (15 yd) wide by 69 m (75 yd) long equaling a total storage area of 966 m^2 (1,125 yd^2). The perimeter of the storage area is defined by metal T-posts with the corner posts holding signage designating the area as the FS-1 Outdoor Container Storage Area. There are no structures or equipment located at the storage area.

A5 Treatment, Storage, and Disposal Capacities

The following subsections describe the LLBG 31-34-94 DWMUs Treatment, Storage, and Disposal capacities (see Table A-3):

A5.1 D80 (Disposal)

The maximum total volume (in liters) is shown in Table A-3. The process design capacity for disposal of mixed waste in LLBG Trenches 31 and 34 is approximately 21,408 m^3 (28,000 yd^3) per trench for a total process design capacity of 42, 816 m^3 (56, 000 yd^3). The disposal volume for LLBG Trenches 31 and 34 disposal cells are based on trench floor dimensions of 76 m (250 ft) long by 31 m (100 ft) wide and 9 m (30 ft) deep.

The process design capacity of the LLBG Trench 94 disposal cell is approximately 1,500,000 m^3 (1,962,000 yd^3). The combined process design capacity for the LLBG Trenches 31-34-94 disposal is 1,542,816 m^3 (2,018,000 yd^3), which is equivalent to 1,542,816,000 L (407,568,869 gal).

A5.2 T04 (Treatment-Other)

The maximum total treatment volume (in liters/day) is shown in Table A-3. The process design capacity for treatment is estimated to be 115,000 L (30,379 gal) per day. To determine this maximum treatment capacity, calculations were performed that conservatively estimated the maximum volume of waste expected to be treated using the volume of containers expected to be managed at LLBG 31 and 34 Waste Storage and Treatment Pads in a day.

A5.3 S01 (Container Storage)

The storage (S01) process design capacity is 1,380 m^3 (1,804 yd^3). The maximum total volume (in liters) is shown in Table A-3. The LLBG Trenches 31 and 34 Waste Storage and Treatment Pads are constructed with an asphalt base. The container storage process design capacity for each of these storage areas is 690 m^3 (902 yd^3) for a combined process design capacity of 1,380 m^3 (1,804 yd^3), which is equivalent to 1,380,000 L (364,557 gal).

A diverse range of waste containers is managed on the waste storage pads for eventual disposal in the lined trenches at LLBG Trenches 31 and 34. Containers vary in shape, size, and strength, depending on the form and weight of the waste. The most common containers are painted carbon steel or galvanized 208 L (55-gal) containers. Nominal 1.2 m by 1.2 m by 2.4 m (4 ft by 4 ft by 8 ft) steel boxes are used frequently. To calculate the maximum capacity of waste containers stored at the LLBG Trenches 31 and 34 Waste Storage and Treatment Pad DWMUs, conservative calculations were performed to compute the maximum volume of waste expected to be stored in each DWMU.

The number of containers specified for each structure was calculated based on the storage needs associated with the area and storage requirements and limitations, such as the following:

- Assumed four containers per pallet
- 0.9 m (36-in.) aisle space between rows of pallets/containers
- Adequate room for forklifts to maneuver

Table A-3. Disposal, Treatment and Storage Volume for LLBG Trenches 31-34-94 DWMUs

DWMU	Maximum Disposal Volume (L)	Maximum Treatment Rate (L/D)	Maximum Stored Volume (L)
Trench 31 Disposal Cell	21,408,000	0	0
Trench 34 Disposal Cell	21,408,000	0	0
Trench 94 Disposal Cell	1,500,000,000	0	0
Trench 31 Waste Storage and Treatment Pad	0	115,000‡	690,000
Trench 34 Waste Storage and Treatment Pad	0	115,000‡	690,000
Totals		**115,000 L/Day**	**1,380,000**

‡ Note, the maximum treatment rate for all of LLBG 31 and 34 Waste Storage and Treatment Pads is 115,000 L/D. This treatment rate can be realized in either of the two DWMUs having treatment capability; however, the combined daily treatment rate cannot exceed 115,000 L/D.

L/D = liters per day

A6 Waste Generated

Waste generated at LLBG Trenches 31 and 34 consists of leachate generated from operation of the trenches and collected in the leachate collection system, as well as debris waste generated through maintenance activities associated with the leachate collection system. LLBG Trenches 31-34-94 also may generate dangerous and/or mixed wastes from routine maintenance and processing operations (such as miscellaneous debris waste, used personnel protective equipment).

A7 Universal Waste

Universal waste is not managed at the LLBG Trenches 31-34-94 OUG

A8 Corrective Actions Statement

There are no historical or ongoing corrective actions taken at the LLBG Trenches 31-34-94 under the Dangerous Waste Rules, Model Toxics Control Act, or federal regulations.

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Attachment B

Section XIV – Description of Dangerous Wastes

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1	D004	28,750	M	S01	Trench 31 and Trench 34 Waste Storage Pads (DWMUs above the disposal cells)
2	D005				Included with above
3	D006				Included with above
4	D007				Included with above
5	D008				Included with above
6	D009				Included with above
7	D010				Included with above
8	D011				Included with above
9	D012				Included with above
10	D013				Included with above
11	D014				Included with above
12	D015				Included with above
13	D016				Included with above
14	D017				Included with above
15	D018				Included with above
16	D019				Included with above
17	D020				Included with above
18	D021				Included with above
19	D022				Included with above
20	D023				Included with above
21	D024				Included with above
22	D025				Included with above
23	D026				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
24	D027				Included with above
25	D028				Included with above
26	D029				Included with above
27	D030				Included with above
28	D031				Included with above
29	D032				Included with above
30	D033				Included with above
31	D034				Included with above
32	D035				Included with above
33	D036				Included with above
34	D037				Included with above
35	D038				Included with above
36	D039				Included with above
37	D040				Included with above
38	D041				Included with above
39	D042				Included with above
40	D043				Included with above
41	WSC2				Included with above
42	WT01				Included with above
43	WT02				Included with above
44	WP01				Included with above
45	WP02				Included with above
46	WP03				Included with above
47	WPCB				Included with above
48	F001				Included with above
49	F002				Included with above
50	F003				Included with above
51	F004				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
52	F005				Included with above
53	F006				Included with above
54	F007				Included with above
55	F008				Included with above
56	F009				Included with above
57	F010				Included with above
58	F011				Included with above
59	F012				Included with above
60	F019				Included with above
61	F020				Included with above
62	F021				Included with above
63	F022				Included with above
64	F023				Included with above
65	F026				Included with above
66	F027				Included with above
67	F028				Included with above
68	F039				Included with above
69	U001				Included with above
70	U002				Included with above
71	U003				Included with above
72	U004				Included with above
73	U005				Included with above
74	U006				Included with above
75	U007				Included with above
76	U008				Included with above
77	U009				Included with above
78	U010				Included with above
79	U011				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
80	U012				Included with above
81	U014				Included with above
82	U015				Included with above
83	U016				Included with above
84	U017				Included with above
85	U018				Included with above
86	U019				Included with above
87	U020				Included with above
88	U021				Included with above
89	U022				Included with above
90	U023				Included with above
91	U024				Included with above
92	U025				Included with above
93	U026				Included with above
94	U027				Included with above
95	U028				Included with above
96	U029				Included with above
97	U030				Included with above
98	U031				Included with above
99	U032				Included with above
100	U033				Included with above
101	U034				Included with above
102	U035				Included with above
103	U036				Included with above
104	U037				Included with above
105	U038				Included with above
106	U039				Included with above
107	U041				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
108	U042				Included with above
109	U043				Included with above
110	U044				Included with above
111	U045				Included with above
112	U046				Included with above
113	U047				Included with above
114	U048				Included with above
115	U049				Included with above
116	U050				Included with above
117	U051				Included with above
118	U052				Included with above
119	U053				Included with above
120	U055				Included with above
121	U056				Included with above
122	U057				Included with above
123	U058				Included with above
124	U059				Included with above
125	U060				Included with above
126	U061				Included with above
127	U062				Included with above
128	U063				Included with above
129	U064				Included with above
130	U066				Included with above
131	U067				Included with above
132	U068				Included with above
133	U069				Included with above
134	U070				Included with above
135	U071				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
136	U072				Included with above
137	U073				Included with above
138	U074				Included with above
139	U075				Included with above
140	U076				Included with above
141	U077				Included with above
142	U078				Included with above
143	U079				Included with above
144	U080				Included with above
145	U081				Included with above
146	U082				Included with above
147	U083				Included with above
148	U084				Included with above
149	U085				Included with above
150	U086				Included with above
151	U087				Included with above
152	U088				Included with above
153	U089				Included with above
154	U090				Included with above
155	U091				Included with above
156	U092				Included with above
157	U093				Included with above
158	U094				Included with above
159	U095				Included with above
160	U096				Included with above
161	U097				Included with above
162	U098				Included with above
163	U099				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
164	U101				Included with above
165	U102				Included with above
166	U103				Included with above
167	U105				Included with above
168	U106				Included with above
169	U107				Included with above
170	U108				Included with above
171	U109				Included with above
172	U110				Included with above
173	U111				Included with above
174	U112				Included with above
175	U113				Included with above
176	U114				Included with above
177	U115				Included with above
178	U116				Included with above
179	U117				Included with above
180	U118				Included with above
181	U119				Included with above
182	U120				Included with above
183	U121				Included with above
184	U122				Included with above
185	U123				Included with above
186	U124				Included with above
187	U125				Included with above
188	U126				Included with above
189	U127				Included with above
190	U128				Included with above
191	U129				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
192	U130				Included with above
193	U131				Included with above
194	U132				Included with above
195	U133				Included with above
196	U134				Included with above
197	U135				Included with above
198	U136				Included with above
199	U137				Included with above
200	U138				Included with above
201	U140				Included with above
202	U141				Included with above
203	U142				Included with above
204	U143				Included with above
205	U144				Included with above
206	U145				Included with above
207	U146				Included with above
208	U147				Included with above
209	U148				Included with above
210	U149				Included with above
211	U150				Included with above
212	U151				Included with above
213	U152				Included with above
214	U153				Included with above
215	U154				Included with above
216	U155				Included with above
217	U156				Included with above
218	U157				Included with above
219	U158				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
220	U159				Included with above
221	U160				Included with above
222	U161				Included with above
223	U162				Included with above
224	U163				Included with above
225	U164				Included with above
226	U165				Included with above
227	U166				Included with above
228	U167				Included with above
229	U168				Included with above
230	U169				Included with above
231	U170				Included with above
232	U171				Included with above
233	U172				Included with above
234	U173				Included with above
235	U174				Included with above
236	U176				Included with above
237	U177				Included with above
238	U178				Included with above
239	U179				Included with above
240	U180				Included with above
241	U181				Included with above
242	U182				Included with above
243	U183				Included with above
244	U184				Included with above
245	U185				Included with above
246	U186				Included with above
247	U187				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
248	U188				Included with above
249	U189				Included with above
250	U190				Included with above
251	U191				Included with above
252	U192				Included with above
253	U193				Included with above
254	U194				Included with above
255	U196				Included with above
256	U197				Included with above
257	U200				Included with above
258	U201				Included with above
259	U202				Included with above
260	U203				Included with above
261	U204				Included with above
262	U205				Included with above
263	U206				Included with above
264	U207				Included with above
265	U208				Included with above
266	U209				Included with above
267	U210				Included with above
268	U211				Included with above
269	U213				Included with above
270	U214				Included with above
271	U215				Included with above
272	U216				Included with above
273	U217				Included with above
274	U218				Included with above
275	U219				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
276	U220				Included with above
277	U221				Included with above
278	U222				Included with above
279	U223				Included with above
280	U225				Included with above
281	U226				Included with above
282	U227				Included with above
283	U228				Included with above
284	U234				Included with above
285	U235				Included with above
286	U236				Included with above
287	U237				Included with above
288	U238				Included with above
289	U239				Included with above
290	U240				Included with above
291	U243				Included with above
292	U244				Included with above
293	U246				Included with above
294	U247				Included with above
295	U248				Included with above
296	U249				Included with above
297	U271				Included with above
298	U278				Included with above
299	U279				Included with above
300	U280				Included with above
301	U328				Included with above
302	U353				Included with above
303	U359				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
304	U364				Included with above
305	U367				Included with above
306	U372				Included with above
307	U373				Included with above
308	U387				Included with above
309	U389				Included with above
310	U394				Included with above
311	U395				Included with above
312	U404				Included with above
313	U409				Included with above
314	U410				Included with above
315	U411				Included with above
316	P001				Included with above
317	P002				Included with above
318	P003				Included with above
319	P004				Included with above
320	P005				Included with above
321	P006				Included with above
322	P007				Included with above
323	P008				Included with above
324	P009				Included with above
325	P010				Included with above
326	P011				Included with above
327	P012				Included with above
328	P013				Included with above
329	P014				Included with above
330	P015				Included with above
331	P016				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
332	P017				Included with above
333	P018				Included with above
334	P020				Included with above
335	P021				Included with above
336	P022				Included with above
337	P023				Included with above
338	P024				Included with above
339	P026				Included with above
340	P027				Included with above
341	P028				Included with above
342	P029				Included with above
343	P030				Included with above
344	P031				Included with above
345	P033				Included with above
346	P034				Included with above
347	P036				Included with above
348	P037				Included with above
349	P038				Included with above
350	P039				Included with above
351	P040				Included with above
352	P041				Included with above
353	P042				Included with above
354	P043				Included with above
355	P044				Included with above
356	P045				Included with above
357	P046				Included with above
358	P047				Included with above
359	P048				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
360	P049				Included with above
361	P050				Included with above
362	P051				Included with above
363	P054				Included with above
364	P056				Included with above
365	P057				Included with above
366	P058				Included with above
367	P059				Included with above
368	P060				Included with above
369	P062				Included with above
370	P063				Included with above
371	P064				Included with above
372	P065				Included with above
373	P066				Included with above
374	P067				Included with above
375	P068				Included with above
376	P069				Included with above
377	P070				Included with above
378	P071				Included with above
379	P072				Included with above
380	P073				Included with above
381	P074				Included with above
382	P075				Included with above
383	P076				Included with above
384	P077				Included with above
385	P078				Included with above
386	P081				Included with above
387	P082				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
388	P084				Included with above
389	P085				Included with above
390	P087				Included with above
391	P088				Included with above
392	P089				Included with above
393	P092				Included with above
394	P093				Included with above
395	P094				Included with above
396	P095				Included with above
397	P096				Included with above
398	P097				Included with above
399	P098				Included with above
400	P099				Included with above
401	P101				Included with above
402	P102				Included with above
403	P103				Included with above
404	P104				Included with above
405	P105				Included with above
406	P106				Included with above
407	P108				Included with above
408	P109				Included with above
409	P110				Included with above
410	P111				Included with above
411	P112				Included with above
412	P113				Included with above
413	P114				Included with above
414	P115				Included with above
415	P116				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
416	P118				Included with above
418	P119				Included with above
419	P120				Included with above
420	P121				Included with above
421	P122				Included with above
422	P123				Included with above
423	P127				Included with above
424	P128				Included with above
425	P185				Included with above
426	P188				Included with above
427	P189				Included with above
428	P190				Included with above
429	P191				Included with above
430	P192				Included with above
431	P194				Included with above
432	P196				Included with above
433	P197				Included with above
434	P198				Included with above
435	P199				Included with above
436	P201				Included with above
437	P202				Included with above
438	P203				Included with above
439	P204				Included with above
440	P205				Included with above
441	D004	28,750	M	T04	Trench 31 and Trench 34 Waste Treatment Pads (DWMUs above the disposal cells)
442	D005				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
443	D006				Included with above
444	D007				Included with above
445	D008				Included with above
446	D009				Included with above
447	D010				Included with above
448	D011				Included with above
449	D012				Included with above
450	D013				Included with above
451	D014				Included with above
452	D015				Included with above
453	D016				Included with above
454	D017				Included with above
455	D018				Included with above
456	D019				Included with above
457	D020				Included with above
458	D021				Included with above
459	D022				Included with above
460	D023				Included with above
461	D024				Included with above
462	D025				Included with above
463	D026				Included with above
464	D027				Included with above
465	D028				Included with above
466	D029				Included with above
467	D030				Included with above
468	D031				Included with above
469	D032				Included with above
470	D033				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
471	D034				Included with above
472	D035				Included with above
473	D036				Included with above
474	D037				Included with above
475	D038				Included with above
476	D039				Included with above
477	D040				Included with above
478	D041				Included with above
479	D042				Included with above
480	D043				Included with above
481	WSC2				Included with above
482	WT01				Included with above
483	WT02				Included with above
484	WP01				Included with above
485	WP02				Included with above
486	WP03				Included with above
487	WPCB				Included with above
488	F001				Included with above
489	F002				Included with above
490	F003				Included with above
491	F004				Included with above
492	F005				Included with above
493	F006				Included with above
494	F007				Included with above
495	F008				Included with above
496	F009				Included with above
497	F010				Included with above
498	F011				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
499	F012				Included with above
500	F019				Included with above
501	F020				Included with above
502	F021				Included with above
503	F023				Included with above
504	F026				Included with above
505	F027				Included with above
506	F028				Included with above
507	F039				Included with above
508	U001				Included with above
509	U002				Included with above
510	U003				Included with above
511	U004				Included with above
512	U005				Included with above
513	U006				Included with above
514	U007				Included with above
515	U008				Included with above
516	U009				Included with above
517	U010				Included with above
518	U011				Included with above
519	U012				Included with above
520	U014				Included with above
521	U015				Included with above
522	U016				Included with above
523	U017				Included with above
524	U018				Included with above
525	U019				Included with above
526	U020				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
527	U021				Included with above
528	U022				Included with above
529	U023				Included with above
530	U024				Included with above
531	U025				Included with above
532	U026				Included with above
533	U027				Included with above
534	U028				Included with above
535	U029				Included with above
536	U030				Included with above
537	U031				Included with above
538	U032				Included with above
539	U033				Included with above
540	U034				Included with above
541	U035				Included with above
542	U036				Included with above
543	U037				Included with above
544	U038				Included with above
545	U039				Included with above
546	U041				Included with above
547	U042				Included with above
548	U043				Included with above
549	U044				Included with above
550	U045				Included with above
551	U046				Included with above
552	U047				Included with above
553	U048				Included with above
554	U049				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
555	U050				Included with above
556	U051				Included with above
557	U052				Included with above
558	U053				Included with above
559	U055				Included with above
560	U056				Included with above
561	U057				Included with above
562	U058				Included with above
563	U059				Included with above
564	U060				Included with above
565	U061				Included with above
566	U062				Included with above
567	U063				Included with above
568	U064				Included with above
569	U066				Included with above
570	U067				Included with above
571	U068				Included with above
572	U069				Included with above
573	U070				Included with above
574	U071				Included with above
575	U072				Included with above
576	U073				Included with above
577	U074				Included with above
578	U075				Included with above
579	U076				Included with above
580	U077				Included with above
581	U078				Included with above
582	U079				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
583	U080				Included with above
584	U081				Included with above
585	U082				Included with above
586	U083				Included with above
587	U084				Included with above
588	U085				Included with above
589	U086				Included with above
590	U087				Included with above
591	U088				Included with above
592	U089				Included with above
593	U090				Included with above
594	U091				Included with above
595	U092				Included with above
596	U093				Included with above
597	U094				Included with above
598	U095				Included with above
599	U096				Included with above
600	U097				Included with above
601	U098				Included with above
602	U099				Included with above
603	U101				Included with above
604	U102				Included with above
605	U103				Included with above
606	U105				Included with above
607	U106				Included with above
608	U107				Included with above
609	U108				Included with above
610	U109				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
611	U110				Included with above
612	U111				Included with above
613	U112				Included with above
614	U113				Included with above
615	U114				Included with above
616	U115				Included with above
617	U116				Included with above
618	U117				Included with above
619	U118				Included with above
620	U119				Included with above
621	U120				Included with above
622	U121				Included with above
623	U122				Included with above
624	U123				Included with above
625	U124				Included with above
626	U125				Included with above
627	U126				Included with above
628	U127				Included with above
629	U128				Included with above
630	U129				Included with above
631	U130				Included with above
632	U131				Included with above
633	U132				Included with above
634	U133				Included with above
635	U134				Included with above
636	U135				Included with above
637	U136				Included with above
638	U137				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
639	U138				Included with above
640	U140				Included with above
641	U141				Included with above
642	U142				Included with above
643	U143				Included with above
644	U144				Included with above
645	U145				Included with above
646	U146				Included with above
647	U147				Included with above
648	U148				Included with above
649	U149				Included with above
650	U150				Included with above
651	U151				Included with above
652	U152				Included with above
653	U153				Included with above
654	U154				Included with above
655	U155				Included with above
656	U156				Included with above
657	U157				Included with above
658	U158				Included with above
659	U159				Included with above
660	U160				Included with above
661	U161				Included with above
662	U162				Included with above
663	U163				Included with above
664	U164				Included with above
665	U165				Included with above
666	U166				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
667	U167				Included with above
668	U168				Included with above
669	U169				Included with above
670	U170				Included with above
671	U171				Included with above
672	U172				Included with above
673	U173				Included with above
674	U174				Included with above
675	U176				Included with above
676	U177				Included with above
677	U178				Included with above
678	U179				Included with above
679	U180				Included with above
680	U181				Included with above
681	U182				Included with above
682	U183				Included with above
683	U184				Included with above
684	U185				Included with above
685	U186				Included with above
686	U187				Included with above
687	U188				Included with above
688	U189				Included with above
689	U190				Included with above
690	U191				Included with above
691	U192				Included with above
692	U193				Included with above
693	U194				Included with above
694	U196				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
695	U197				Included with above
696	U200				Included with above
697	U201				Included with above
698	U202				Included with above
699	U203				Included with above
700	U204				Included with above
701	U205				Included with above
702	U206				Included with above
703	U207				Included with above
704	U208				Included with above
705	U209				Included with above
706	U210				Included with above
707	U211				Included with above
708	U213				Included with above
709	U214				Included with above
710	U215				Included with above
711	U216				Included with above
712	U217				Included with above
713	U218				Included with above
714	U219				Included with above
715	U220				Included with above
716	U221				Included with above
717	U222				Included with above
718	U223				Included with above
719	U225				Included with above
720	U226				Included with above
721	U227				Included with above
722	U228				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
723	U234				Included with above
724	U235				Included with above
725	U236				Included with above
726	U237				Included with above
727	U238				Included with above
728	U239				Included with above
729	U240				Included with above
730	U243				Included with above
731	U244				Included with above
732	U246				Included with above
733	U247				Included with above
734	U248				Included with above
735	U249				Included with above
736	U271				Included with above
737	U278				Included with above
738	U279				Included with above
739	U280				Included with above
740	U328				Included with above
741	U353				Included with above
742	U359				Included with above
743	U364				Included with above
744	U367				Included with above
745	U372				Included with above
746	U373				Included with above
747	U387				Included with above
748	U389				Included with above
749	U394				Included with above
750	U395				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
751	U404				Included with above
752	U409				Included with above
753	U410				Included with above
754	U411				Included with above
755	P001				Included with above
756	P002				Included with above
757	P003				Included with above
758	P004				Included with above
759	P005				Included with above
760	P006				Included with above
761	P007				Included with above
762	P008				Included with above
763	P009				Included with above
764	P010				Included with above
765	P011				Included with above
766	P012				Included with above
767	P013				Included with above
768	P014				Included with above
769	P015				Included with above
770771	P016				Included with above
772	P017				Included with above
773	P018				Included with above
774	P020				Included with above
775	P021				Included with above
776	P022				Included with above
777	P023				Included with above
778	P024				Included with above
779	P026				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
780	P027				Included with above
781	P028				Included with above
782	P029				Included with above
783	P030				Included with above
784	P031				Included with above
785	P033				Included with above
786	P034				Included with above
787	P036				Included with above
788	P037				Included with above
789	P038				Included with above
790	P039				Included with above
791	P040				Included with above
792	P041				Included with above
793	P042				Included with above
794	P043				Included with above
795	P044				Included with above
796	P045				Included with above
797	P046				Included with above
798	P047				Included with above
799	P048				Included with above
800	P049				Included with above
801	P050				Included with above
802	P051				Included with above
803	P054				Included with above
804	P056				Included with above
805	P057				Included with above
806	P058				Included with above
807	P059				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
808	P060				Included with above
809	P062				Included with above
810	P063				Included with above
811	P064				Included with above
812	P065				Included with above
813	P066				Included with above
814	P067				Included with above
815	P068				Included with above
816	P069				Included with above
817	P070				Included with above
818	P071				Included with above
819	P072				Included with above
820	P073				Included with above
821	P074				Included with above
822	P075				Included with above
823	P076				Included with above
824	P077				Included with above
825	P078				Included with above
826	P081				Included with above
827	P082				Included with above
828	P084				Included with above
829	P085				Included with above
830	P087				Included with above
831	P088				Included with above
832	P089				Included with above
833	P092				Included with above
834	P093				Included with above
835	P094				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
836	P095				Included with above
837	P096				Included with above
838	P097				Included with above
839	P098				Included with above
840	P099				Included with above
841	P101				Included with above
842	P102				Included with above
843	P103				Included with above
844	P104				Included with above
845	P105				Included with above
846	P106				Included with above
847	P108				Included with above
848	P109				Included with above
849	P110				Included with above
850	P111				Included with above
851	P112				Included with above
852	P113				Included with above
853	P114				Included with above
854	P115				Included with above
855	P116				Included with above
856	P118				Included with above
857	P119				Included with above
858	P120				Included with above
859	P121				Included with above
860	P122				Included with above
861	P123				Included with above
862	P127				Included with above
863	P128				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
864	P185				Included with above
865	P188				Included with above
868	P189				Included with above
869	P190				Included with above
870	P191				Included with above
871	P192				Included with above
872	P194				Included with above
873	P196				Included with above
874	P197				Included with above
875	P198				Included with above
876	P199				Included with above
877	P201				Included with above
878	P202				Included with above
879	P203				Included with above
880	P204				Included with above
881	P205				Included with above
882	D004	1,332	M	D80	Trench 31 and Trench 34 Disposal (in Trench 31 and 34 Disposal Cells DWMUs)
883	D005				Included with above
884	D006				Included with above
885	D007				Included with above
886	D008				Included with above
887	D009				Included with above
888	D010				Included with above
889	D011				Included with above
890	D012				Included with above
891	D013				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
892	D014				Included with above
893	D015				Included with above
894	D016				Included with above
895	D017				Included with above
896	D018				Included with above
897	D019				Included with above
898	D020				Included with above
899	D021				Included with above
900	D022				Included with above
901	D023				Included with above
902	D024				Included with above
903	D025				Included with above
904	D026				Included with above
905	D027				Included with above
906	D028				Included with above
907	D029				Included with above
908	D030				Included with above
909	D031				Included with above
910	D032				Included with above
911	D033				Included with above
912	D034				Included with above
913	D035				Included with above
914	D036				Included with above
915	D037				Included with above
916	D038				Included with above
917	D039				Included with above
918	D040				Included with above
919	D041				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
920	D042				Included with above
921	D043				Included with above
922	WSC2				Included with above
923	WT01				Included with above
924	WT02				Included with above
925	WP01				Included with above
926	WP02				Included with above
927	WP03				Included with above
928	WPCB				Included with above
929	F001				Included with above
930	F002				Included with above
931	F003				Included with above
932	F004				Included with above
933	F005				Included with above
934	F006				Included with above
935	F007				Included with above
936	F008				Included with above
937	F009				Included with above
938	F010				Included with above
939	F011				Included with above
940	F012				Included with above
941	F019				Included with above
942	F020				Included with above
943	F021				Included with above
944	F023				Included with above
945	F026				Included with above
946	F027				Included with above
947	F028				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
948	F039				Included with above
949	U001				Included with above
950	U002				Included with above
951	U003				Included with above
952	U004				Included with above
953	U005				Included with above
954	U006				Included with above
955	U007				Included with above
956	U008				Included with above
957	U009				Included with above
958	U010				Included with above
959	U011				Included with above
960	U012				Included with above
961	U014				Included with above
962	U015				Included with above
963	U016				Included with above
964	U017				Included with above
965	U018				Included with above
966	U019				Included with above
967	U020				Included with above
968	U021				Included with above
969	U022				Included with above
970	U023				Included with above
971	U024				Included with above
972	U025				Included with above
973	U026				Included with above
974	U027				Included with above
975	U028				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
976	U029				Included with above
977	U030				Included with above
978	U031				Included with above
979	U032				Included with above
980	U033				Included with above
981	U034				Included with above
982	U035				Included with above
983	U036				Included with above
984	U037				Included with above
985	U038				Included with above
986	U039				Included with above
987	U041				Included with above
988	U042				Included with above
989	U043				Included with above
990	U044				Included with above
991	U045				Included with above
992	U046				Included with above
993	U047				Included with above
994	U048				Included with above
995	U049				Included with above
996	U050				Included with above
997	U051				Included with above
998	U052				Included with above
999	U053				Included with above
1000	U055				Included with above
1001	U056				Included with above
1002	U057				Included with above
1003	U058				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1004	U059				Included with above
1005	U060				Included with above
1006	U061				Included with above
1007	U062				Included with above
1008	U063				Included with above
1009	U064				Included with above
1010	U066				Included with above
1011	U067				Included with above
1012	U068				Included with above
1013	U069				Included with above
1014	U070				Included with above
1015	U071				Included with above
1016	U072				Included with above
1017	U073				Included with above
1018	U074				Included with above
1019	U075				Included with above
1020	U076				Included with above
1021	U077				Included with above
1022	U078				Included with above
1023	U079				Included with above
1024	U080				Included with above
1025	U081				Included with above
1026	U082				Included with above
1027	U083				Included with above
1028	U084				Included with above
1029	U085				Included with above
1030	U086				Included with above
1031	U087				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1032	U088				Included with above
1033	U089				Included with above
1034	U090				Included with above
1035	U091				Included with above
1036	U092				Included with above
1037	U093				Included with above
1038	U094				Included with above
1039	U095				Included with above
1040	U096				Included with above
1041	U097				Included with above
1042	U098				Included with above
1043	U099				Included with above
1044	U101				Included with above
1045	U102				Included with above
1046	U103				Included with above
1047	U105				Included with above
1048	U106				Included with above
1049	U107				Included with above
1050	U108				Included with above
1051	U109				Included with above
1053	U110				Included with above
1054	U111				Included with above
1055	U112				Included with above
1056	U113				Included with above
1057	U114				Included with above
1058	U115				Included with above
1059	U116				Included with above
1060	U117				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1061	U118				Included with above
1062	U119				Included with above
1063	U120				Included with above
1064	U121				Included with above
1065	U122				Included with above
1066	U123				Included with above
1067	U124				Included with above
1068	U125				Included with above
1069	U126				Included with above
1070	U127				Included with above
1071	U128				Included with above
1072	U129				Included with above
1073	U130				Included with above
1074	U131				Included with above
1075	U132				Included with above
1076	U133				Included with above
1077	U134				Included with above
1078	U135				Included with above
1079	U136				Included with above
1080	U137				Included with above
1081	U138				Included with above
1082	U140				Included with above
1083	U141				Included with above
1084	U142				Included with above
1085	U143				Included with above
1086	U144				Included with above
1087	U145				Included with above
1088	U146				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1089	U147				Included with above
1090	U148				Included with above
1091	U149				Included with above
1092	U150				Included with above
1093	U151				Included with above
1094	U152				Included with above
1095	U153				Included with above
1096	U154				Included with above
1097	U155				Included with above
1098	U156				Included with above
1099	U157				Included with above
1100	U158				Included with above
1101	U159				Included with above
1102	U160				Included with above
1103	U161				Included with above
1104	U162				Included with above
1105	U163				Included with above
1106	U164				Included with above
1107	U165				Included with above
1108	U166				Included with above
1109	U167				Included with above
1110	U168				Included with above
1111	U169				Included with above
1112	U170				Included with above
1113	U171				Included with above
1114	U172				Included with above
1115	U173				Included with above
1116	U174				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1117	U176				Included with above
1118	U177				Included with above
1119	U178				Included with above
1120	U179				Included with above
1121	U180				Included with above
1122	U181				Included with above
1123	U182				Included with above
1124	U183				Included with above
1125	U184				Included with above
1126	U185				Included with above
1127	U186				Included with above
1128	U187				Included with above
1129	U188				Included with above
1130	U189				Included with above
1131	U190				Included with above
1132	U191				Included with above
1133	U192				Included with above
1134	U193				Included with above
1135	U194				Included with above
1136	U196				Included with above
1137	U197				Included with above
1138	U200				Included with above
1139	U201				Included with above
1140	U202				Included with above
1141	U203				Included with above
1142	U204				Included with above
1143	U205				Included with above
1144	U206				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1145	U207				Included with above
1146	U208				Included with above
1147	U209				Included with above
1148	U210				Included with above
1149	U211				Included with above
1150	U213				Included with above
1151	U214				Included with above
1152	U215				Included with above
1153	U216				Included with above
1154	U217				Included with above
1155	U218				Included with above
1156	U219				Included with above
1157	U220				Included with above
1158	U221				Included with above
1159	U222				Included with above
1160	U223				Included with above
1161	U225				Included with above
1162	U226				Included with above
1163	U227				Included with above
1164	U228				Included with above
1165	U234				Included with above
1166	U235				Included with above
1167	U236				Included with above
1168	U237				Included with above
1169	U238				Included with above
1170	U239				Included with above
1171	U240				Included with above
1172	U243				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1173	U244				Included with above
1174	U246				Included with above
1175	U247				Included with above
1176	U248				Included with above
1177	U249				Included with above
1178	U271				Included with above
1179	U278				Included with above
1180	U279				Included with above
1181	U280				Included with above
1182	U328				Included with above
1183	U353				Included with above
1184	U359				Included with above
1185	U364				Included with above
1186	U367				Included with above
1187	U372				Included with above
1188	U373				Included with above
1189	U387				Included with above
1190	U389				Included with above
1191	U394				Included with above
1192	U395				Included with above
1193	U404				Included with above
1194	U409				Included with above
1195	U410				Included with above
1196	U411				Included with above
1197	P001				Included with above
1198	P002				Included with above
1199	P003				Included with above
1200	P004				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1201	P005				Included with above
1202	P006				Included with above
1203	P007				Included with above
1204	P008				Included with above
1205	P009				Included with above
1206	P010				Included with above
1207	P011				Included with above
1208	P012				Included with above
1209	P013				Included with above
1210	P014				Included with above
1211	P015				Included with above
1212	P016				Included with above
1213	P017				Included with above
1214	P018				Included with above
1215	P020				Included with above
1216	P021				Included with above
1217	P022				Included with above
1218	P023				Included with above
1219	P024				Included with above
1220	P026				Included with above
1221	P027				Included with above
1222	P028				Included with above
1223	P029				Included with above
1224	P030				Included with above
1225	P031				Included with above
1226	P033				Included with above
1227	P034				Included with above
1228	P036				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1229	P037				Included with above
1230	P038				Included with above
1231	P039				Included with above
1232	P040				Included with above
1233	P041				Included with above
1234	P042				Included with above
1235	P043				Included with above
1236	P044				Included with above
1237	P045				Included with above
1238	P046				Included with above
1239	P047				Included with above
1240	P048				Included with above
1241	P049				Included with above
1242	P050				Included with above
1243	P051				Included with above
1244	P054				Included with above
1245	P056				Included with above
1246	P057				Included with above
1247	P058				Included with above
1248	P059				Included with above
1249	P060				Included with above
1250	P062				Included with above
1251	P063				Included with above
1252	P064				Included with above
1253	P065				Included with above
1254	P066				Included with above
1255	P067				Included with above
1256	P068				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1257	P069				Included with above
1258	P070				Included with above
1259	P071				Included with above
1260	P072				Included with above
1261	P073				Included with above
1262	P074				Included with above
1263	P075				Included with above
1264	P076				Included with above
1265	P077				Included with above
1266	P078				Included with above
1267	P081				Included with above
1268	P082				Included with above
1269	P084				Included with above
1270	P085				Included with above
1271	P087				Included with above
1272	P088				Included with above
1273	P089				Included with above
1274	P092				Included with above
1275	P093				Included with above
1276	P094				Included with above
1277	P095				Included with above
1278	P096				Included with above
1279	P097				Included with above
1280	P098				Included with above
1281	P099				Included with above
1282	P101				Included with above
1283	P102				Included with above
1284	P103				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1285	P104				Included with above
1286	P105				Included with above
1287	P106				Included with above
1288	P108				Included with above
1289	P109				Included with above
1290	P110				Included with above
1291	P111				Included with above
1292	P112				Included with above
1293	P113				Included with above
1294	P114				Included with above
1295	P115				Included with above
1296	P116				Included with above
1297	P118				Included with above
1298	P119				Included with above
1299	P120				Included with above
1300	P121				Included with above
1301	P122				Included with above
1302	P123				Included with above
1303	P127				Included with above
1304	P128				Included with above
1305	P185				Included with above
1306	P188				Included with above
1307	P189				Included with above
1308	P190				Included with above
1309	P191				Included with above
1310	P192				Included with above
1311	P194				Included with above
1312	P196				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1313	P197				Included with above
1314	P198				Included with above
1315	P199				Included with above
1316	P201				Included with above
1317	P202				Included with above
1318	P203				Included with above
1319	P204				Included with above
1320	P205				Included with above
1321	D008 (State of Washington only)	18,000,000	P	D80	Trench 94 Disposal (In Trench 94 Disposal Cell DWMU)

Attachment C

Section XVII – Photographs

Photo C-1. Aerial Photo of the LLBG Trenches 31-34 Operating and Closing DWMU (November 2011)

Photo C-2. Aerial Photo of the LLBG Trench 94 Operating DWMU (2011)

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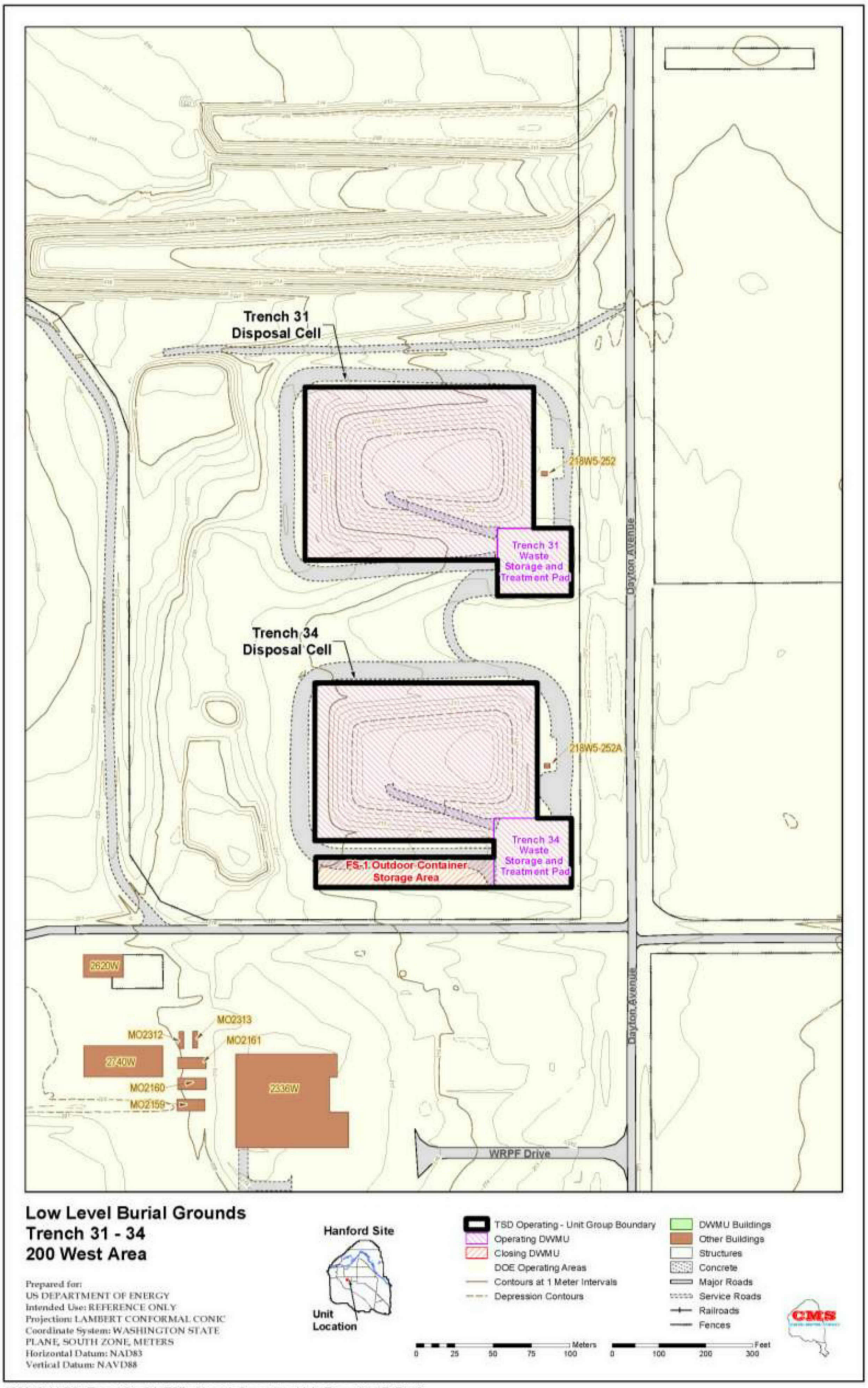

130812_LLBG_Trench31_34_TSD_Closed_Operating_Unit_Topo_11x17_Rev0

Figure C-1. Trenches 31 and 34 Topographic Map

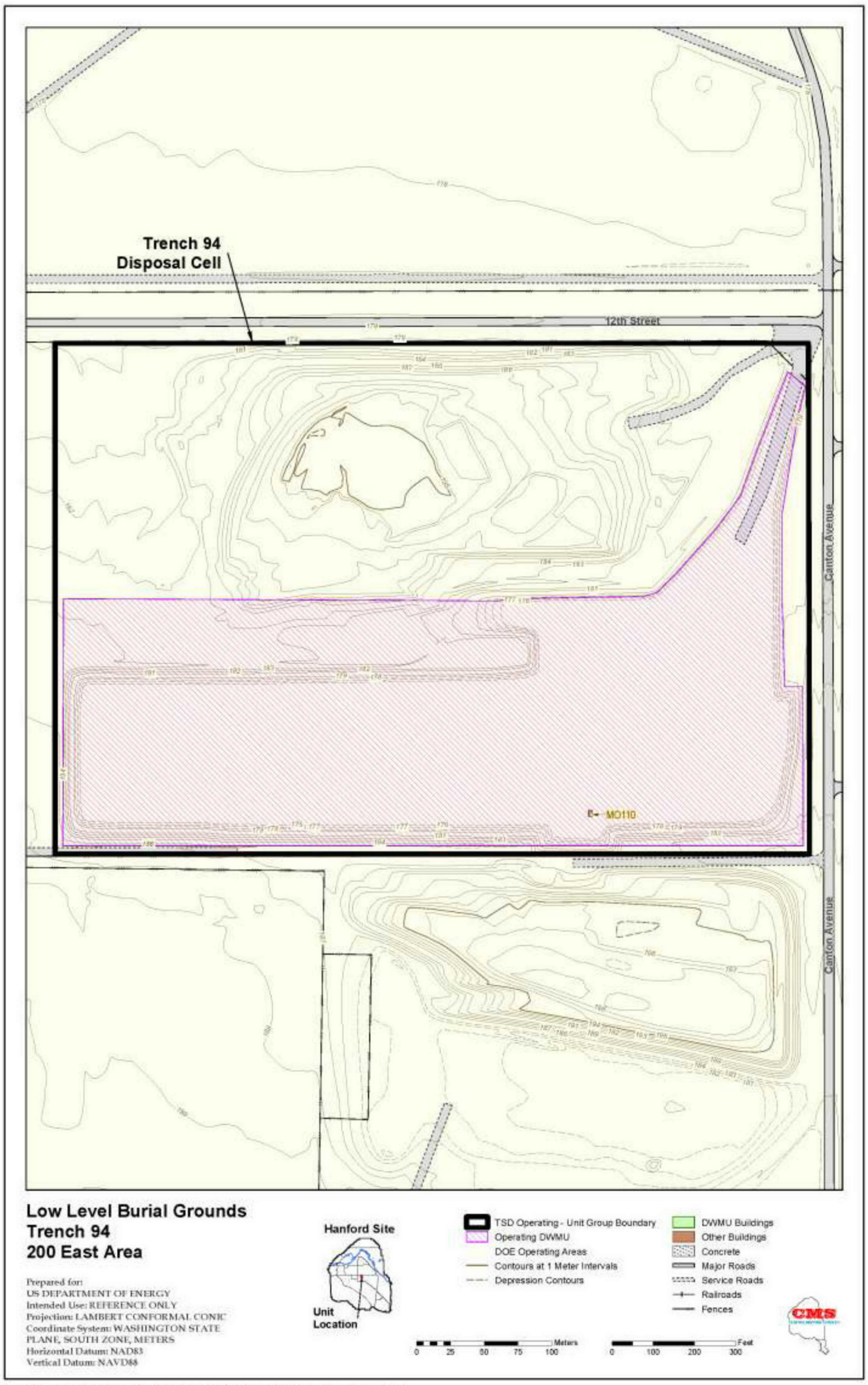

Figure C-2. Trench 94 Topographic Map

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Addendum A
Part A Form

Date Received			Reviewed by:		Date:								
Month	Day	Year	Approved by:		Date:								

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:**
	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

825 Jadwin

City or Town	State	ZIP Code
Richland	WA	99352

County Code (if known)	County Name
005	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 (Attachment C) for T-Plant Complex OUG-9		03	02	1943

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**
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 T Plant Complex*	(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. Owner Type	C. Does the name in VIII.A reflect a proposed change in owner?		If yes, provide the scheduled date for the change: Month / Day / Year
F		☐ Yes	
		☒ No	

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 / Day / Year

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)**
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	C. Does the name in VIII.A reflect a proposed change in owner?		If yes, provide the scheduled date for the change: Month / Day / Year
F		☐ Yes	
		☒ No	

IX. NAICS Codes (5/6 digit codes)

A. First							B. Second						
5	6	2	2	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		Research & Development in the Physical, Engineering, & Life Sciences							

X. Other Environmental Permits (see instructions)		
A. Permit Type	**B. Permit Number**	**C. Description**
E	AOP00-05-006	Title V Air Operating Permit
E	DE01NWP-002	WAC 173-400 & -460 Criteria & Toxics approval
E	FF-01-314	WAC 246-247 Radioactive Air Emissions approval, AIR 12-312, Emission Unit 314
E	FF-01-315	WAC 246-247 Radioactive Air Emissions approval, AIR 12-311, Emission Unit 315
E	FF-01-447	WAC 246-247 Radioactive Air Emissions approval, AIR 12-312, Emission Unit 447

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

SEE ATTACHMENT A for further description

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and operated by the U.S. Department of Energy. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed on the Hanford Facility.

The T Plant Complex Operating Unit Group (T Plant Complex) is located in Hanford's 200 West Area. The T Plant Complex was constructed in 1943 to chemically separate plutonium from uranium fission and activation products until 1956, using the Bismuth-Phosphate/Lanthanum-Fluoride process. Beginning in 1957, T Plant was used for decontamination operations. Currently, T Plant provides container storage and treatment services for dangerous and/or mixed waste.

S01: The storage (S01) process design capacity is 7,573,509 liters (2,000,709 gallons).

S06: The containment building dangerous waste management unit is defined as locations within the 221-T Building that include the 221-T Railroad Tunnel, 221-T Canyon Deck, and selected 221-T Cells (7L, 13R, 17R). The containment building acts as primary containment for stored waste and materials (generally equipment and debris) not in containers. The maximum process design capacity for containment building is 10,700,000 liters (2,826,940 gallons).

X99: The miscellaneous unit storage consists of the 2706-T and 2706-TA buildings. The maximum process process design capacity is 26,377,000 liters (6,968,066 gallons).

T04: Container treatment consists of sorting and segregation; neutralization of corrosives, deactivation, reaction of reactive waste; absorption and liquid treatment, macroencapsulation; microencapsulation; volume reduction; mercury amalgamation; cutting and shearing; puncture and decant aerosol cans; stabilization; debris washing and physical extraction. The maximum container treatment process design capacity is 354.4 metric tons (390.7 short tons) per day.

X99/T94: Miscellaneous unit and containment building treatment: Waste treatment activities of non-containerized dangerous and mixed waste include consists of decontamination, physical extraction and stabilization.The maximum container treatment process design capacity for miscellaneous and containment building is 135.4 metric tons (149.3 short tons) per day.

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					
		B. Process Design Capacity					B. Process Design Capacity		C. Process Total Number of Units	
Line Number	A. Process Codes	1. Amount	2. Unit of Measure	C. Process Total Number of Units	Line Number	A. Process Codes	1. Amount	2. Unit of Measure		D. Process Description
X1	***S02***	***1,600***	***G***	***002***	***X1***	***T04***	***700***	***C***	***001***	***In situ vitrification***
X2	***T03***	***20***	***E***	***001***						
X3	***T04***	***700***	***C***	***001***						
1	T04	354.4	S	005	1	T04	10	S	005	Solidification and/or absorption of liquids
2	S06	10,700	C	003	2	T04	1.3	S	004	Puncture and decant aerosol cans and/or cylinders
3	X99	26,377	C	002	3	T04	0.1	S	005	Mercury amalgamation
4	T94	90	S	003	4	T04	5	S	005	Deactivation (includes deactivation of ignitable, corrosive and reactive characteristics)
5	S01	7,573	C	012	5	T04	120	S	004	Microencap-sulation/ Macroencap-sulation
6	X99	45.4	S	002	6	T04	62	S	004	Stabilization
7					7	T04	39	S	003	Volume Reduction
8					8	T04	39	S	005	Sorting and Segregation
9					9	T04	39	S	004	Debris Washing
10					10	T04	39	S	005	Physical Extraction
11					11	X99	45.4	S	002	Decontamina-tion/Physical Extraction/Sta-bilization
12					12	T94	90	S	003	Decontamina-tion/Physical Extraction/Sta-bilization
13										
14										

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	D. Processes (2) Process Description [If a code is not entered in D.(1)]
X1	*D 0 0 2*	*400*	*P*	*S 0 1 T 0 1*	
X2	*D 0 0 1*	*100*	*P*	*S 0 2 T 0 1*	
X3	*D 0 0 2*				***Included with above***
1					

SEE ATTACHMENT B

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.

A topographic map of the Hanford Facility has been provided separately. A topographic map for T-Plant Complex is located in Attachment C.

XVI. Facility Drawing

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

Facility drawings of the Hanford Facility have been provided separately. Drawings for the T-Plant Complex are located in Attachment C.

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).

Photographs of the Hanford Facility have been provided separately. Photographs for the T-Plant Complex are located in Attachment C.

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 U.S. Department of Energy Richland Operations Office By Matthew S. McCormick, Manager	**Signature**	**Date Signed** 10/4/13
Operator Name and Official Title CH2M HILL Plateau Remediation Company By John C. Fulton, President and Chief Executive Officer	**Signature**	**Date Signed** 10/3/2013

Co-Operator – Address and Telephone Number*
P.O. Box 1600
Richland, WA 99352
(509) 376-0556

Facility-Property Owner Name and Official Title U.S. Department of Energy Richland Operations Office By Matthew S. McCormick, Manager	**Signature**	**Date Signed** 10/4/13

Comments

Section XI. Refer to Attachment A for further description.

Section XIV. Refer to Attachment B for waste codes for storage and treatment at the T-Plant Complex. The waste codes have been divided into groups for T Plant Complex based on the two main processes, storage and treatment; and the types of permitted units at T-Plant Complex, container, containment buildings, and miscellaneous units.

Section XV. A topographic map of the Hanford Facility has been provided separately. Topographic map for T Plant Complex is located in Attachment C.

Section XVI. Facility drawings of the Hanford Facility have been provided separately. Drawings for the T Plant Complex are located in Attachment C.

Section XVII. Photographs of the Hanford Facility have been provided separately. Photographs for the T Plant Complex are located in Attachment C.

Attachment A

Section XI - Nature of Business

A1 Introduction

The Hanford Facility, located in southeastern Washington State, is owned by the U.S. Government and operated by the U.S. Department of Energy (DOE), Richland Operations Office. Dangerous waste and mixed waste (containing both dangerous and radioactive components) are generated and managed with in the Hanford Facility.

The T-Plant Complex Operating Unit Group (OUG) is located in Hanford's 200 West Area. The T-Plant Complex was constructed in 1943 to provide chemical separation of plutonium from uranium fission and activation products until 1956, using the Bismuth-Phosphate/Lanthanum-Fluoride process. Beginning in 1957, T-Plant was used for decontamination operations. Currently, the T-Plant Complex provides container storage and treatment services for dangerous and/or mixed waste. The waste received and processed by the T-Plant Complex has been generated both on and off the Hanford Site.

A2 General Description of On-Site Activities

The primary missions of the T-Plant Complex are treatment of dangerous and/or mixed waste and storage of non-containerized and containerized dangerous and/or mixed waste. These missions include characterization of Waste Retrieval Project retrieved waste, container venting, verification sampling, treatment, and repackaging of dangerous and mixed waste. In addition, the T-Plant Complex will store and treat sludge retrieved from the K-Basins. The T-Plant Complex mission is dynamic in nature. Wastes that can be managed at T-Plant include low-level waste (LLW), mixed low-level waste (MLLW), transuranic (TRU) waste, mixed transuranic (TRUM) waste, hazardous/dangerous waste, and *Toxic Substances Control Act of 1976* (TSCA)-polychlorinated biphenyl (PCB) waste.

The multiple storage dangerous waste management units (DWMUs), each with different configurations, provide the operational flexibility to support the various waste management activities at the T-Plant Complex. In some cases, physical separation between large containers is required to meet *Atomic Energy Act of 1954* controls.

The storage and treatment DWMUs provide space for the storage and processing of mixed and non-mixed radioactive wastes, including TSCA-PCB contaminated mixed and non-mixed radioactively contaminated wastes.

Table A-1 identifies the operating DWMUs in the T-Plant Complex where dangerous and mixed waste is treated or stored. The type of DWMU and the corresponding treatment authorization are indicated in Table A-2.

The T-Plant Complex includes DWMUs currently undergoing closure activities, as listed in Table A-1. DOE has agreed through a Consent Agreement and Final Order (CAFO) with the U.S. Environmental Protection Agency to close some of these DWMUs. In other cases, DOE has identified no further use for these storage areas. The closure units are not authorized to accept dangerous and/or mixed waste.

Maps and photographs of the DWMUs are located in Attachment C of this Part A application.

Table A-1. T-Plant Dangerous Waste Management Units

Operating Dangerous Waste Management Units			
DWMU Name	**Treatment**	**Storage**	**Notes**
221-T Canyon Deck	YES	YES	Part of 221-T Canyon Building
221-T Cells	YES	YES	Part of 221-T Canyon Building; includes the following cells: 7L, 13R, and 17R
221-T Railroad Tunnel	YES	YES	Part of 221-T Canyon Building; includes outdoor storage area
221-T Head End	NO	YES	Part of 221-T Canyon Building; includes outdoor storage area
221-T Operations Gallery Storage	NO	YES	Part of 221-T Canyon Building
221-T BY Storage Area	NO	YES	Outdoor storage area that includes TSCA container 221T-03-000004
2706-T Building	YES	YES	Includes outdoor storage area
2706-TA Building	YES	YES	Includes outdoor storage area
2706-T Yard (Including HS-030 and HS-032 Storage Modules)	NO	YES	Outdoor storage area
2706-T Asphalt Pad	NO	YES	Outdoor storage area
243-T Covered Storage Pad	NO	YES	Outdoor storage area
214-T Building	YES	YES	Includes outdoor storage area
211-T Cage	NO	YES	Outdoor storage area
Closing DWMUs			
DWMU Name	**CAFO Unit**	**Notes**	
271-T Cage	YES		
211-T Pad	YES		
221-T Sand Filter Pad	YES		
221-T R5 Waste Storage Area	YES		
277-T Outdoor Storage Area	YES		
277-T Building	NO		
2706-TB Tank System	NO	Includes 2706-TB Building	
221-T Railroad Cut	NO	Gravel area in front of 221-T Railroad Tunnel DWMU	
221-T Pipe Gallery Storage	NO	Inside the 221-T Canyon Building	
221-T Tank System	NO	Includes the 211-T Sump	

CAFO = Consent Agreement and Final Order

DWMU = dangerous waste management unit

TSCA = *Toxic Substances Control Act of 1976*

Table A-2. Summary of T-Plant Operating Dangerous Waste Management Units

Management Unit Type	T-Plant Operating Unit Group DWMUs	Part A Treatment Type	Part A Storage Type
Container (Storage)	221-T Head End 221-T Operations Gallery Storage 2706-T Yard (including HS-030 and HS-032 Storage Modules) 2706-T Asphalt Pad 243-T Covered Storage Pad 221-T BY Storage Area 211-T Cage	N/A	S01[a]
Container (Storage and Treatment)	221-T Railroad Tunnel 221-T Canyon Deck 2706-T Building 2706-TA Building 214-T Building	T04[a]	S01[a]
Containment Building (Storage and Treatment)	221-T Cells (7L, 13R, and 17R) 221-T Canyon Deck 221-T Railroad Tunnel	T94[b]	S06[b]
Miscellaneous Unit (Storage and Treatment)	2706-T Building 2706-TA Building	X99[c]	X99[c]

a. Containers

b. Containment building

c. Miscellaneous unit (both storage and treatment of non-containerized waste)

DWMU = dangerous waste management unit

N/A = not applicable

A3 Operating Units

The following subsections describe the function of each operating DWMU.

A3.1 221-T Building

The 221-T Building includes the following operating DWMUs: 221-T Head End, 221-T Operations Gallery, 221-T Cells (7L, 13R, and 17R), 221-T Canyon Deck, and 221-T Railroad Tunnel. Photographs in Appendix C provide locations for these DWMUs inside the 221-T Canyon Building.

The 221-T Building is a canyon type containment building (WAC 173-303-695, "Dangerous Waste Regulations," "Containment Buildings"), constructed of reinforced concrete approximately 260 m (850 ft)

long, 21 m (70 ft) wide, and 23 m (75 ft) high, and covers a 5,400 m^2 (area. The floor of the 221-T Canyon Building is 1.8 m (6 ft) thick, the northwest wall is approximately 0.9 m (3 ft) thick, and the southeast wall is approximately 1.5 m (5 ft) thick. The building consists of the canyon (221-T Canyon Deck, 221-T Cells, and 221-T Tank System), three galleries (operating, pipe, and electrical), one crane-way, and a head-end area (221-T Head End). The standard canyon cells normally are covered by four 1.83 m (6 ft) thick concrete cover blocks. Each cover block has a carbon steel lifting bail to allow access into the cells. The area on top of the cover blocks is referred to as the canyon deck. The canyon deck is approximately 12 m (40 ft) below a 0.9 to 1.2 m (3 to 4 ft) thick concrete roof. The canyon deck consists of 38 covered and uncovered process cells (2L through 20L) and the railway tunnel access. The process cells begin at Section 2R and continue through Section 20L.

A 41 metric ton capacity master crane moves parallel to the canyon, allowing access to the canyon deck area, which facilitates remote decontamination, maintenance, treatment, and storage activities. The crane maintenance platform, located in section 20, allows hands-on crane inspection and maintenance. The crane is currently in lay-up mode and will require maintenance to return to service.

The 221-T Building was designed and built to codes and standards applicable in 1944. These standards included static, vertical, live, and dead loads, and lateral wind forces based on the projected building area. Although these codes had no seismic provisions and no requirements for tornado resistance, the tornado and seismic stress that the building can tolerate has been calculated.

Table A-2 summarizes the operating DWMUs in the 221-T Building and the remainder of the DWMUs that make up the T-Plant Complex.

The function of each operating DWMU in the T-Plant Complex is provided in the following subsections.

A3.2 221-T Head End (Storage)

The 221-T Head End is permitted as a container storage area. The 221-T Head End is located at the north end of the building at all three floor levels and the craneway level. At the canyon deck level, the head end provides a working space for contamination control activities and container storage. The northernmost portion of the head end is a mezzanine level accessed by open metal stairs. There is direct access to a portion of the craneway from the mezzanine. An overhead rolling door provides direct access to the exterior on the east side of the 221-T Canyon Building. A concrete ramp provides vehicular access from grade level.

The floor, roof, and other walls are continuations of the canyon construction. A metal wall of corrugated sheet metal on steel beams isolates the head end from the canyon at the beginning of Section 2. A double-wide door has been added to the sheet metal wall separating the head end from the balance of the canyon.

A diverse range of waste containers is managed in the 221-T Head End storage area including, but not limited to, waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

The 221-T Head End does not have engineered secondary containment; therefore, any waste containers requiring secondary containment stored within this area will be stored over devices meeting the requirements of WAC 173-303-630(7), “Dangerous Waste Regulations,” “Use and Management of Containers.”

No treatment is authorized in the 221-T Head End.

A3.3 221-T Operations Gallery (Storage)

The 221-T Operations Gallery Storage is located in the 221-T Operations Gallery/Section 14. This unit consists of a metal cabinet approximately 6 ft tall and 4 ft wide. The cabinet has multiple shelves and may store solid and/or liquid dangerous waste items, but it is not suitable for flammable waste storage. All other waste codes are acceptable. Liquid waste is stored and segregated by using plastic spill tubs with a 2 gal capacity volume for each tub.

The unit stores mixed waste that is generated from the 221-T Complex. The total volume for the 221-T Operations Gallery Storage is 30 gal. Individual containers will be 2 gal or less. The usual size is less than 1 gal. Container types include poly, glass, metal, and fiber.

No treatment is authorized in the 221-T Operations Gallery Storage Area.

A3.4 221-T Cells (Storeage and Treatment)

The 221-T Cells are permitted as a containment building for storage and treatment. The 221-T Canyon Building contains 37 process cells, grouped into 12 m (40 ft) sections arranged in a single row running the length of the canyon. Access to the waste in the containment cells is through the use of an overhead crane. Access by surveillance personnel to the cell floor is not feasible.

The 221-T Containment Building cell design and operation meet the requirements of 40 CFR 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," part DD for containment structures. Three process cells (17R, 13R, and 7L) are identified as containment building cells where some have been modified for a secondary containment liner.

Shielding walls made of 2.7 m (9 ft) thick reinforced concrete separate the cells from the electrical and pipe galleries. The operating gallery is separated from the canyon deck by a 2.1 m (7 ft) thick reinforced concrete wall. The crane cab is protected by a 1.5 m (5 ft) thick concrete wall that extends 2.7 m (9 ft) above the floor level. Each section in the canyon is numbered according to building section and consists of two cells: one designated (R) and one (L). There is an expansion joint between each section. Sections 2 through 20 are divided into cells. Cells within each section are separated by a 2.1 m (7 ft) thick reinforced concrete wall. The cells measure 5.5 m (18 ft) long, by 4 m (13 ft) wide, by 8.5 m (28 ft) deep except for Cells 2R and 5R. Cell 2R measures 4 m (13 ft) wide, 8.5 m (28 ft) long, and 8.5 m (28 ft) deep. Cell 5R is 5.5 m (18 ft) long, by 4 m (13 ft) wide, by 14.6 m (48 ft) deep. The standard canyon cells normally are covered by four 1.83 m (6 ft) thick concrete cover blocks. Each cover block has a carbon steel lifting bail to allow access into the cells. Several cells are partly or completely uncovered. The building is maintained below atmospheric pressure with the exhaust filtered through a series of filters. The building design and operation meet the requirements of 40 CFR 264 part DD for containment structures.

Containment building waste treatment activities of non-containerized waste include solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies. Treatment in the 221-T Cells will typically be accomplished remotely using the canyon crane.

Storage capacity includes the 221-T Canyon Deck and the 221-T Railroad Tunnel. A diverse range of waste can be stored in the containment cells, including contaminated process equipment and non-containerized waste. The storage height of an item will be limited to 6.5 m (21 ft), which is the depth of the cell after the cover blocks are in place. The use of secondary containment further reduces the height of an item that can be stored in the containment cell.

Liquids can be present in the waste to be managed in the containment building. Bulk liquids will not be managed; however, small amounts of liquids in equipment (e.g., pumps) can be present. 40 CFR 264.1101(b)(2), "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities," "Design and Operating Standards," requires a liquid collection and removal system to minimize the accumulation of liquid on the primary barrier.

For the 221-T Cells, the cell drains have been plugged for liquids to be contained in the cells.

A3.5 221-T Canyon Deck (Storage and Treatment)

The 221-T Canyon Deck is permitted as a container storage and treatment area and also containment building storage and treatment area. The 221-T Canyon Deck is approximately 11.3 m (37 ft) wide by 180 m (600 ft) long. The canyon ceiling is approximately 12 m (40 ft) above the 221-T Canyon Deck. The 221-T Railroad Tunnel occupies Cell 2L. The tops of the cell cover blocks serve as the floor surface in much of the 221-T Canyon Deck. Each section is numbered according to the building section number and consists of two cells: one designated right (R) and the other left (L).

The 221-T Canyon Deck can be used for packaging, special decontamination services, repair, treatment, and storage. Equipment that requires decontamination for repair, reuse, recycle, storage, or disposal (e.g., pumps, motors, and resin columns) is stored on the 221-T Canyon Deck or in the canyon cells. The amount and type of equipment in the cells can vary with treatment and storage support requirements.

Sections 4 through 10 are the canyon service areas used as staging and storage areas for contaminated and decontaminated equipment. The primary staging and storage areas for pumps and agitators are located in sections 4 and 6. However, these locations within the canyon can change to support waste operations.

Treatment capabilities in the 221-T Canyon Deck pertain to container treatment and containment building treatment. Containment building waste treatment activities of non-containerized dangerous and mixed waste include solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies. Containerized waste treatment activities include solidification and/or absorption of liquids, puncture and decant of aerosol cans and/or cylinders, mercury amalgamation, deactivation (includes deactivation of ignitable, corrosive, and reactive characteristics by methods including but not limited to neutralization, solidification, cementing, absorption, encapsulating, and controlled reaction with water), microencapsulation/macroencapsulation (includes radioactive lead solids, debris and radioactive lead acid batteries), stabilization (cementing, solidification, absorption, and encapsulation), volume reduction, sorting and segregation, debris washing, and physical extraction.

A diverse range of waste containers is managed in the 221-T Canyon Deck storage and treatment area including, but not limited to, waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

The 221-T Canyon Deck does not have engineered secondary containment; therefore, any waste containers requiring secondary containment stored within this area will be stored over devices meeting the requirements of WAC 173-303-630(7).

A3.6 221-T Railroad Tunnel (Storage and Treatment)

The 221-T Railroad Tunnel is permitted as a container storage and treatment area and also as a containment building storage and treatment area. The 221-T Railroad Tunnel storage area is located within the railroad tunnel that enters the 221-T Canyon Building at cell 2L. Waste and the equipment to be stored in the 221-T Building are brought into the tunnel on vehicles. Materials are lifted by crane and placed in the desired storage location within the 221-T Canyon Deck or Cells. Although normally used

only as a transfer and staging area for waste, the 221-T Railroad Tunnel may also be used for waste storage and treatment.

The 221-T Railroad Tunnel measures 63.7 m (209 ft) long, 4.9 m (16 ft) wide, and 7.3 m (24 ft) high. The floor, walls, and ceiling are of reinforced concrete. It is overburdened with a minimum of approximately 0.9 m (3 ft) of native rock and soil. At the west end of the 221-T Railroad Tunnel, a 4.9 m (16 ft) wide by 6.7 m (22 ft) high overhead roll-up door provides vehicular and railway access. The 221-T Railroad Tunnel floor is 10.4 m (34 ft) below the level of the canyon deck. A stair provides access between the 221-T Railroad Tunnel and the 221-T Canyon Deck.

The ramp and asphalt pad outdoor storage area leading up to the 221-T Railroad Tunnel is included in the 221-T Railroad Tunnel DWMU.

Treatment capabilities in the 221-T Railroad Tunnel pertain to container treatment and containment building treatment. Containerized waste treatment activities include solidification and/or absorption of liquids, puncture and decant of aerosol cans and/or cylinders, mercury amalgamation, deactivation (includes deactivation of ignitable, corrosive, and reactive characteristics by methods including but not limited to neutralization, solidification, cementing, absorption, encapsulating, and controlled reaction with water), microencapsulation/macroencapsulation (includes radioactive lead solids, debris and radioactive lead acid batteries), stabilization (cementing, solidification, absorption, and encapsulation), and sorting and segregation. Containment building waste treatment activities of non-containerized dangerous and mixed waste include solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies.

The 221-T Railroad Tunnel containment building (S06) storage capacity is incorporated into the 221-T Cells S06 storage capacity and is not listed separately. A diverse range of waste containers are managed in the tunnel storage and treatment area including, but not limited to, waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

The 221-T Railroad Tunnel does not have engineered secondary containment; therefore, any waste containers requiring secondary containment stored within this area will be stored over devices meeting the requirements of WAC 173-303-630(7).

A3.7 221-T BY Storage Area (Storage)

The 221-T BY Storage Area is an 87 m (285 ft) long and 46 m (150 ft) wide uncovered, irregular shaped area encompassing asphalt and gravel pads. It is located northwest of the 221-T Canyon Building and 221-T Railroad Tunnel. The size of the storage area allows for the storage of large containers while providing a separation distance appropriate for high-level radioactive containers. 221-T BY Storage Area waste storage area is primarily used to store remote-handled TSCA waste. TSCA container 221T-03-000004 is currently stored in the 221-T BY storage area.

A diverse range of waste containers are managed in the storage area including, but not limited to, waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood). The 221-BY Storage Area DWMU does not have a constructed secondary containment system. Any waste containers requiring secondary containment for liquid or incompatible waste management are stored over portable secondary containment.

No treatment is authorized in the 221-T BY Storage Area.

A3.8 2706-T Building (Storage and Treatment)

The 2706-T Building is permitted as a container storage and treatment unit and as a miscellaneous storage and treatment unit. Miscellaneous unit operations allow for the storage of non-containerized waste potentially containing free liquids and for decontamination or treatment activities using free liquids solvents on 2706-T Building operational area floors.

The 2706-T Building is an 18 m (60 ft) wide, 20 m (65 ft) long, and 7.6 m (25 ft) high ground level building constructed of prefabricated steel with 6 m (19.5 ft) high sidewalls. The exterior walls of the 2706-T Building are 15 cm (6 in.) thick and consist of insulation sheathed in prefabricated steel. The 2706-T Building has openings on the east and west ends (leading to 2706-TA Building) fitted with roll-up metal doors. The west side has two doors, the larger of which is 3.7 m (12 ft) wide by 4.9 m (16 ft) high, and will be the entrance to the railroad pit area from the 2706-TA Building. The east side door and the other door on the west end, leading to the 2706-TA Building, are 2.7 m (9 ft) wide by 4.3 m (14 ft) high. The 2706-T Building has a concrete floor with an epoxy floor sealant applied to all operational area floors.

The 2706-T Building contains a railroad pit, approximately 17 m (56 ft) long by 5.2 m (17 ft) wide by 1.8 m (6 ft) deep. The pit floor is sloped to drain to a 400 L (106 gal) below-grade sump (2706-T railroad pit sump). The 2706-T Building will be the loadout point for all liquid waste generated in the 2706-T and 2706-TA Buildings.

The 2706-T Building DWMU also includes the surrounding outdoor storage areas.

Containerized waste treatment activities include solidification and/or absorption of liquids, puncture and decant of aerosol cans and/or cylinders, mercury amalgamation, deactivation (includes deactivation of ignitable, corrosive, and reactive characteristics by methods including but not limited to neutralization, solidification, cementing, absorption, encapsulating, and controlled reaction with water), microencapsulation/macroencapsulation (includes radioactive lead solids, debris and radioactive lead acid batteries), stabilization (cementing, solidification, absorption, and encapsulation), volume reduction, sorting and segregation, debris washing, and physical extraction. Waste treatment activities of non-containerized waste in the miscellaneous unit include solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies. Decontamination or treatment in the miscellaneous unit using free liquids can occur directly on building operational area floors and provides primary and/or secondary containment for liquid decontamination waste and other compatible and accepted liquid mixed waste. The 2706-T railroad pit sump is fully functional, and liquids are removed manually, if needed.

A diverse range of waste can be stored and treated in the 2706-T Building including contaminated process equipment and containerized and non-containerized waste. Containerized waste may include waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

A3.9 2706-TA Building (Storage and Treatment)

The 2706-TA Building is permitted as a container storage and treatment unit and a miscellaneous storage and treatment unit. The 2706-TA Building is used for equipment decontamination and dangerous and mixed waste treatment and storage activities. The 2706-TA Building has an equipment roll-up door 3.5 m (11.5 ft) wide by 4.6 m (15 ft) high, and a larger door 5.4 m (17.5 ft) wide by 6.1 m (20 ft) high, located at the west end of the building along with the roll-up doors to the 2706-T Building. The 2706-TA Building has a concrete floor with an epoxy floor sealant applied to all operational area floors.

The 2706-TA Building, constructed of pre-fabricated steel, is approximately 15 m (49 ft) wide and 7.6 m (25 ft) high, with a concrete foundation and floor. The 2706-TA Building has an equipment roll-up door 3.5 m (11.5 ft) wide by 4.6 m (15 ft) high, and a larger door 5.4 m (17.5 ft) wide by 6.1 m (20 ft) high, located at the west end of the building along with the roll-up doors to the 2706-T Building.

The 2706-TA Building was installed over the concrete pad located west of the 2706-T Building. The building and foundation meet design loads equal to those of the 2706-T Building.

The 2706-TA Building DWMU also includes the surrounding outdoor storage areas.

The 2706-TA Building has waste treatment and decontamination capabilities equivalent to the 2706-T Building. Treatment activities occur for the container management unit and miscellaneous unit. Containerized waste treatment activities include solidification and/or absorption of liquids, puncture and decant of aerosol cans and/or cylinders, mercury amalgamation, deactivation (includes deactivation of ignitable, corrosive, and reactive characteristics by methods including but not limited to neutralization, solidification, cementing, absorption, encapsulating, and controlled reaction with water), microencapsulation/macroencapsulation (includes radioactive lead solids, debris and radioactive lead acid batteries), stabilization (cementing, solidification, absorption, and encapsulation), volume reduction, sorting and segregation, debris washing, and physical extraction.

Waste treatment activities of non-containerized waste in the miscellaneous unit include solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies. Decontamination or treatment using free liquids can occur directly on building operational area floors, and provides primary and/or secondary containment for liquid decontamination waste and other compatible and accepted liquid mixed waste. The 2706-TA sump and the 2706-TA heating, ventilating, and air conditioning sumps are fully functional, and liquids are removed manually, if needed.

A diverse range of waste can be stored and treated in the 2706-TA Building including contaminated process equipment and containerized and non-containerized waste. Containerized waste may include waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

A3.10 2706-T Yard (Including HS-030 and HS-032 Storage Modules) (Storage)

The 2706-T Yard is a fenced, uncovered asphalt paved area for storage of containerized waste. The 2706-T Yard is located on the south side of the 2706-T Building. The 2706-T Yard is irregular in shape and contains two engineered metal structures (HS-030 and HS-032), which are part of the DWMU. The fenced area covers an area of approximately 2,344 m^2 (25,200 ft^2).

The maximum treatment rate and storage volume capacities are identified in Table A-3. A diverse range of containerized waste can be stored in the 2706-T Yard. Containerized waste may include waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood). Containers stored within the fenced permitted storage area will be elevated to prevent contact with accumulated liquids. In the 2706-T Yard DWMU outdoor storage areas, containers with known free liquids will be stored over individual portable secondary containment in compliance with WAC 173-303-630(7).

The two storage units (HS-030 and HS-032) are each an engineered metal storage module, also called a CONEX box, and are located inside the 2706-T Complex fenceline. Each is completely enclosed by walls, a roof, and flooring to protect containers from precipitation and run-on. The storage structures measure 7.2 m (24 ft) long, by 3.5 m (11.5 ft) wide, by 2.7 m (8.5 ft) high, and are divided into three separate compartments or cells. Each cell within each module has a door that opens onto a loading

platform or ramp. Inside, the containers rest on a chemical resistant non-skid fiberglass grate above a steel secondary containment basin that is free of cracks and has a chemical resistant coating. The containment basin has a capacity of 3,142 L (830 gal). The roof collects and directs the precipitation to the rear of the building away from the doorways and loading platforms.

A diverse range of containerized waste can be stored in the HS-030 Storage Module and HS-032 Storage Module. Container size is limited to the door openings of the modules.

No treatment is authorized in the 2706-T Yard DWMU.

A3.11 2706-T Asphalt Pad (Storage)

The 2706-T Asphalt Pad is an uncovered asphalt area for storage of waste in containers. This pad can store waste containers of various size and volume. The 2706-T Asphalt Pad is 45.5 m (150 ft) long and 24.3 m (80 ft) wide. It is located west of the 2706-TB Building. The 2706-T Asphalt Pad can store a variety of waste streams to ensure adequate capacity and operational flexibility consistent with the dynamic nature of the T-Plant Complex mission.

Containerized waste may be stored in the 2706-T Asphalt Pad. Containerized waste may include waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

The 2706-T Asphalt Pad does not have a constructed secondary containment system. Any waste containers requiring secondary containment for liquid or incompatible waste management are stored over portable secondary containment.

No treatment is authorized in the 2706-T Asphalt Pad DWMU.

A3.12 243-T Covered Storage Pad (Storage)

The 243-T Covered Storage Pad is a 96 m (315 ft) long by 62.5 m (205 ft) wide irregular shaped area with a concrete and asphalt base, containing a covered storage structure, located at the west corner of T-Plant. The structure is constructed with a steel frame, sheet metal roof, and open sides, and it covers only a portion of the pad area.

The 243-T Covered Storage Pad also includes uncovered, paved areas beyond the structure that are used for loading, unloading, and staging of containers.

A diverse range of waste containers is managed in the storage area including, but not limited to, waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal or concrete). The 243-T Covered Storage Pad does not have a constructed secondary containment system. Any waste containers requiring secondary containment for liquid or incompatible waste management are stored over portable secondary containment.

No treatment is authorized in the 243-T Covered Storage Pad DWMU.

A3.13 214-T Building (Storage and Treatment)

The 214-T Building provides container storage and treatment and is located on the west side of the 221-T Building near the 221-T Railroad Tunnel. The 214-T Building, enclosed totally to protect containers from precipitation or run-on, is 15 m (49 ft) wide, 8.8 m (29 ft) long, and 3.7 m (12 ft) high. The building is constructed of corrugated steel overlaying I-beams and has a concrete floor. The concrete floor is covered with a chemical resistant coating and divided by a raised concrete berm to allow for the separation of

incompatible waste types. The two floor areas are sloped to prevent mixing of incompatible materials and direct any spills to separate floor sumps.

The outdoor storage area consists of the approach aprons and access paths to the vehicle entrance roll-up door for the building.

Containerized waste treatment activities include solidification and/or absorption of liquids, mercury amalgamation, deactivation (includes deactivation of ignitable, corrosive, and reactive characteristics by methods including but not limited to neutralization, solidification, cementing, absorption, encapsulating, and controlled reaction with water), volume reduction, sorting and segregation, and physical extraction.

A diverse range of containerized waste can be stored in the 214-T Building. Containerized waste may include waste boxes, drums, casks, and self-contained waste. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

The 214-T Building contains two floor areas, sloped to prevent mixing of incompatible materials and direct any spills to separate floor sumps, and a third flammable storage area. The sumps are not connected to any piping system. The 214-T Building has compliant secondary containment; therefore, containers requiring secondary containment can be stored in this container storage area without portable secondary containment.

A3.14 211-T Cage (Storage)

The 211-T Cage is a 7.3 m (24 ft) long and 4.7 m (15 ft) wide fenced outside storage area with a locking gate for storing containerized waste. The floor is concrete and has engineered berms, a collection sump, and epoxy coating. The 211-T Cage is split into two sections separated by a concrete berm and surrounded by a 6 in. curb. Storing containerized waste for the purposes of segregating incompatible wastes or providing secondary containment for liquid wastes prior to treatment is one use of this storage area. The 211-T Cage can store a variety of waste streams to ensure adequate capacity and operational flexibility consistent with the dynamic nature of the T-Plant mission. This location is used for waste storage.

A diverse range of containerized waste can be stored in the 211-T Cage. The containerized waste consists primarily of 208 L (55 gal) drums, 321 L (85 gal) drums, and standard waste boxes. Containers come in varying sizes and types (e.g., metal, wood, concrete, and reinforced fiberglass plywood).

No treatment is authorized in the 211-T Cage.

A4 Closing DWMUs

The T-Plant Complex includes DWMUs currently undergoing closure activities per an approved closure plan. These units are not authorized to accept dangerous and/or mixed waste into the units.

A4.1 271-T Cage (Closing)

The 271-T Cage is adjacent to the north side of 271-T Building. The 271-T Cage was used to store dangerous, mixed, and TSCA-PCB waste in a <90-day or satellite accumulation storage area, and materials for recycle.

The 271-T Cage area is an uncoated concrete floor 5.6 m (18 ft) long by 2.7 m (9 ft) wide, with a total area of 15.1 m^2 (162 ft^2). The 271-T Cage is defined on the south side by the 271-T Building and on the remaining three sides by metal chainlink cage material. The 271-T Cage outdoor storage area is covered

with corrugated metal roofing material. The 271-Cage does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing *Resource Conservation and Recovery Act of 1976* (RCRA) closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.2 211-T Pad (Closing)

The 211-T Pad is located west of the 221-T Canyon Facility and adjacent to the 211-T-52 Building and ancillary equipment. The 211-T Pad was generally used as secondary containment for tanker trucks. However, containerized dangerous, mixed, or TSCA-PCB waste was also stored on the 211-T Pad. The 211-T Pad area is a curbed, uncoated concrete pad 18 m (59 ft) long by 6 m (20 ft) wide, with a total area of 108 m^2 (1,180 ft^2) that slopes into a blind sump. The 211-T Pad blind sump provided secondary containment during periods of waste storage. The 211-T Pad does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.3 211-T Sand Filter Pad (Closing)

The 221-T Sand Filter Pad is located at the north end of the 221-T Canyon Building. The 221-T Sand Filter Pad is an uncovered gravel area 55 m (180 ft) long by 18 m (60 ft). The perimeter of the 221-T Sand Filter pad is designated by jersey barriers. The 221-T Sand Filter Pad was used to store dangerous, mixed, and TSCA-PCB waste in a <90-day or satellite accumulation storage area. The 221-T Sand Filter Pad does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.4 221-T R5 Waste Storage Area (Closing)

The 221-T R5 Waste Storage Area is located at the northeast end of 221-T Canyon Building. The 221-T R5 Waste Storage Area was used to store dangerous, mixed, and TSCA-PCB waste in a <90-day or satellite accumulation storage area.

The 221-T R5 Waste Storage Area was constructed with the primary purpose of storing containers of various sizes and volumes and a variety of waste streams to ensure adequate capacity and operational flexibility to support T-Plant activities. The 221-T R5 Waste Storage Area is an asphalt paved area 47 m (155 ft) long by 18 m (60 ft) wide. A portable weather shelter, designated as 229-W, currently occupies the northeast end of the pad. The 221-T R5 Waste Storage Area does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.5 277-T Outdoor Storage Area (Closing)

The 277-T Outdoor Storage Area is located west of 221-T Canyon Facility and north of the 221-T Tunnel. The 277-T Outdoor Storage Area was previously used for storing containers of various sizes and volumes and a variety of waste streams to ensure adequate capacity and operational flexibility to support T-Plant activities. The 277-T Outdoor Storage Area consists of two uncoated concrete pads and a gravel area surrounding the 277-T Building. The 277-T Outdoor Storage Area is 29 m (32 yd) on the south side, by

29 m (32 yd) on the west side, by 44 m (49 yd) on the north side, by 29 m (32 yd) on the east side, for a total approximate area of 1,081 m^2 (1,293 yd^2). The 277-T Outdoor Storage Area does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.6 277-T Building (Closing)

The 277-T Building is located on the west side of the 221-T Building, on the north side of the 221-T Railroad Tunnel. It is a single story pre-engineered metal building constructed of I-beams covered with corrugated steel on a concrete slab on grade. The building is 12 m (40 ft) long, 9.8 m (32 ft) wide, and 7.3 m (24 ft) high. There are roll-up doors located on each end of the building. The 277-T Building does not currently store any dangerous, mixed waste, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.7 2706-TB Tank System (Closing)

The 2706-TB Tank System includes two storage tanks (T-XX-2706-220 and T-XX-2706-221), piping, ancillary equipment, and the 2706-TB enclosure building. The 2706-TB Tank System enclosure was constructed to enclose the 2706-TB tanks that managed liquid mixed waste generated in the 2706-T and 2706-TA Buildings.

The 2706-TB Tank System enclosure is 9.5 m (31 ft) wide, 14 m (46 ft) long, and 9.6 m (31 ft) high. The building is constructed of prefabricated steel and has a concrete foundation and floor. The 2706-TB Tank System enclosure contains the two storage and treatment tanks, provides the secondary containment, and includes a chemical addition room located at the north end of the enclosure. The chemical addition room is not included in the closing portion of the 2706-TB Tank System.

Secondary containment for the 2706-TB Tank System consists of a concrete berm with an external liner made of a high-density epoxy coating that is free of crack and gaps.

The 2706-TB Tank System does not currently manage dangerous or mixed waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.8 221-T Railroad Cut (Closing)

The 221-T Railroad Cut is an uncovered gravel area located on the north end of the T-Plant Canyon Building outside of the 221-T Railroad Tunnel. The 221-T Railroad Cut is approximately 27 m (90 ft) long by 15 m (50 ft) wide at the fence and 8 m (25 ft) wide at the 221-T Railroad Tunnel end. The 221-T Railroad Cut was occasionally used to store mixed waste being transferred into or out of the 221-T Railroad Tunnel. This area is not currently being proposed for further mixed waste storage as part of the 221-T Railroad Tunnel DWMU; therefore, only the gravel area is undergoing RCRA closure. The 221-T Railroad Cut does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.9 221-T Pipe Gallery Storage (Closing)

The 221-T Pipe Gallery Storage is located within the 221-T Pipe Gallery, Sections 10 and 11. The unit was installed between 1995 and 1996, and it stored waste until December 2012. This DWMU is an approximate 9 m (30 ft) long by 2 m (7 ft) wide area of the Pipe Gallery surrounded by a steel cage with a sliding gate. The walls, floor, and ceiling are concrete. This unit was used to accumulate and store dangerous wastes, as well as universal and recycle wastes. All liquid wastes were stored on a spill pallet. The 221-T Pipe Gallery Storage Unit does not currently store dangerous, mixed, or TSCA-PCB waste.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A4.10 221-T Tank System (Closing)

The 221-T Tank System is located inside the 221-T Canyon facility. The 221-T System consists of six tanks (Tank 5-6, Tank 5-7, Tank 5-9, Tank 6-1, Tank 11-R, and Tank 15-1), the 211-T Sump, the 5-8 sump, associated piping, and ancillary equipment. The six tanks are stainless steel, closed bottom tanks of varying sizes that have been isolated from further waste addition and, therefore, are considered non-operating. The 5-8 sump is located in the 221-T Cell 5-R below Tank 5-7. The 211-T Sump is located between the 2706-T Building and the 221-T Building. The 211-T Sump has been isolated and is awaiting closure.

No liquid waste remains within the 221-T Tank System. The last addition of waste to the 221-T tank system occurred on June 3, 1999. The 221-T Tank System has been isolated from any further waste addition.

This DWMU is undergoing RCRA closure. No future receipts of RCRA waste for storage or treatment of dangerous or mixed waste are authorized.

A5 Treatment and Storage Capacities

The following subsections describe the T-Plant Complex treatment and storage capacities.

A5.1 T04 (Treatment-Other)

Treatment-other within the T-Plant Complex DWMUs will consist of sorting and segregation; neutralization of corrosives, deactivation, and reaction of reactive waste; absorption and liquid treatment; macroencapsulation; microencapsulation; volume reduction; mercury amalgamation; cutting and shearing; puncture and decant aerosol cans; stabilization; debris washing; and physical extraction.

The total process design capacity for treatment-other is 354.4 metric tons per day and is shown in Table A-3 for each DWMU at the T-Plant Complex. To determine this maximum treatment capacity, calculations were performed that conservatively estimated the maximum volume of waste expected to be treated using the volume of containers expected to be managed at the T-Plant Complex in a day.

A5.2 T94 (Containment Building Treatment)

Containment building treatment activities of non-containerized dangerous and/or mixed waste include decontamination, solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies. The maximum design process design capacity for containment building treatment is 90 metric tons per day.

A5.3 X99 (Miscellaneous Unit Treatment)

Miscellaneous unit treatment activities of non-containerized dangerous and/or mixed waste include decontamination, solidification for deactivation or stabilization, debris physical extraction technologies, or debris immobilization technologies. The maximum design process design capacity for miscellaneous unit treatment is 45.4 metric tons per day.

A5.4 S01 (Container Storage)

The storage (S01) process design capacity is 7,573,509 L. The maximum total volume (in liters) is shown in Table A-3 within each DWMU at the T-Plant Complex. A diverse range of waste containers are managed within the T-Plant Complex DWMUs including, but not limited to, 19 L (5 gal), 114 L (30 gal), 208 L (55 gal), 322 L (85 gal), 379 L (100 gal) and 416 L (110 gal) drums; waste boxes; and transport casks of various sizes up to 50,000 L (13,210 gal). To calculate the maximum capacity of waste containers stored at the T-Plant Complex OUG, calculations were performed for conservative computation of the maximum volume of waste expected to be stored in each DWMU.

The number of containers specified for each structure was calculated based on the storage needs associated with the area and the following storage requirements and limitations:

- Assumed four containers per pallet
- Maximum of three stacked pallets
- 0.9 m (36in.) aisle space between rows of pallets/containers

A5.5 S06 (Containment Building)

The storage (S06) process design capacity is 10,700,000 L (2,826,641 gal). The maximum total volume (in liters) is shown in Table A-3 within each DWMU at the T-Plant Complex. A diverse range of non-containerized mixed waste can be stored in the S06 containment buildings.

A5.6 X99 (Miscellaneous Unit)

The storage (X99) process design capacity is 26,377,000 L (6,968,066 gal). The maximum total volume (in liters) is shown in Table A-3 within each DWMU at the T-Plant Complex. A diverse range of non-containerized mixed waste can be stored in the X99 containment buildings.

Table A-3. Treatment and Storage Capacity for Each Dangerous Waste Management Unit

Dangerous Waste Management Unit	Maximum Treatment Capacity* (Metric Tons/Day)	Maximum Total Storage Capacity Volume and Associated Waste Code (Liters)**
221-T Canyon Deck	354.4 T04 90 T94	5,108,480 S01 S06 included in 221-T Cells capacity
221-T Cells	90 T94	10,700,000 S06
221-T Railroad Tunnel	354.4 T04 90 T94	224,640 S01 S06 included in 221-T Cells capacity
221-T Head End	0	8,320 S01
221-T Operations Gallery Storage	0	114 S01

Table A-3. Treatment and Storage Capacity for Each Dangerous Waste Management Unit

Dangerous Waste Management Unit	Maximum Treatment Capacity* (Metric Tons/Day)	Maximum Total Storage Capacity Volume and Associated Waste Code (Liters)**
2706-T Building	54.4 X99	208,000 S01 13,186,000 X99
2706-TA Building	54.4 X99	208,000 S01 13,191,000 X99
2706-T Yard (Including HS-030 and HS-032 Storage Modules)	0	130,903 S01
214-T Building	354.4 T04	67,392 S01
211-T Cage	0	19,968 S01
2706-T Asphalt Pad	0	415,356 S01
243-T Covered Storage Pad	0	591,168 S01
221-T BY Storage Area	0	591,168 S01
T-Plant Maximum Total Storage Volume Capacities (Liters)		
Containers (S01)	7,573,509	
Containment Building (S06)	10,700,000	
Miscellaneous Unit (X99)	26,377,000	

* The maximum treatment rate for the T-Plant Complex operating unit group is 354.4 metric tons per day for T04, 90 metric tons for T94, and 54.4 metric tons for X99. This treatment rate can be realized in any of the DWMUs having the specific treatment capability; however, the combined daily treatment rate cannot exceed the daily maximum.

** In accordance with WAC 173-303-630(7)(a)(iii), "Dangerous Waste Regulations," "Use and Management of Containers," secondary containment must have a sufficient capacity to contain 10% of the volume of waste containing free liquids, or waste designated as F020, F021, F022, F023, F026, or F027. In buildings where secondary containment is provided, the maximum volume for the waste types listed will not exceed 10 times the corresponding secondary containment capacity.

A6 Waste Generated

Dangerous and mixed waste is received into the T-Plant Complex from various onsite and offsite waste generators (e.g., Plutonium Finishing Plant, Pacific Northwest National Laboratory, and Perma-Fix Northwest). The waste received at the T-Plant Complex is TRUM, non-TRU, MLLW, non-MLLW, and TSCA-PCB contaminated TRUM, TRU, MLLW, and LLW.

T-Plant Complex also generates dangerous and mixed wastes from routine management and processing operations. Waste includes batteries, oils, solvents, paint waste, miscellaneous debris waste, and discarded chemicals.

A7 Universal Waste

Universal waste managed at the T-Plant Complex includes batteries, mercury thermostats, and lamps under WAC 173-303-573, "Dangerous Waste Regulations," "Standards for Universal Waste Management."

A8 Corrective Actions Statement

There are no historical or ongoing corrective actions taken at the T-Plant Complex under WAC 173-303; WAC 173-340, "Model Toxics Control Act—Cleanup;" or federal regulations.

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Attachment B

Section XIV – Description of Dangerous Waste

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1	D001	40,831,030	K	S01	Container Storage
2	D002				Included with above
3	D003				Included with above
4	D004				Included with above
5	D005				Included with above
6	D006				Included with above
7	D007				Included with above
8	D008				Included with above
9	D009				Included with above
10	D010				Included with above
11	D011				Included with above
12	D012				Included with above
13	D013				Included with above
14	D014				Included with above
15	D015				Included with above
16	D016				Included with above
17	D017				Included with above
18	D018				Included with above
19	D019				Included with above
20	D020				Included with above
21	D021				Included with above
22	D022				Included with above
23	D023				Included with above
24	D024				Included with above
25	D025				Included with above
26	D026				Included with above
27	D027				Included with above
28	D028				Included with above
29	D029				Included with above
30	D030				Included with above
31	D031				Included with above
32	D032				Included with above
33	D033				Included with above
34	D034				Included with above
35	D035				Included with above
36	D036				Included with above
37	D037				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
38	D038				Included with above
39	D039				Included with above
40	D040				Included with above
41	D041				Included with above
42	D042				Included with above
43	D043				Included with above
44	WSC2				Included with above
45	WT01				Included with above
46	WT02				Included with above
47	WP01				Included with above
48	WP02				Included with above
49	WP03				Included with above
50	WPCB				Included with above
51	F001				Included with above
52	F002				Included with above
53	F003				Included with above
54	F004				Included with above
55	F005				Included with above
56	F006				Included with above
57	F007				Included with above
58	F008				Included with above
59	F009				Included with above
60	F010				Included with above
61	F011				Included with above
62	F012				Included with above
63	F019				Included with above
64	F020				Included with above
65	F021				Included with above
66	F022				Included with above
67	F023				Included with above
68	F026				Included with above
69	F027				Included with above
70	F028				Included with above
71	F039				Included with above
72	U001				Included with above
73	U002				Included with above
74	U003				Included with above
75	U004				Included with above
76	U005				Included with above
77	U006				Included with above
78	U007				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
79	U008				Included with above
80	U009				Included with above
81	U010				Included with above
82	U011				Included with above
83	U012				Included with above
84	U014				Included with above
85	U015				Included with above
86	U016				Included with above
87	U017				Included with above
88	U018				Included with above
89	U019				Included with above
90	U020				Included with above
91	U021				Included with above
92	U022				Included with above
93	U023				Included with above
94	U024				Included with above
95	U025				Included with above
96	U026				Included with above
97	U027				Included with above
98	U028				Included with above
99	U029				Included with above
100	U030				Included with above
101	U031				Included with above
102	U032				Included with above
103	U033				Included with above
104	U034				Included with above
105	U035				Included with above
106	U036				Included with above
107	U037				Included with above
108	U038				Included with above
109	U039				Included with above
110	U041				Included with above
111	U042				Included with above
112	U043				Included with above
113	U044				Included with above
114	U045				Included with above
115	U046				Included with above
116	U047				Included with above
117	U048				Included with above
118	U049				Included with above
119	U050				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
120	U051				Included with above
121	U052				Included with above
122	U053				Included with above
123	U055				Included with above
124	U056				Included with above
125	U057				Included with above
126	U058				Included with above
127	U059				Included with above
128	U060				Included with above
129	U061				Included with above
130	U062				Included with above
131	U063				Included with above
132	U064				Included with above
133	U066				Included with above
134	U067				Included with above
135	U068				Included with above
136	U069				Included with above
137	U070				Included with above
138	U071				Included with above
139	U072				Included with above
140	U073				Included with above
141	U074				Included with above
142	U075				Included with above
143	U076				Included with above
144	U077				Included with above
145	U078				Included with above
146	U079				Included with above
147	U080				Included with above
148	U081				Included with above
149	U082				Included with above
150	U083				Included with above
151	U084				Included with above
152	U085				Included with above
153	U086				Included with above
154	U087				Included with above
155	U088				Included with above
156	U089				Included with above
157	U090				Included with above
158	U091				Included with above
159	U092				Included with above
160	U093				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
161	U094				Included with above
162	U095				Included with above
163	U096				Included with above
164	U097				Included with above
165	U098				Included with above
166	U099				Included with above
167	U101				Included with above
168	U102				Included with above
169	U103				Included with above
170	U105				Included with above
171	U106				Included with above
172	U107				Included with above
173	U108				Included with above
174	U109				Included with above
175	U110				Included with above
176	U111				Included with above
177	U112				Included with above
178	U113				Included with above
179	U114				Included with above
180	U115				Included with above
181	U116				Included with above
182	U117				Included with above
183	U118				Included with above
184	U119				Included with above
185	U120				Included with above
186	U121				Included with above
187	U122				Included with above
188	U123				Included with above
189	U124				Included with above
190	U125				Included with above
191	U126				Included with above
192	U127				Included with above
193	U128				Included with above
194	U129				Included with above
195	U130				Included with above
196	U131				Included with above
197	U132				Included with above
198	U133				Included with above
199	U134				Included with above
200	U135				Included with above
201	U136				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
202	U137				Included with above
203	U138				Included with above
204	U140				Included with above
205	U141				Included with above
206	U142				Included with above
207	U143				Included with above
208	U144				Included with above
209	U145				Included with above
210	U146				Included with above
211	U147				Included with above
212	U148				Included with above
213	U149				Included with above
214	U150				Included with above
215	U151				Included with above
216	U152				Included with above
217	U153				Included with above
218	U154				Included with above
219	U155				Included with above
220	U156				Included with above
221	U157				Included with above
222	U158				Included with above
223	U159				Included with above
224	U160				Included with above
225	U161				Included with above
226	U162				Included with above
227	U163				Included with above
228	U164				Included with above
229	U165				Included with above
230	U166				Included with above
231	U167				Included with above
232	U168				Included with above
233	U169				Included with above
234	U170				Included with above
235	U171				Included with above
236	U172				Included with above
237	U173				Included with above
238	U174				Included with above
239	U176				Included with above
240	U177				Included with above
241	U178				Included with above
242	U179				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
243	U180				Included with above
244	U181				Included with above
245	U182				Included with above
246	U183				Included with above
247	U184				Included with above
248	U185				Included with above
249	U186				Included with above
250	U187				Included with above
251	U188				Included with above
252	U189				Included with above
253	U190				Included with above
254	U191				Included with above
255	U192				Included with above
256	U193				Included with above
257	U194				Included with above
258	U196				Included with above
259	U197				Included with above
260	U200				Included with above
261	U201				Included with above
262	U202				Included with above
263	U203				Included with above
264	U204				Included with above
265	U205				Included with above
266	U206				Included with above
267	U207				Included with above
268	U208				Included with above
269	U209				Included with above
270	U210				Included with above
271	U211				Included with above
272	U213				Included with above
273	U214				Included with above
274	U215				Included with above
275	U216				Included with above
276	U217				Included with above
277	U218				Included with above
278	U219				Included with above
279	U220				Included with above
280	U221				Included with above
281	U222				Included with above
282	U223				Included with above
283	U225				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
284	U226				Included with above
285	U227				Included with above
286	U228				Included with above
287	U234				Included with above
288	U235				Included with above
289	U236				Included with above
290	U237				Included with above
291	U238				Included with above
292	U239				Included with above
293	U240				Included with above
294	U243				Included with above
295	U244				Included with above
296	U246				Included with above
297	U247				Included with above
298	U248				Included with above
299	U249				Included with above
300	U271				Included with above
301	U278				Included with above
302	U279				Included with above
303	U280				Included with above
304	U328				Included with above
305	U353				Included with above
306	U359				Included with above
307	U364				Included with above
308	U367				Included with above
309	U372				Included with above
310	U373				Included with above
311	U387				Included with above
312	U389				Included with above
313	U394				Included with above
314	U395				Included with above
315	U404				Included with above
316	U409				Included with above
317	U410				Included with above
318	U411				Included with above
319	P001				Included with above
320	P002				Included with above
321	P003				Included with above
322	P004				Included with above
323	P005				Included with above
324	P006				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
325	P007				Included with above
326	P008				Included with above
327	P009				Included with above
328	P010				Included with above
329	P011				Included with above
330	P012				Included with above
331	P013				Included with above
332	P014				Included with above
333	P015				Included with above
334	P016				Included with above
335	P017				Included with above
336	P018				Included with above
337	P020				Included with above
338	P021				Included with above
339	P022				Included with above
340	P023				Included with above
341	P024				Included with above
342	P026				Included with above
343	P027				Included with above
344	P028				Included with above
345	P029				Included with above
346	P030				Included with above
347	P031				Included with above
348	P033				Included with above
349	P034				Included with above
350	P036				Included with above
351	P037				Included with above
352	P038				Included with above
353	P039				Included with above
354	P040				Included with above
355	P041				Included with above
356	P042				Included with above
357	P043				Included with above
358	P044				Included with above
359	P045				Included with above
360	P046				Included with above
361	P047				Included with above
362	P048				Included with above
363	P049				Included with above
364	P050				Included with above
365	P051				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
366	P054				Included with above
367	P056				Included with above
368	P057				Included with above
369	P058				Included with above
370	P059				Included with above
371	P060				Included with above
372	P062				Included with above
373	P063				Included with above
374	P064				Included with above
375	P065				Included with above
376	P066				Included with above
377	P067				Included with above
378	P068				Included with above
379	P069				Included with above
380	P070				Included with above
381	P071				Included with above
382	P072				Included with above
383	P073				Included with above
384	P074				Included with above
385	P075				Included with above
386	P076				Included with above
387	P077				Included with above
388	P078				Included with above
389	P081				Included with above
390	P082				Included with above
391	P084				Included with above
392	P085				Included with above
393	P087				Included with above
394	P088				Included with above
395	P089				Included with above
396	P092				Included with above
397	P093				Included with above
398	P094				Included with above
399	P095				Included with above
400	P096				Included with above
401	P097				Included with above
402	P098				Included with above
403	P099				Included with above
404	P101				Included with above
405	P102				Included with above
406	P103				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
407	P104				Included with above
408	P105				Included with above
409	P106				Included with above
410	P108				Included with above
411	P109				Included with above
412	P110				Included with above
413	P111				Included with above
414	P112				Included with above
415	P113				Included with above
416	P114				Included with above
417	P115				Included with above
418	P116				Included with above
419	P118				Included with above
420	P119				Included with above
421	P120				Included with above
422	P121				Included with above
423	P122				Included with above
424	P123				Included with above
425	P127				Included with above
426	P128				Included with above
427	P185				Included with above
428	P188				Included with above
429	P189				Included with above
430	P190				Included with above
431	P191				Included with above
432	P192				Included with above
433	P194				Included with above
434	P196				Included with above
435	P197				Included with above
436	P198				Included with above
437	P199				Included with above
438	P201				Included with above
439	P202				Included with above
440	P203				Included with above
441	P204				Included with above
442	P205				Included with above
443	D001	30,000	M	T04	Other Treatment
444	D002				Included with above
445	D003				Included with above
446	D004				Included with above
447	D005				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
448	D006				Included with above
449	D007				Included with above
450	D008				Included with above
451	D009				Included with above
452	D010				Included with above
453	D011				Included with above
454	D012				Included with above
455	D013				Included with above
456	D014				Included with above
457	D015				Included with above
458	D016				Included with above
459	D017				Included with above
460	D018				Included with above
461	D019				Included with above
462	D020				Included with above
463	D021				Included with above
464	D022				Included with above
465	D023				Included with above
466	D024				Included with above
467	D025				Included with above
468	D026				Included with above
469	D027				Included with above
470	D028				Included with above
471	D029				Included with above
472	D030				Included with above
473	D031				Included with above
474	D032				Included with above
475	D033				Included with above
476	D034				Included with above
477	D035				Included with above
478	D036				Included with above
479	D037				Included with above
480	D038				Included with above
481	D039				Included with above
482	D040				Included with above
483	D041				Included with above
484	D042				Included with above
485	D043				Included with above
486	WSC2				Included with above
487	WT01				Included with above
488	WT02				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
489	WP01				Included with above
490	WP02				Included with above
491	WP03				Included with above
492	WPCB				Included with above
493	F001				Included with above
494	F002				Included with above
495	F003				Included with above
496	F004				Included with above
497	F005				Included with above
498	F006				Included with above
499	F007				Included with above
500	F008				Included with above
501	F009				Included with above
502	F010				Included with above
503	F011				Included with above
504	F012				Included with above
505	F019				Included with above
506	F020				Included with above
507	F021				Included with above
508	F022				Included with above
509	F023				Included with above
510	F026				Included with above
511	F027				Included with above
512	F028				Included with above
513	F039				Included with above
514	U001				Included with above
515	U002				Included with above
516	U003				Included with above
517	U004				Included with above
518	U005				Included with above
519	U006				Included with above
520	U007				Included with above
521	U008				Included with above
522	U009				Included with above
523	U010				Included with above
524	U011				Included with above
525	U012				Included with above
526	U014				Included with above
527	U015				Included with above
528	U016				Included with above
529	U017				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
530	U018				Included with above
531	U019				Included with above
532	U020				Included with above
533	U021				Included with above
534	U022				Included with above
535	U023				Included with above
536	U024				Included with above
537	U025				Included with above
538	U026				Included with above
539	U027				Included with above
540	U028				Included with above
541	U029				Included with above
542	U030				Included with above
543	U031				Included with above
544	U032				Included with above
545	U033				Included with above
546	U034				Included with above
547	U035				Included with above
548	U036				Included with above
549	U037				Included with above
550	U038				Included with above
551	U039				Included with above
552	U041				Included with above
553	U042				Included with above
554	U043				Included with above
555	U044				Included with above
556	U045				Included with above
557	U046				Included with above
558	U047				Included with above
559	U048				Included with above
560	U049				Included with above
561	U050				Included with above
562	U051				Included with above
563	U052				Included with above
564	U053				Included with above
565	U055				Included with above
566	U056				Included with above
567	U057				Included with above
568	U058				Included with above
569	U059				Included with above
570	U060				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
571	U061				Included with above
572	U062				Included with above
573	U063				Included with above
574	U064				Included with above
575	U066				Included with above
576	U067				Included with above
577	U068				Included with above
578	U069				Included with above
579	U070				Included with above
580	U071				Included with above
581	U072				Included with above
582	U073				Included with above
583	U074				Included with above
584	U075				Included with above
585	U076				Included with above
586	U077				Included with above
587	U078				Included with above
588	U079				Included with above
589	U080				Included with above
590	U081				Included with above
591	U082				Included with above
592	U083				Included with above
593	U084				Included with above
594	U085				Included with above
595	U086				Included with above
596	U087				Included with above
597	U088				Included with above
598	U089				Included with above
599	U090				Included with above
600	U091				Included with above
601	U092				Included with above
602	U093				Included with above
603	U094				Included with above
604	U095				Included with above
605	U096				Included with above
606	U097				Included with above
607	U098				Included with above
608	U099				Included with above
609	U101				Included with above
610	U102				Included with above
611	U103				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
612	U105				Included with above
613	U106				Included with above
614	U107				Included with above
615	U108				Included with above
616	U109				Included with above
617	U110				Included with above
618	U111				Included with above
619	U112				Included with above
620	U113				Included with above
621	U114				Included with above
622	U115				Included with above
623	U116				Included with above
624	U117				Included with above
625	U118				Included with above
626	U119				Included with above
627	U120				Included with above
628	U121				Included with above
629	U122				Included with above
630	U123				Included with above
631	U124				Included with above
632	U125				Included with above
633	U126				Included with above
634	U127				Included with above
635	U128				Included with above
636	U129				Included with above
637	U130				Included with above
638	U131				Included with above
639	U132				Included with above
640	U133				Included with above
641	U134				Included with above
642	U135				Included with above
643	U136				Included with above
644	U137				Included with above
645	U138				Included with above
646	U140				Included with above
647	U141				Included with above
648	U142				Included with above
649	U143				Included with above
650	U144				Included with above
651	U145				Included with above
652	U146				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
653	U147				Included with above
654	U148				Included with above
655	U149				Included with above
656	U150				Included with above
657	U151				Included with above
658	U152				Included with above
659	U153				Included with above
660	U154				Included with above
661	U155				Included with above
662	U156				Included with above
663	U157				Included with above
664	U158				Included with above
665	U159				Included with above
666	U160				Included with above
667	U161				Included with above
668	U162				Included with above
669	U163				Included with above
670	U164				Included with above
671	U165				Included with above
672	U166				Included with above
673	U167				Included with above
674	U168				Included with above
675	U169				Included with above
676	U170				Included with above
677	U171				Included with above
678	U172				Included with above
679	U173				Included with above
680	U174				Included with above
681	U176				Included with above
682	U177				Included with above
683	U178				Included with above
684	U179				Included with above
685	U180				Included with above
686	U181				Included with above
687	U182				Included with above
688	U183				Included with above
689	U184				Included with above
690	U185				Included with above
691	U186				Included with above
692	U187				Included with above
693	U188				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
694	U189				Included with above
695	U190				Included with above
696	U191				Included with above
697	U192				Included with above
698	U193				Included with above
699	U194				Included with above
700	U196				Included with above
701	U197				Included with above
702	U200				Included with above
703	U201				Included with above
704	U202				Included with above
705	U203				Included with above
706	U204				Included with above
707	U205				Included with above
708	U206				Included with above
709	U207				Included with above
710	U208				Included with above
711	U209				Included with above
712	U210				Included with above
713	U211				Included with above
714	U213				Included with above
715	U214				Included with above
716	U215				Included with above
717	U216				Included with above
718	U217				Included with above
719	U218				Included with above
720	U219				Included with above
721	U220				Included with above
722	U221				Included with above
723	U222				Included with above
724	U223				Included with above
725	U225				Included with above
726	U226				Included with above
727	U227				Included with above
728	U228				Included with above
729	U234				Included with above
730	U235				Included with above
731	U236				Included with above
732	U237				Included with above
733	U238				Included with above
734	U239				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
735	U240				Included with above
736	U243				Included with above
737	U244				Included with above
738	U246				Included with above
739	U247				Included with above
740	U248				Included with above
741	U249				Included with above
742	U271				Included with above
743	U278				Included with above
744	U279				Included with above
745	U280				Included with above
746	U328				Included with above
747	U353				Included with above
748	U359				Included with above
749	U364				Included with above
750	U367				Included with above
751	U372				Included with above
752	U373				Included with above
753	U387				Included with above
754	U389				Included with above
755	U394				Included with above
756	U395				Included with above
757	U404				Included with above
758	U409				Included with above
759	U410				Included with above
760	U411				Included with above
761	P001				Included with above
762	P002				Included with above
763	P003				Included with above
764	P004				Included with above
765	P005				Included with above
766	P006				Included with above
767	P007				Included with above
768	P008				Included with above
769	P009				Included with above
770	P010				Included with above
771	P011				Included with above
772	P012				Included with above
773	P013				Included with above
774	P014				Included with above
775	P015				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
776	P016				Included with above
777	P017				Included with above
778	P018				Included with above
779	P020				Included with above
780	P021				Included with above
781	P022				Included with above
782	P023				Included with above
783	P024				Included with above
784	P026				Included with above
785	P027				Included with above
786	P028				Included with above
787	P029				Included with above
788	P030				Included with above
789	P031				Included with above
790	P033				Included with above
791	P034				Included with above
792	P036				Included with above
793	P037				Included with above
794	P038				Included with above
795	P039				Included with above
796	P040				Included with above
797	P041				Included with above
798	P042				Included with above
799	P043				Included with above
800	P044				Included with above
801	P045				Included with above
802	P046				Included with above
803	P047				Included with above
804	P048				Included with above
805	P049				Included with above
806	P050				Included with above
807	P051				Included with above
808	P054				Included with above
809	P056				Included with above
810	P057				Included with above
811	P058				Included with above
812	P059				Included with above
813	P060				Included with above
814	P062				Included with above
815	P063				Included with above
816	P064				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
817	P065				Included with above
818	P066				Included with above
819	P067				Included with above
820	P068				Included with above
821	P069				Included with above
822	P070				Included with above
823	P071				Included with above
824	P072				Included with above
825	P073				Included with above
826	P074				Included with above
827	P075				Included with above
828	P076				Included with above
829	P077				Included with above
830	P078				Included with above
831	P081				Included with above
832	P082				Included with above
833	P084				Included with above
834	P085				Included with above
835	P087				Included with above
836	P088				Included with above
837	P089				Included with above
838	P092				Included with above
839	P093				Included with above
840	P094				Included with above
841	P095				Included with above
842	P096				Included with above
843	P097				Included with above
844	P098				Included with above
845	P099				Included with above
846	P101				Included with above
847	P102				Included with above
848	P103				Included with above
849	P104				Included with above
850	P105				Included with above
851	P106				Included with above
852	P108				Included with above
853	P109				Included with above
854	P110				Included with above
855	P111				Included with above
856	P112				Included with above
857	P113				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
858	P114				Included with above
859	P115				Included with above
860	P116				Included with above
861	P118				Included with above
862	P119				Included with above
863	P120				Included with above
864	P121				Included with above
865	P122				Included with above
866	P123				Included with above
867	P127				Included with above
868	P128				Included with above
869	P185				Included with above
870	P188				Included with above
871	P189				Included with above
872	P190				Included with above
873	P191				Included with above
874	P192				Included with above
875	P194				Included with above
876	P196				Included with above
877	P197				Included with above
878	P198				Included with above
879	P199				Included with above
880	P201				Included with above
881	P202				Included with above
882	P203				Included with above
883	P204				Included with above
884	P205				Included with above
885	D001	11,350	M	X99	Other Subpart X (Storage and Treatment)
886	D002				Included with above
887	D003				Included with above
888	D004				Included with above
889	D005				Included with above
890	D006				Included with above
891	D007				Included with above
892	D008				Included with above
893	D009				Included with above
894	D010				Included with above
895	D011				Included with above
896	D012				Included with above
897	D013				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
898	D014				Included with above
899	D015				Included with above
900	D016				Included with above
901	D017				Included with above
902	D018				Included with above
903	D019				Included with above
904	D020				Included with above
905	D021				Included with above
906	D022				Included with above
907	D023				Included with above
908	D024				Included with above
909	D025				Included with above
910	D026				Included with above
911	D027				Included with above
912	D028				Included with above
913	D029				Included with above
914	D030				Included with above
915	D031				Included with above
916	D032				Included with above
917	D033				Included with above
918	D034				Included with above
919	D035				Included with above
920	D036				Included with above
921	D037				Included with above
922	D038				Included with above
923	D039				Included with above
924	D040				Included with above
925	D041				Included with above
926	D042				Included with above
927	D043				Included with above
928	WSC2				Included with above
929	WT01				Included with above
930	WT02				Included with above
931	WP01				Included with above
932	WP02				Included with above
933	WP03				Included with above
934	WPCB				Included with above
935	F001				Included with above
936	F002				Included with above
937	F003				Included with above
938	F004				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
939	F005				Included with above
940	F006				Included with above
941	F007				Included with above
942	F008				Included with above
943	F009				Included with above
944	F010				Included with above
945	F011				Included with above
946	F012				Included with above
947	F019				Included with above
948	F020				Included with above
949	F021				Included with above
950	F022				Included with above
951	F023				Included with above
952	F026				Included with above
953	F027				Included with above
954	F028				Included with above
955	F039				Included with above
956	U001				Included with above
957	U002				Included with above
958	U003				Included with above
959	U004				Included with above
960	U005				Included with above
961	U006				Included with above
962	U007				Included with above
963	U008				Included with above
964	U009				Included with above
965	U010				Included with above
966	U011				Included with above
967	U012				Included with above
968	U014				Included with above
969	U015				Included with above
970	U016				Included with above
971	U017				Included with above
972	U018				Included with above
973	U019				Included with above
974	U020				Included with above
975	U021				Included with above
976	U022				Included with above
977	U023				Included with above
978	U024				Included with above
979	U025				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
980	U026				Included with above
981	U027				Included with above
982	U028				Included with above
983	U029				Included with above
984	U030				Included with above
985	U031				Included with above
986	U032				Included with above
987	U033				Included with above
988	U034				Included with above
989	U035				Included with above
990	U036				Included with above
991	U037				Included with above
992	U038				Included with above
993	U039				Included with above
994	U041				Included with above
995	U042				Included with above
996	U043				Included with above
997	U044				Included with above
998	U045				Included with above
999	U046				Included with above
1000	U047				Included with above
1001	U048				Included with above
1002	U049				Included with above
1003	U050				Included with above
1004	U051				Included with above
1005	U052				Included with above
1006	U053				Included with above
1007	U055				Included with above
1008	U056				Included with above
1009	U057				Included with above
1010	U058				Included with above
1011	U059				Included with above
1012	U060				Included with above
1013	U061				Included with above
1014	U062				Included with above
1015	U063				Included with above
1016	U064				Included with above
1017	U066				Included with above
1018	U067				Included with above
1019	U068				Included with above
1020	U069				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1021	U070				Included with above
1022	U071				Included with above
1023	U072				Included with above
1024	U073				Included with above
1025	U074				Included with above
1026	U075				Included with above
1027	U076				Included with above
1028	U077				Included with above
1029	U078				Included with above
1030	U079				Included with above
1031	U080				Included with above
1032	U081				Included with above
1033	U082				Included with above
1034	U083				Included with above
1035	U084				Included with above
1036	U085				Included with above
1037	U086				Included with above
1038	U087				Included with above
1039	U088				Included with above
1040	U089				Included with above
1041	U090				Included with above
1042	U091				Included with above
1043	U092				Included with above
1044	U093				Included with above
1045	U094				Included with above
1046	U095				Included with above
1047	U096				Included with above
1048	U097				Included with above
1049	U098				Included with above
1050	U099				Included with above
1051	U101				Included with above
1052	U102				Included with above
1053	U103				Included with above
1054	U105				Included with above
1055	U106				Included with above
1056	U107				Included with above
1057	U108				Included with above
1058	U109				Included with above
1059	U110				Included with above
1060	U111				Included with above
1061	U112				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1062	U113				Included with above
1063	U114				Included with above
1064	U115				Included with above
1065	U116				Included with above
1066	U117				Included with above
1067	U118				Included with above
1068	U119				Included with above
1069	U120				Included with above
1070	U121				Included with above
1071	U122				Included with above
1072	U123				Included with above
1073	U124				Included with above
1074	U125				Included with above
1075	U126				Included with above
1076	U127				Included with above
1077	U128				Included with above
1078	U129				Included with above
1079	U130				Included with above
1080	U131				Included with above
1081	U132				Included with above
1082	U133				Included with above
1083	U134				Included with above
1084	U135				Included with above
1085	U136				Included with above
1086	U137				Included with above
1087	U138				Included with above
1088	U140				Included with above
1089	U141				Included with above
1090	U142				Included with above
1091	U143				Included with above
1092	U144				Included with above
1093	U145				Included with above
1094	U146				Included with above
1095	U147				Included with above
1096	U148				Included with above
1097	U149				Included with above
1098	U150				Included with above
1099	U151				Included with above
1100	U152				Included with above
1101	U153				Included with above
1102	U154				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1103	U155				Included with above
1104	U156				Included with above
1105	U157				Included with above
1106	U158				Included with above
1107	U159				Included with above
1108	U160				Included with above
1109	U161				Included with above
1110	U162				Included with above
1111	U163				Included with above
1112	U164				Included with above
1113	U165				Included with above
1114	U166				Included with above
1115	U167				Included with above
1116	U168				Included with above
1117	U169				Included with above
1118	U170				Included with above
1119	U171				Included with above
1120	U172				Included with above
1121	U173				Included with above
1122	U174				Included with above
1123	U176				Included with above
1124	U177				Included with above
1125	U178				Included with above
1126	U179				Included with above
1127	U180				Included with above
1128	U181				Included with above
1129	U182				Included with above
1130	U183				Included with above
1131	U184				Included with above
1132	U185				Included with above
1133	U186				Included with above
1134	U187				Included with above
1135	U188				Included with above
1136	U189				Included with above
1137	U190				Included with above
1138	U191				Included with above
1139	U192				Included with above
1140	U193				Included with above
1141	U194				Included with above
1142	U196				Included with above
1143	U197				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1144	U200				Included with above
1145	U201				Included with above
1146	U202				Included with above
1147	U203				Included with above
1148	U204				Included with above
1149	U205				Included with above
1150	U206				Included with above
1151	U207				Included with above
1152	U208				Included with above
1153	U209				Included with above
1154	U210				Included with above
1155	U211				Included with above
1156	U213				Included with above
1157	U214				Included with above
1158	U215				Included with above
1159	U216				Included with above
1160	U217				Included with above
1161	U218				Included with above
1162	U219				Included with above
1163	U220				Included with above
1164	U221				Included with above
1165	U222				Included with above
1166	U223				Included with above
1167	U225				Included with above
1168	U226				Included with above
1169	U227				Included with above
1170	U228				Included with above
1171	U234				Included with above
1172	U235				Included with above
1173	U236				Included with above
1174	U237				Included with above
1175	U238				Included with above
1176	U239				Included with above
1177	U240				Included with above
1178	U243				Included with above
1179	U244				Included with above
1180	U246				Included with above
1181	U247				Included with above
1182	U248				Included with above
1183	U249				Included with above
1184	U271				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1185	U278				Included with above
1186	U279				Included with above
1187	U280				Included with above
1188	U328				Included with above
1189	U353				Included with above
1190	U359				Included with above
1191	U364				Included with above
1192	U367				Included with above
1193	U372				Included with above
1194	U373				Included with above
1195	U387				Included with above
1196	U389				Included with above
1197	U394				Included with above
1198	U395				Included with above
1199	U404				Included with above
1200	U409				Included with above
1201	U410				Included with above
1202	U411				Included with above
1203	P001				Included with above
1204	P002				Included with above
1205	P003				Included with above
1206	P004				Included with above
1207	P005				Included with above
1208	P006				Included with above
1209	P007				Included with above
1210	P008				Included with above
1211	P009				Included with above
1212	P010				Included with above
1213	P011				Included with above
1214	P012				Included with above
1215	P013				Included with above
1216	P014				Included with above
1217	P015				Included with above
1218	P016				Included with above
1219	P017				Included with above
1220	P018				Included with above
1221	P020				Included with above
1222	P021				Included with above
1223	P022				Included with above
1224	P023				Included with above
1225	P024				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1226	P026				Included with above
1227	P027				Included with above
1228	P028				Included with above
1229	P029				Included with above
1230	P030				Included with above
1231	P031				Included with above
1232	P033				Included with above
1233	P034				Included with above
1234	P036				Included with above
1235	P037				Included with above
1236	P038				Included with above
1237	P039				Included with above
1238	P040				Included with above
1239	P041				Included with above
1240	P042				Included with above
1241	P043				Included with above
1242	P044				Included with above
1243	P045				Included with above
1244	P046				Included with above
1245	P047				Included with above
1246	P048				Included with above
1247	P049				Included with above
1248	P050				Included with above
1249	P051				Included with above
1250	P054				Included with above
1251	P056				Included with above
1252	P057				Included with above
1253	P058				Included with above
1254	P059				Included with above
1255	P060				Included with above
1256	P062				Included with above
1257	P063				Included with above
1258	P064				Included with above
1259	P065				Included with above
1260	P066				Included with above
1261	P067				Included with above
1262	P068				Included with above
1263	P069				Included with above
1264	P070				Included with above
1265	P071				Included with above
1266	P072				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1267	P073				Included with above
1268	P074				Included with above
1269	P075				Included with above
1270	P076				Included with above
1271	P077				Included with above
1272	P078				Included with above
1273	P081				Included with above
1274	P082				Included with above
1275	P084				Included with above
1276	P085				Included with above
1277	P087				Included with above
1278	P088				Included with above
1279	P089				Included with above
1280	P092				Included with above
1281	P093				Included with above
1282	P094				Included with above
1283	P095				Included with above
1284	P096				Included with above
1285	P097				Included with above
1286	P098				Included with above
1287	P099				Included with above
1288	P101				Included with above
1289	P102				Included with above
1290	P103				Included with above
1291	P104				Included with above
1292	P105				Included with above
1293	P106				Included with above
1294	P108				Included with above
1295	P109				Included with above
1296	P110				Included with above
1297	P111				Included with above
1298	P112				Included with above
1299	P113				Included with above
1300	P114				Included with above
1301	P115				Included with above
1302	P116				Included with above
1303	P118				Included with above
1304	P119				Included with above
1305	P120				Included with above
1306	P121				Included with above
1307	P122				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1308	P123				Included with above
1309	P127				Included with above
1310	P128				Included with above
1311	P185				Included with above
1312	P188				Included with above
1313	P189				Included with above
1314	P190				Included with above
1315	P191				Included with above
1316	P192				Included with above
1317	P194				Included with above
1318	P196				Included with above
1319	P197				Included with above
1320	P198				Included with above
1321	P199				Included with above
1322	P201				Included with above
1323	P202				Included with above
1324	P203				Included with above
1325	P204				Included with above
1326	P205				Included with above
1327	D001	22,700	M	T94	Containment Building (Storage and Treatment)
1328	D002				Included with above
1329	D003				Included with above
1330	D004				Included with above
1331	D005				Included with above
1332	D006				Included with above
1333	D007				Included with above
1334	D008				Included with above
1335	D009				Included with above
1336	D010				Included with above
1337	D011				Included with above
1338	D012				Included with above
1339	D013				Included with above
1340	D014				Included with above
1341	D015				Included with above
1342	D016				Included with above
1343	D017				Included with above
1344	D018				Included with above
1345	D019				Included with above
1346	D020				Included with above
1347	D021				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1348	D022				Included with above
1349	D023				Included with above
1350	D024				Included with above
1351	D025				Included with above
1352	D026				Included with above
1353	D027				Included with above
1354	D028				Included with above
1355	D029				Included with above
1356	D030				Included with above
1357	D031				Included with above
1358	D032				Included with above
1359	D033				Included with above
1360	D034				Included with above
1361	D035				Included with above
1362	D036				Included with above
1363	D037				Included with above
1364	D038				Included with above
1365	D039				Included with above
1366	D040				Included with above
1367	D041				Included with above
1368	D042				Included with above
1369	D043				Included with above
1370	WSC2				Included with above
1371	WT01				Included with above
1372	WT02				Included with above
1373	WP01				Included with above
1374	WP02				Included with above
1375	WP03				Included with above
1376	WPCB				Included with above
1377	F001				Included with above
1378	F002				Included with above
1379	F003				Included with above
1380	F004				Included with above
1381	F005				Included with above
1382	F006				Included with above
1383	F007				Included with above
1384	F008				Included with above
1385	F009				Included with above
1386	F010				Included with above
1387	F011				Included with above
1388	F012				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1389	F019				Included with above
1390	F020				Included with above
1391	F021				Included with above
1392	F022				Included with above
1393	F023				Included with above
1394	F026				Included with above
1395	F027				Included with above
1396	F028				Included with above
1397	F039				Included with above
1398	U001				Included with above
1399	U002				Included with above
1400	U003				Included with above
1401	U004				Included with above
1402	U005				Included with above
1403	U006				Included with above
1404	U007				Included with above
1405	U008				Included with above
1406	U009				Included with above
1407	U010				Included with above
1408	U011				Included with above
1409	U012				Included with above
1410	U014				Included with above
1411	U015				Included with above
1412	U016				Included with above
1413	U017				Included with above
1414	U018				Included with above
1415	U019				Included with above
1416	U020				Included with above
1417	U021				Included with above
1418	U022				Included with above
1419	U023				Included with above
1420	U024				Included with above
1421	U025				Included with above
1422	U026				Included with above
1423	U027				Included with above
1424	U028				Included with above
1425	U029				Included with above
1426	U030				Included with above
1427	U031				Included with above
1428	U032				Included with above
1429	U033				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1430	U034				Included with above
1431	U035				Included with above
1432	U036				Included with above
1433	U037				Included with above
1434	U038				Included with above
1435	U039				Included with above
1436	U041				Included with above
1437	U042				Included with above
1438	U043				Included with above
1439	U044				Included with above
1440	U045				Included with above
1441	U046				Included with above
1442	U047				Included with above
1443	U048				Included with above
1444	U049				Included with above
1445	U050				Included with above
1446	U051				Included with above
1447	U052				Included with above
1448	U053				Included with above
1449	U055				Included with above
1450	U056				Included with above
1451	U057				Included with above
1452	U058				Included with above
1453	U059				Included with above
1454	U060				Included with above
1455	U061				Included with above
1456	U062				Included with above
1457	U063				Included with above
1458	U064				Included with above
1459	U066				Included with above
1460	U067				Included with above
1461	U068				Included with above
1462	U069				Included with above
1463	U070				Included with above
1464	U071				Included with above
1465	U072				Included with above
1466	U073				Included with above
1467	U074				Included with above
1468	U075				Included with above
1469	U076				Included with above
1470	U077				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1471	U078				Included with above
1472	U079				Included with above
1473	U080				Included with above
1474	U081				Included with above
1475	U082				Included with above
1476	U083				Included with above
1477	U084				Included with above
1478	U085				Included with above
1479	U086				Included with above
1480	U087				Included with above
1481	U088				Included with above
1482	U089				Included with above
1483	U090				Included with above
1484	U091				Included with above
1485	U092				Included with above
1486	U093				Included with above
1487	U094				Included with above
1488	U095				Included with above
1489	U096				Included with above
1490	U097				Included with above
1491	U098				Included with above
1492	U099				Included with above
1493	U101				Included with above
1494	U102				Included with above
1495	U103				Included with above
1496	U105				Included with above
1497	U106				Included with above
1498	U107				Included with above
1499	U108				Included with above
1500	U109				Included with above
1501	U110				Included with above
1502	U111				Included with above
1503	U112				Included with above
1504	U113				Included with above
1505	U114				Included with above
1506	U115				Included with above
1507	U116				Included with above
1508	U117				Included with above
1509	U118				Included with above
1510	U119				Included with above
1511	U120				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1512	U121				Included with above
1513	U122				Included with above
1514	U123				Included with above
1515	U124				Included with above
1516	U125				Included with above
1517	U126				Included with above
1518	U127				Included with above
1519	U128				Included with above
1520	U129				Included with above
1521	U130				Included with above
1522	U131				Included with above
1523	U132				Included with above
1524	U133				Included with above
1525	U134				Included with above
1526	U135				Included with above
1527	U136				Included with above
1528	U137				Included with above
1529	U138				Included with above
1530	U140				Included with above
1531	U141				Included with above
1532	U142				Included with above
1533	U143				Included with above
1534	U144				Included with above
1535	U145				Included with above
1536	U146				Included with above
1537	U147				Included with above
1538	U148				Included with above
1539	U149				Included with above
1540	U150				Included with above
1541	U151				Included with above
1542	U152				Included with above
1543	U153				Included with above
1544	U154				Included with above
1545	U155				Included with above
1546	U156				Included with above
1547	U157				Included with above
1548	U158				Included with above
1549	U159				Included with above
1550	U160				Included with above
1551	U161				Included with above
1552	U162				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1553	U163				Included with above
1554	U164				Included with above
1555	U165				Included with above
1556	U166				Included with above
1557	U167				Included with above
1558	U168				Included with above
1559	U169				Included with above
1560	U170				Included with above
1561	U171				Included with above
1562	U172				Included with above
1563	U173				Included with above
1564	U174				Included with above
1565	U176				Included with above
1566	U177				Included with above
1567	U178				Included with above
1568	U179				Included with above
1569	U180				Included with above
1570	U181				Included with above
1571	U182				Included with above
1572	U183				Included with above
1573	U184				Included with above
1574	U185				Included with above
1575	U186				Included with above
1576	U187				Included with above
1577	U188				Included with above
1578	U189				Included with above
1579	U190				Included with above
1580	U191				Included with above
1581	U192				Included with above
1582	U193				Included with above
1583	U194				Included with above
1584	U196				Included with above
1585	U197				Included with above
1586	U200				Included with above
1587	U201				Included with above
1588	U202				Included with above
1589	U203				Included with above
1590	U204				Included with above
1591	U205				Included with above
1592	U206				Included with above
1593	U207				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1594	U208				Included with above
1595	U209				Included with above
1596	U210				Included with above
1597	U211				Included with above
1598	U213				Included with above
1599	U214				Included with above
1600	U215				Included with above
1601	U216				Included with above
1602	U217				Included with above
1603	U218				Included with above
1604	U219				Included with above
1605	U220				Included with above
1606	U221				Included with above
1607	U222				Included with above
1608	U223				Included with above
1609	U225				Included with above
1610	U226				Included with above
1611	U227				Included with above
1612	U228				Included with above
1613	U234				Included with above
1614	U235				Included with above
1615	U236				Included with above
1616	U237				Included with above
1617	U238				Included with above
1618	U239				Included with above
1619	U240				Included with above
1620	U243				Included with above
1621	U244				Included with above
1622	U246				Included with above
1623	U247				Included with above
1624	U248				Included with above
1625	U249				Included with above
1626	U271				Included with above
1627	U278				Included with above
1628	U279				Included with above
1629	U280				Included with above
1630	U328				Included with above
1631	U353				Included with above
1632	U359				Included with above
1633	U364				Included with above
1634	U367				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1635	U372				Included with above
1636	U373				Included with above
1637	U387				Included with above
1638	U389				Included with above
1639	U394				Included with above
1640	U395				Included with above
1641	U404				Included with above
1642	U409				Included with above
1643	U410				Included with above
1644	U411				Included with above
1645	P001				Included with above
1646	P002				Included with above
1647	P003				Included with above
1648	P004				Included with above
1649	P005				Included with above
1650	P006				Included with above
1651	P007				Included with above
1652	P008				Included with above
1653	P009				Included with above
1654	P010				Included with above
1655	P011				Included with above
1656	P012				Included with above
1657	P013				Included with above
1658	P014				Included with above
1659	P015				Included with above
1660	P016				Included with above
1661	P017				Included with above
1662	P018				Included with above
1663	P020				Included with above
1664	P021				Included with above
1665	P022				Included with above
1666	P023				Included with above
1667	P024				Included with above
1668	P026				Included with above
1669	P027				Included with above
1670	P028				Included with above
1671	P029				Included with above
1672	P030				Included with above
1673	P031				Included with above
1674	P033				Included with above
1675	P034				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1676	P036				Included with above
1677	P037				Included with above
1678	P038				Included with above
1679	P039				Included with above
1680	P040				Included with above
1681	P041				Included with above
1682	P042				Included with above
1683	P043				Included with above
1684	P044				Included with above
1685	P045				Included with above
1686	P046				Included with above
1687	P047				Included with above
1688	P048				Included with above
1689	P049				Included with above
1690	P050				Included with above
1691	P051				Included with above
1692	P054				Included with above
1693	P056				Included with above
1694	P057				Included with above
1695	P058				Included with above
1696	P059				Included with above
1697	P060				Included with above
1698	P062				Included with above
1699	P063				Included with above
1700	P064				Included with above
1701	P065				Included with above
1702	P066				Included with above
1703	P067				Included with above
1704	P068				Included with above
1705	P069				Included with above
1706	P070				Included with above
1707	P071				Included with above
1708	P072				Included with above
1709	P073				Included with above
1710	P074				Included with above
1711	P075				Included with above
1712	P076				Included with above
1713	P077				Included with above
1714	P078				Included with above
1715	P081				Included with above
1716	P082				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1717	P084				Included with above
1718	P085				Included with above
1719	P087				Included with above
1720	P088				Included with above
1721	P089				Included with above
1722	P092				Included with above
1723	P093				Included with above
1724	P094				Included with above
1725	P095				Included with above
1726	P096				Included with above
1727	P097				Included with above
1728	P098				Included with above
1729	P099				Included with above
1730	P101				Included with above
1731	P102				Included with above
1732	P103				Included with above
1733	P104				Included with above
1734	P105				Included with above
1735	P106				Included with above
1736	P108				Included with above
1737	P109				Included with above
1738	P110				Included with above
1739	P111				Included with above
1740	P112				Included with above
1741	P113				Included with above
1742	P114				Included with above
1743	P115				Included with above
1744	P116				Included with above
1745	P118				Included with above
1746	P119				Included with above
1747	P120				Included with above
1748	P121				Included with above
1749	P122				Included with above
1750	P123				Included with above
1751	P127				Included with above
1752	P128				Included with above
1753	P185				Included with above
1754	P188				Included with above
1755	P189				Included with above
1756	P190				Included with above
1757	P191				Included with above

EPA State ID# WA7890008967					
Line Number	A. Dangerous Waste Number	B. Estimated Annual Quantity of Waste	C. Unit of Measure	Processes	
				(1) Process Codes	(2) Process Description
1758	P192				Included with above
1759	P194				Included with above
1760	P196				Included with above
1761	P197				Included with above
1762	P198				Included with above
1763	P199				Included with above
1764	P201				Included with above
1765	P202				Included with above
1766	P203				Included with above
1767	P204				Included with above
1768	P205				Included with above

Attachment C

Section XVII – Photographs

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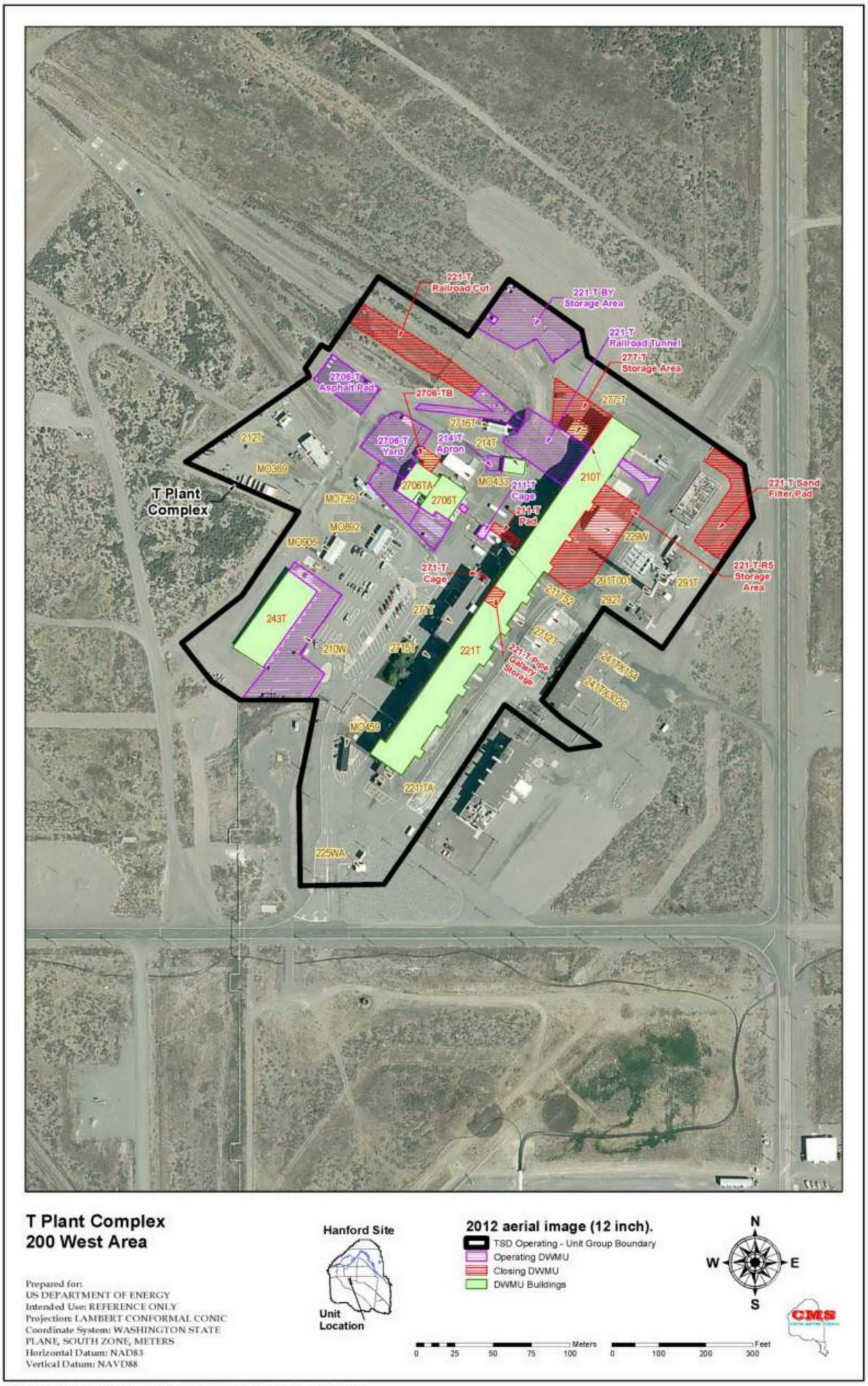
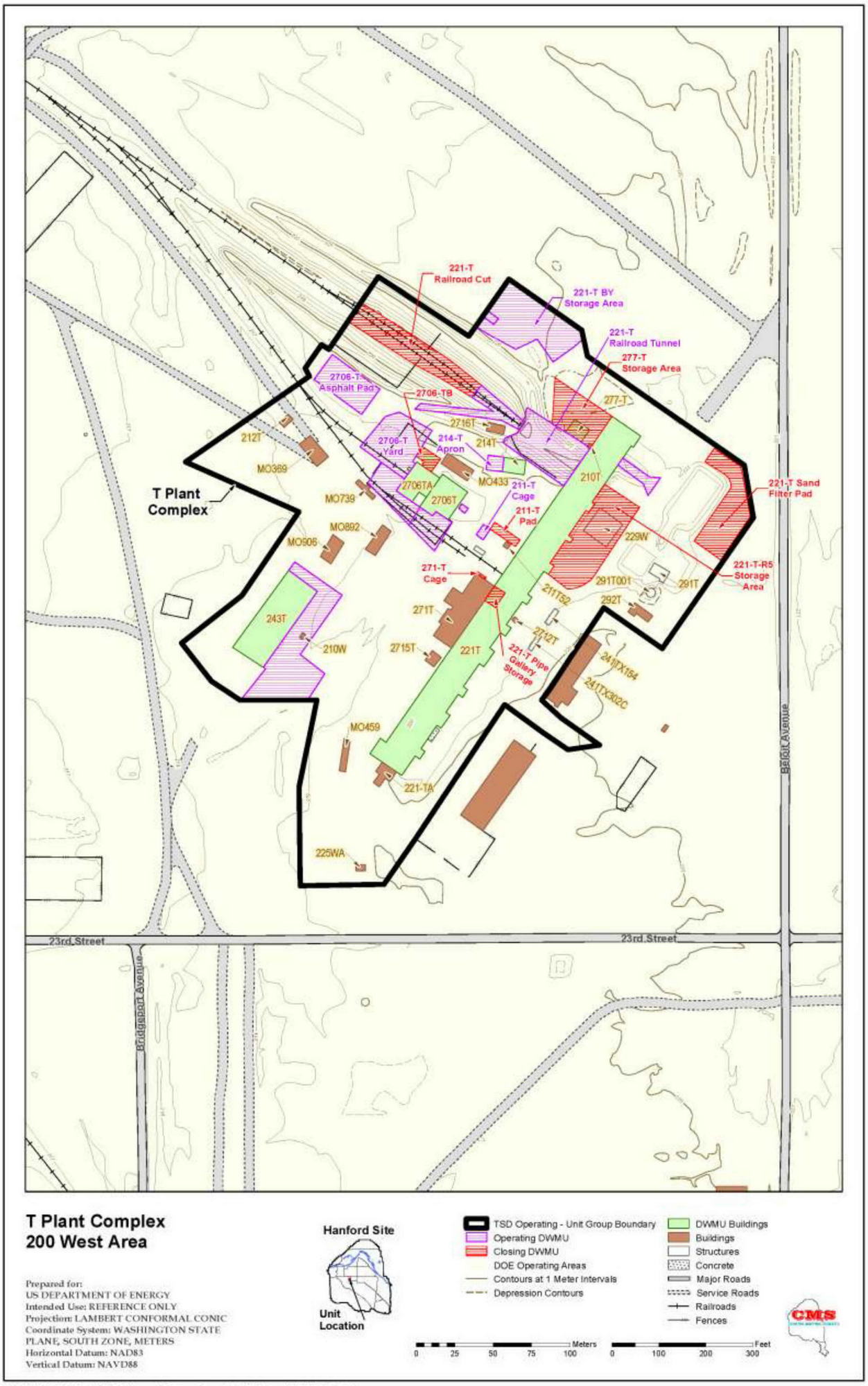


130812_TPlant_TSD_Closed_Operating_Unit_Aerial_11x17_Rev3

Figure 1 T-Plant Complex Aerial Photo Operating and Closing Unit



130812_TPlant_TSD_Closed_Operating_Unit_Topo_11x17_Rev3

Figure 2. Topographic Map of the T-Plant Complex Operating and Closing Units Only

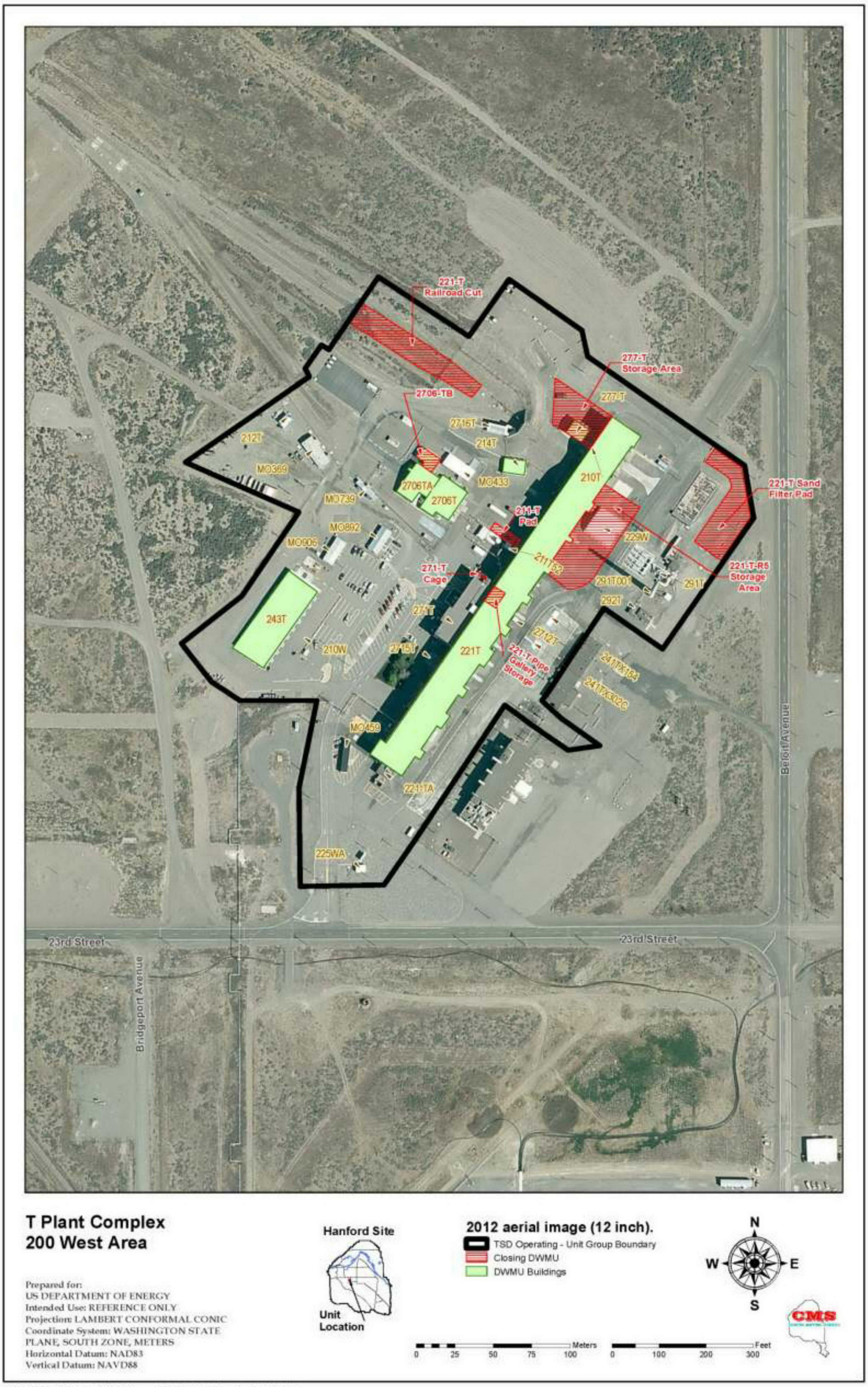


Figure 3. T-Plant Complex Aerial Photo Closing Units Only

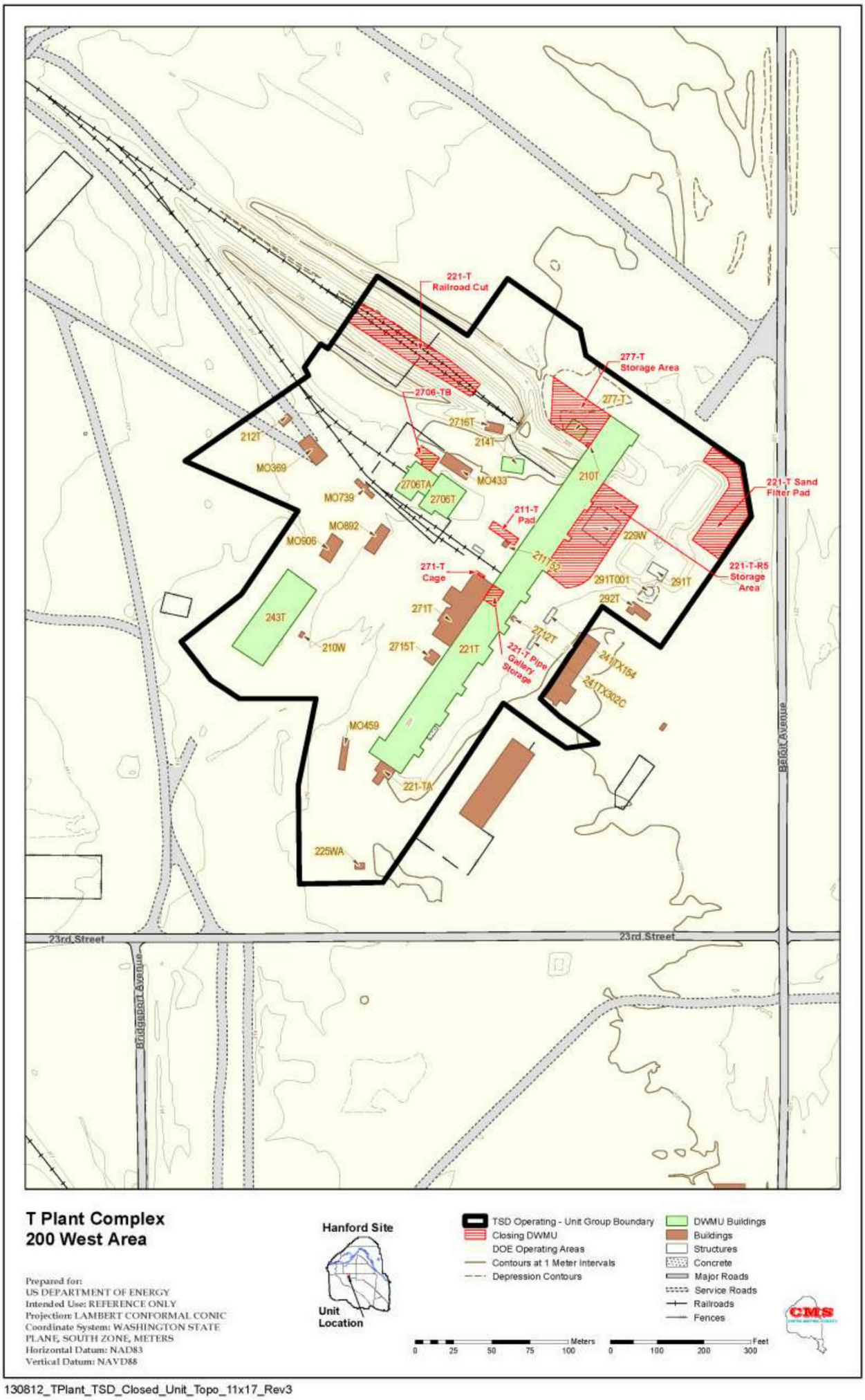


Figure 4. Topographic Map of the T-Plant Complex Closing Units Only

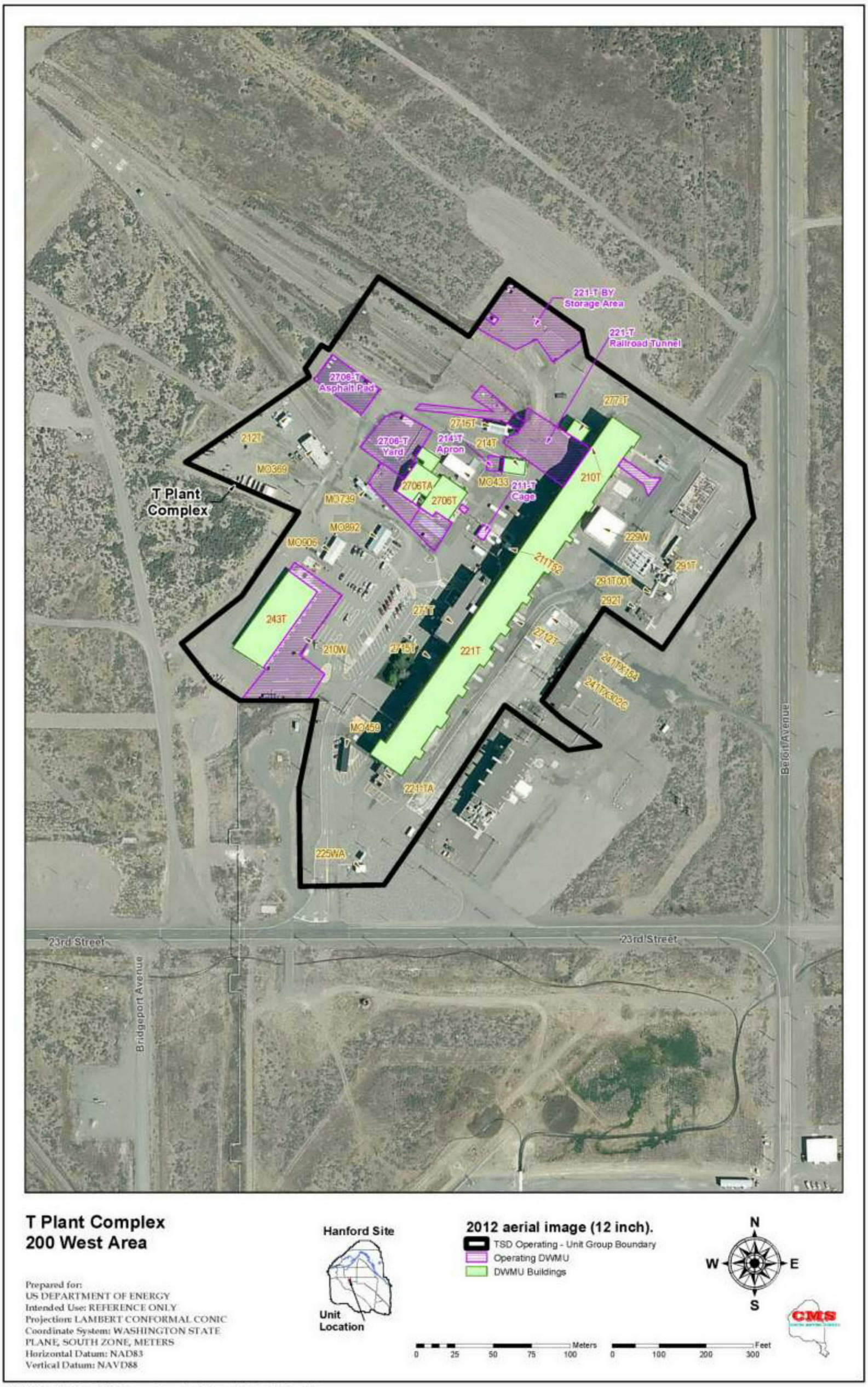


Figure 5. T-Plant Complex Aerial Photo Operating Units Only

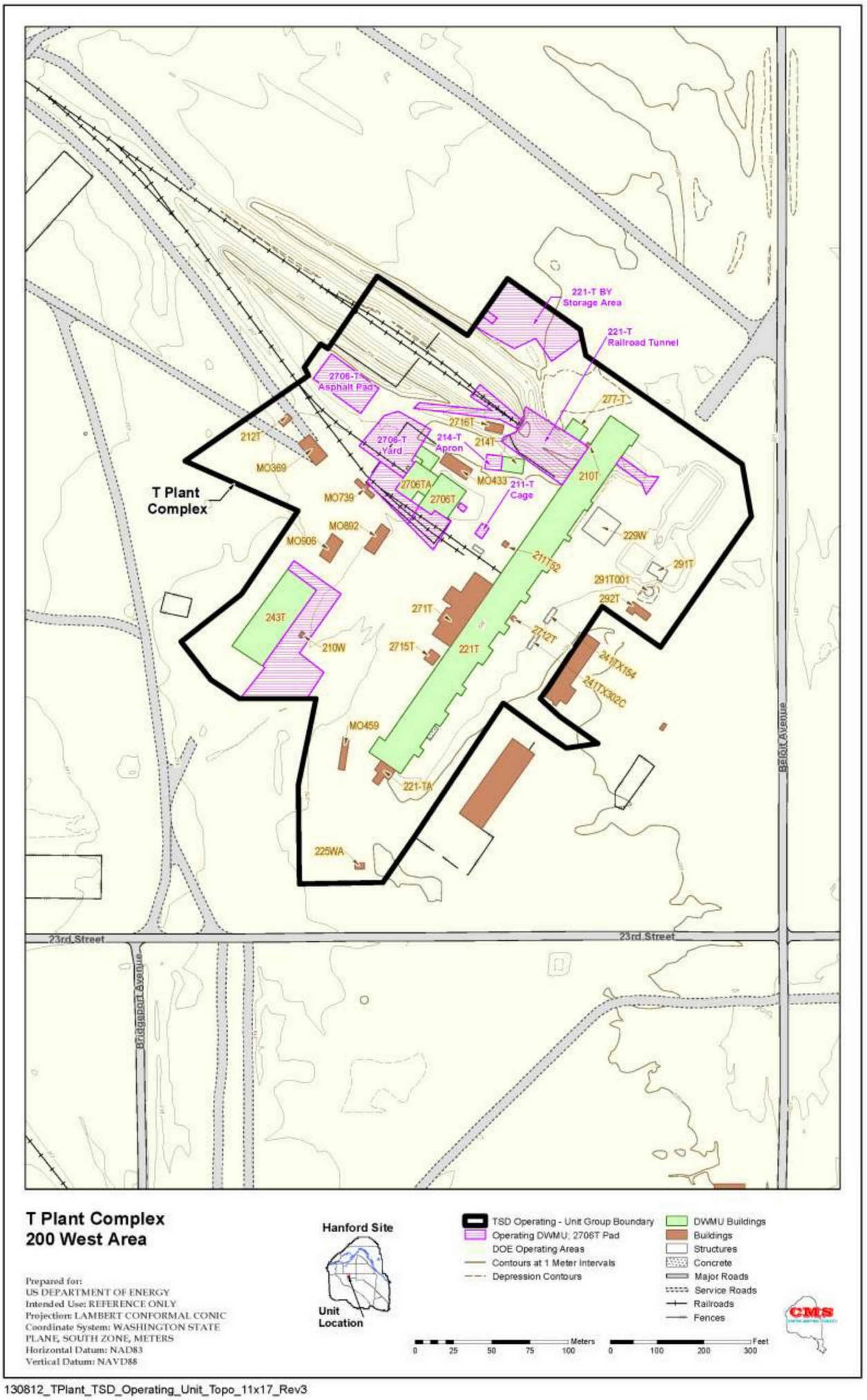


Figure 6. Topographic Map of the T-Plant Complex Operating Units Only

Photo C-1. 214-T Building (September 2013)

Photo C-2. 221-T Canyon Deck (undated photograph)

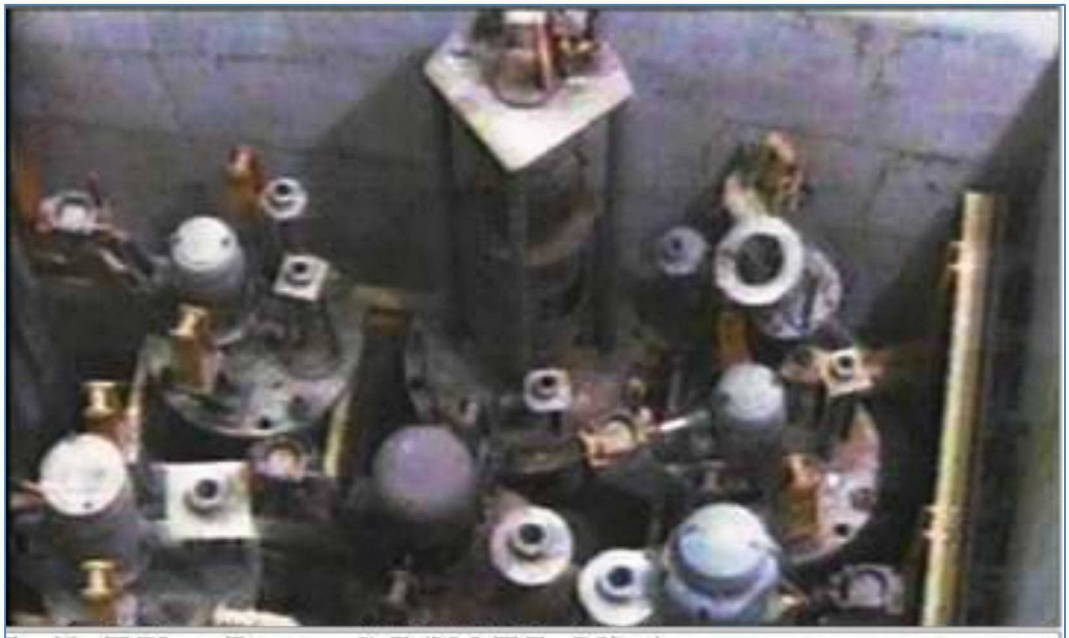


Photo C-3. 221-T Cells (example, undated photograph)

Photo C-4. 221-T Railroad Tunnel (exterior view, September 2013)

Photo C-5. 221-T Head End (exterior view, September 2013)

Photo C-6. 221-T Operations Gallery Storage (September 2013)

Photo C-7. 2706-T Building (exterior view, September 2013)

Photo C- 8. 2706-T Asphalt Pad (February 2013)

Photo C-9. 2706-TA Building (exterior view (September 2013)

Photo C-10. 2706-T Yard (March 2013)

Photo C-11. 2706-T Yard (HS-030 view, March 2013)

Photo C-12. 2706-T Yard (HS-032 view, March 2013)

Photo C-13. 243-T Covered Storage Pad (February 2013)

Photo C-14. 211-T Cage (March 2013)

Photo C-15 . 221-T BY Storage Area (September 2013)

Photo C-16. 271-T Cage (Closing DWMU, February 2013)

Photo C-17. 211-T Pad (Closing DWMU, February 2013)

Photo C-18. 221-T Sand Filter Pad (Closing DWMU, February 2013)

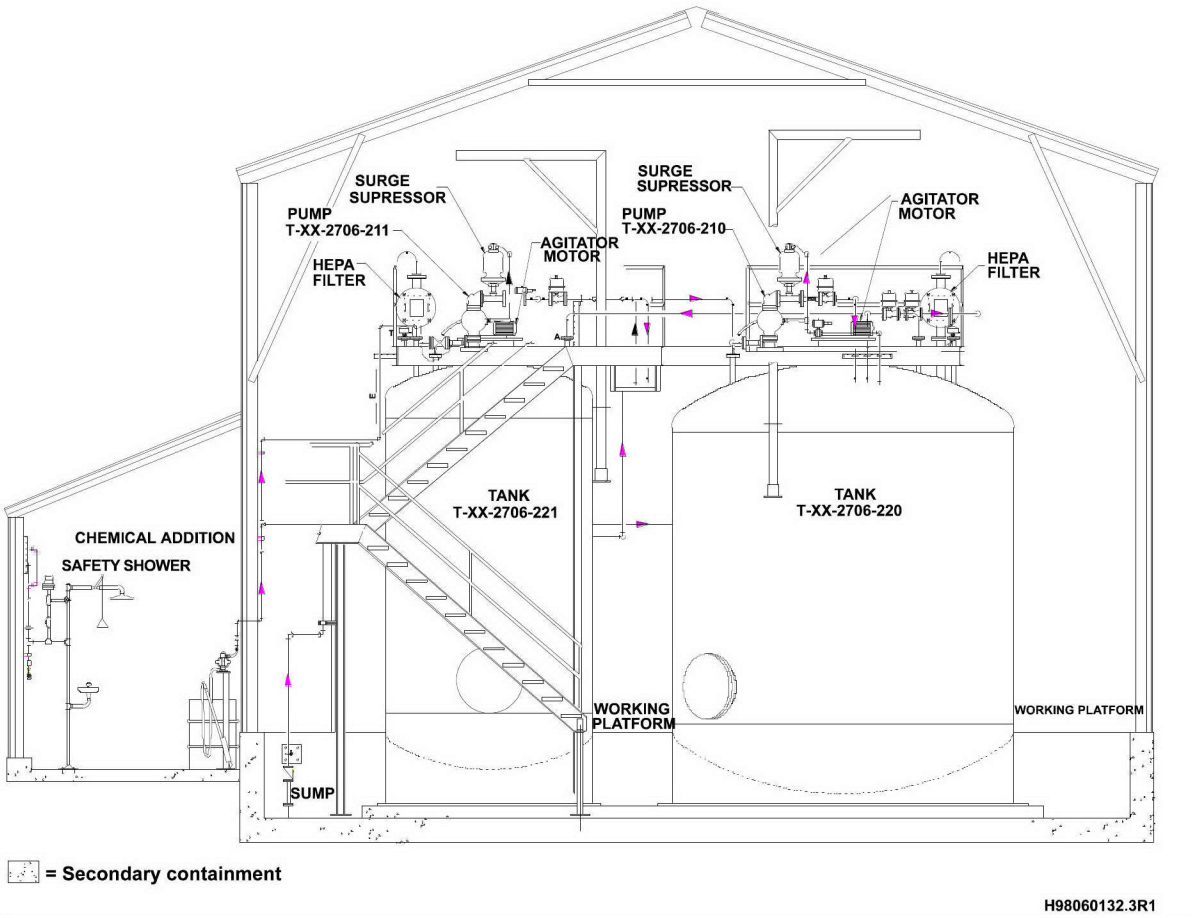
Photo C-19. 221-T-R5 Waste Storage Area (Closing DWMU, February 2013)

Photo C-20. 277-T Outdoor Storage Area (Closing DWMU, February 2013)

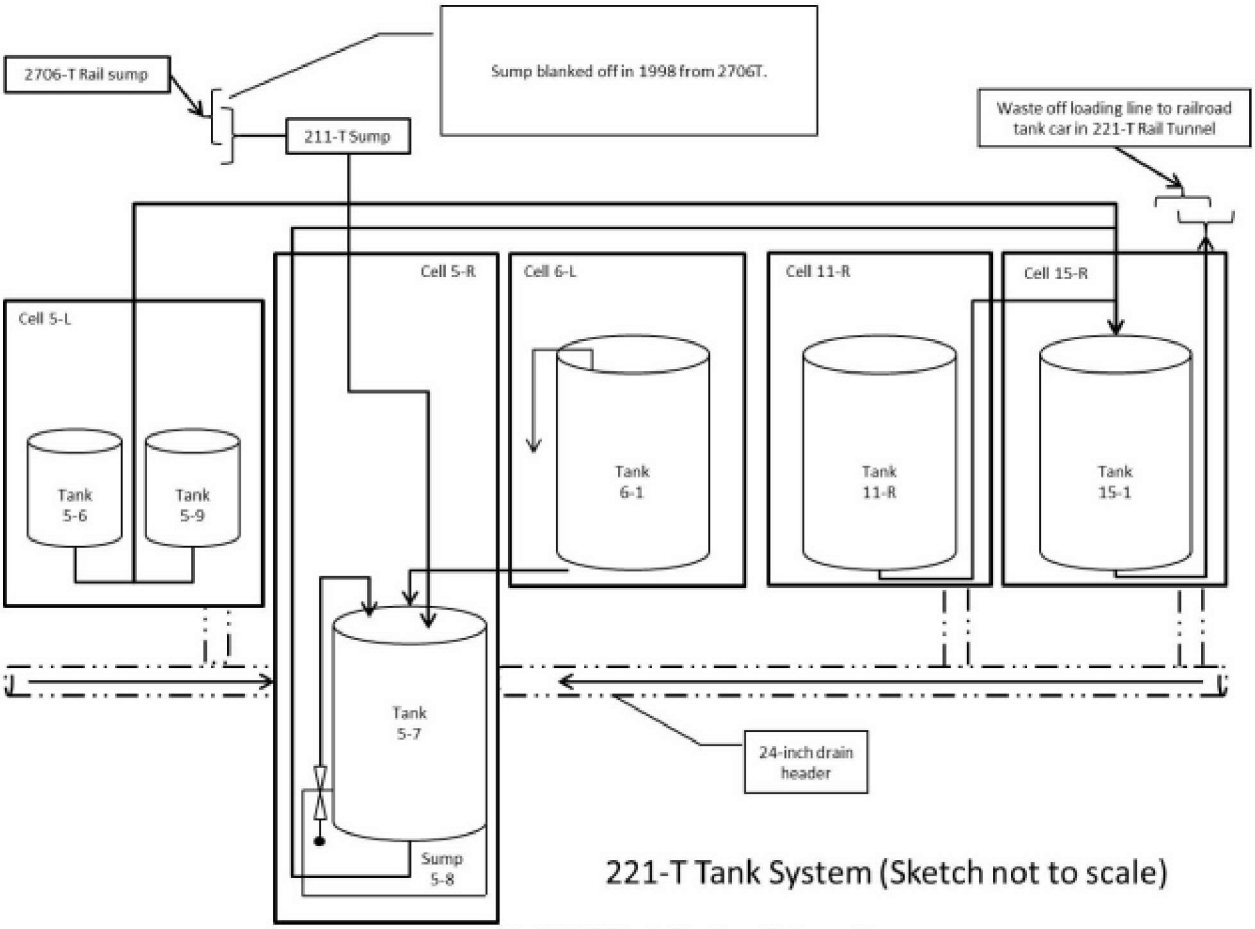
Photo C-21. 277-T Building (Closing DWMU, February 2013)

Photo C-22. 221-T Railroad Cut (Closing DWMU, September 2013)

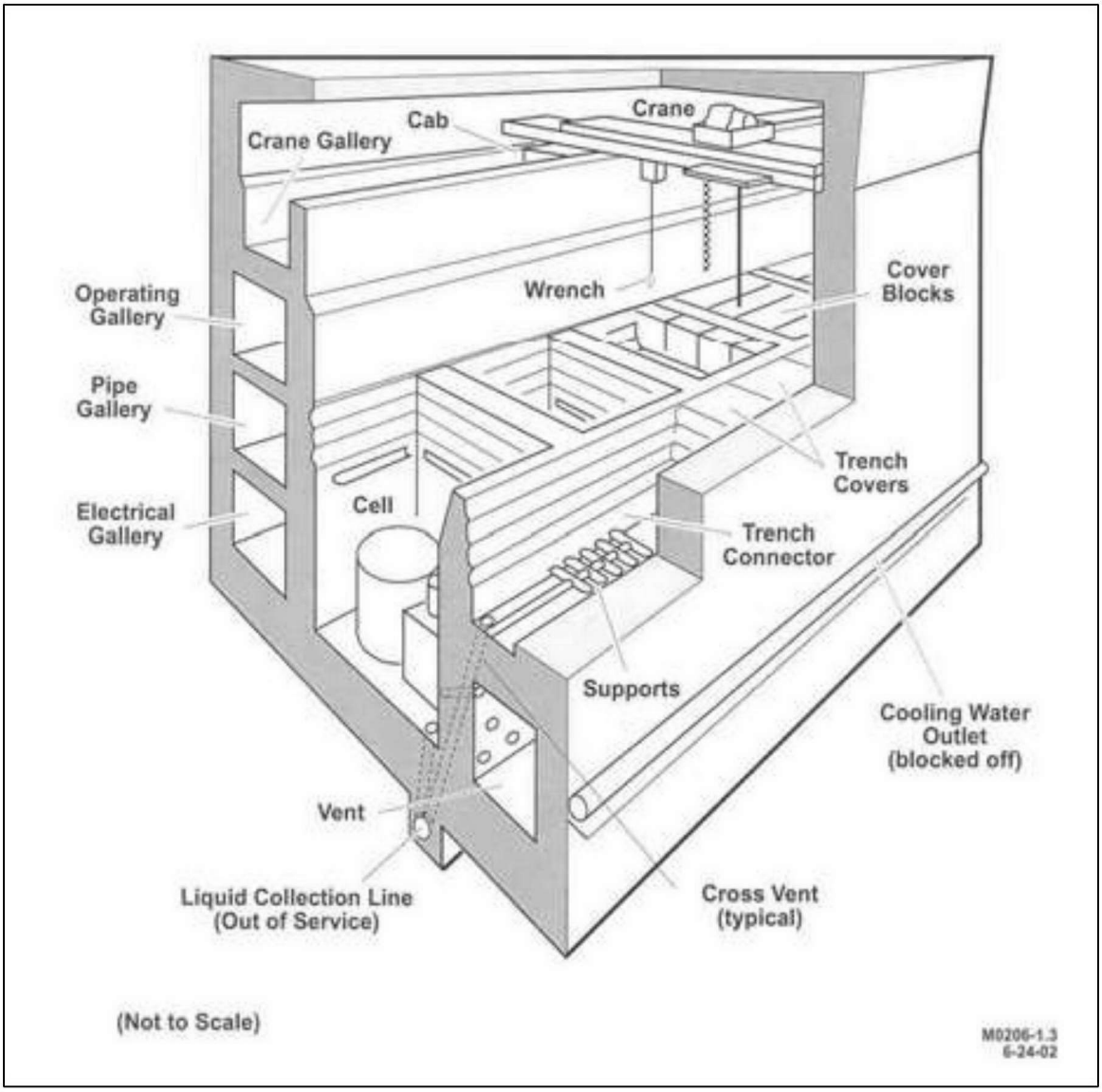
Photo C-23. 221-T Pipe Gallery Storage (Closing DWMU, September 2013)



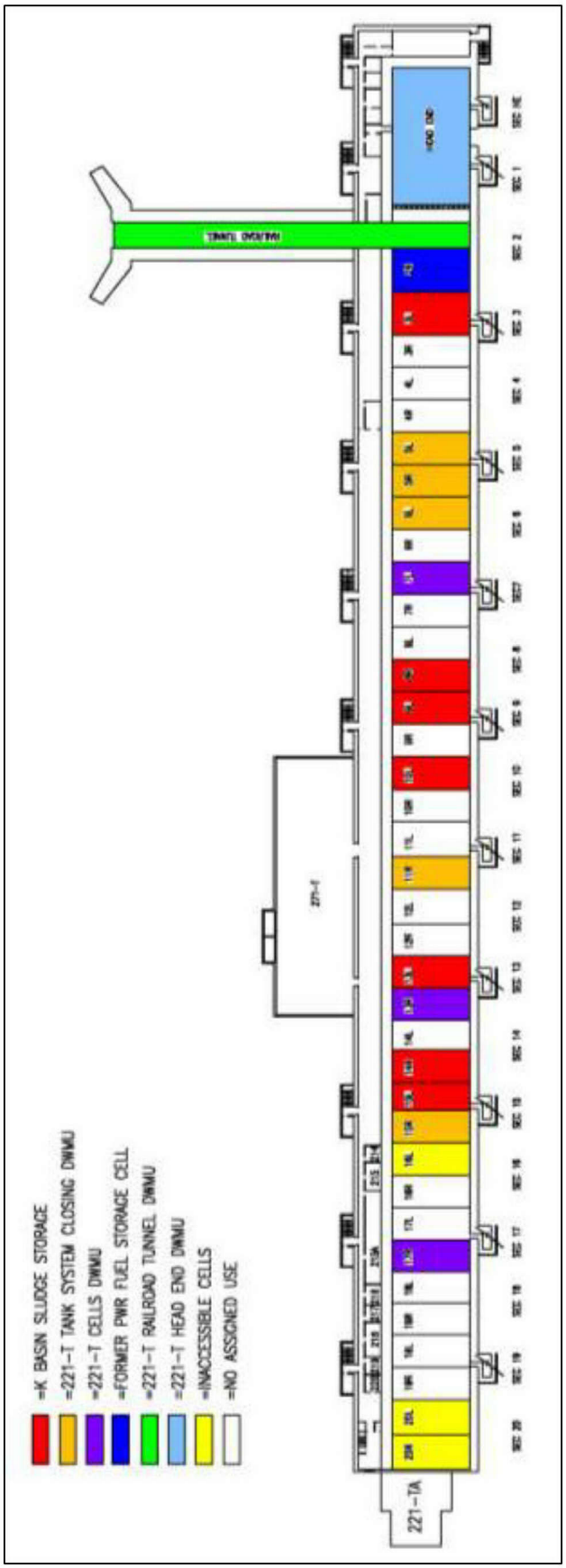
Drawing C-1. 2706-TB Tank System



Drawing C- 2. 221-T Tank System Schematic



Drawing C-3. 221-T Cell (example cutaway)



Drawing C-4. 221-T Cell Diagram