COMPLETE

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 604665

Proj.
ECN

2. ECN Category (mark one) Supplemental ☐ Direct Revision ☒ Change ECN ☐ Temporary ☐ Standby ☐ Supersede ☐ Cancel/Void ☐	3. Originator's Name, Organization, MSIN, and Telephone No. T. M. Greager, Solid Waste Systems Engineering, T3-01, 376-4344	3a. USQ Required? ☐ Yes ☒ No	4. Date May 8, 1996
	5. Project Title/No./Work Order No. Interface Control Document Between Analytical Services and Solid Waste Disposal Division	6. Bldg./Sys./Fac. No. Analytical Services	7. Approval Designator N/A
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-PICD-005, Rev. 0	9. Related ECN No(s). N/A	10. Related PO No. N/A
11a. Modification Work ☐ Yes (fill out Blk. 11b) ☒ No (NA Blks. 11b, 11c, 11d)	11b. Work Package No. N/A	11c. Modification Work Complete N/A Cog. Engineer Signature & Date	11d. Restored to Original Condition (Temp. or Standby ECN only) N/A Cog. Engineer Signature & Date
12. Description of Change The Analytical Services Interface Control Document (ICD) that was released on January 30, 1995 has undergone a significant revision to reflect volume changes identified in the 1996 through 2025 Waste Volume Forecast that was developed in July 1995. Also, the volume data is now presented in terms of cubic meters (m ³) rather than cubic feet (ft ³). This ICD will be revised and released later in 1996 to reflect changes from the 1997 through 2026 waste volume forecast.			
13a. Justification (mark one) Criteria Change ☒ Design Improvement ☐ Environmental ☐ Facility Deactivation ☐ As-Found ☐ Facilitate Const ☐ Const. Error/Omission ☐ Design Error/Omission ☐			
13b. Justification Details			
14. Distribution (include name, MSIN, and no. of copies) TM Greager T3-01 1 KL Hladek T3-01 1 RJ Giroir T4-05 1 WH Hamilton T3-01 1 PL Hapke T4-05 1 JA Morrison S3-31 1 JA Harris T6-12 1 AG King T6-03 1 DE McKenney T3-01 1 JG Riddelle T3-01 1 OJ Valero T3-01 1 Cntl Files 48-04 Orig

ENGINEERING CHANGE NOTICE				Page 2 of 2	1. ECN (use no. from pg. 1) 604665
15. Design Verification Required ☐ Yes ☒ No	16. Cost Impact <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> ENGINEERING Additional ☐ \$ Savings ☐ \$ </div> <div style="width: 45%;"> CONSTRUCTION Additional ☐ \$ Savings ☐ \$ </div> </div>			17. Schedule Impact (days) Improvement ☐ Delay ☐	
18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.					
SDD/DD	☐	Seismic/Stress Analysis	☐	Tank Calibration Manual	☐
Functional Design Criteria	☐	Stress/Design Report	☐	Health Physics Procedure	☐
Operating Specification	☐	Interface Control Drawing	☐	Spares Multiple Unit Listing	☐
Criticality Specification	☐	Calibration Procedure	☐	Test Procedures/Specification	☐
Conceptual Design Report	☐	Installation Procedure	☐	Component Index	☐
Equipment Spec.	☐	Maintenance Procedure	☐	ASME Coded Item	☐
Const. Spec.	☐	Engineering Procedure	☐	Human Factor Consideration	☐
Procurement Spec.	☐	Operating Instruction	☐	Computer Software	☐
Vendor Information	☐	Operating Procedure	☐	Electric Circuit Schedule	☐
OM Manual	☐	Operational Safety Requirement	☐	ICRS Procedure	☐
FSAR/SAR	☐	IEFD Drawing	☐	Process Control Manual/Plan	☐
Safety Equipment List	☐	Cell Arrangement Drawing	☐	Process Flow Chart	☐
Radiation Work Permit	☐	Essential Material Specification	☐	Purchase Requisition	☐
Environmental Impact Statement	☐	Fac. Proc. Samp. Schedule	☐	Tickler File	☐
Environmental Report	☐	Inspection Plan	☐	Solid Waste Technical Baseline	☒
Environmental Permit	☐	Inventory Adjustment Request	☐		☐
19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.					
Document Number/Revision	Document Number/Revision	Document Number/Revision	Document Number/Revision	Document Number/Revision	Document Number/Revision

20. Approvals	
Signature	Date
OPERATIONS AND ENGINEERING	
Cog. Eng. T. M. Greager	5-9-96
Cog. Mgr. K. L. Hladek	5-9-96
QA	_____
Safety	_____
Environ.	_____
Other	_____
W. H. Hamilton Jr.	5/22/96
A. G. King	5-21-96
J. A. Harris	_____
J. A. Morrison	5-13-96
D. E. McKenney	5/22/96
ARCHITECT-ENGINEER	
PE	_____
QA	_____
Safety	_____
Design	_____
Environ.	_____
Other	_____
DEPARTMENT OF ENERGY	
Signature or a Control Number that tracks the Approval Signature	

Interface Control Document Between Analytical Services and Solid Waste Disposal Division

T. M. Greager

Westinghouse Hanford Company, Richland, WA 99352
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Abstract: The interfacing responsibilities regarding solid waste management are described for the Solid Waste Disposal Division and Analytical Services.

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Release Approval

6/3/96
Date

Approved for Public Release

RECORD OF REVISION		(1) Document Number SD-WM-PICD-005		Page 1
(2) Title INTERFACE CONTROL DOCUMENT BETWEEN ANALYTICAL SERVICES AND SOLID WASTE DISPOSAL DIVISION				
CHANGE CONTROL RECORD				
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Document Title: INTERFACE CONTROL DOCUMENT BETWEEN ANALYTICAL
SERVICES AND SOLID WASTE DISPOSAL DIVISION

Approved by:

A. G. King, Director
Analytical Services

Approved by:

W. H. Hamilton, Jr., Director
Solid Waste Disposal

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INTERFACE CONTROL DOCUMENT BETWEEN ANALYTICAL SERVICES AND SOLID WASTE DISPOSAL

1.0 PURPOSE

This interface control document (ICD) between Analytical Services and Solid Waste Disposal (SWD) establishes a baseline description of the support needed and the wastes that will require management as part of the interface between the two divisions. It is important that each division has a clear understanding of the other division's expectations regarding levels and type of support needed. Figure 1 provides a graphic description of the interface between SWD and Analytical Services.

This document satisfies the requirement for the specified analytical laboratories to provide an annual 30-year forecast for solid waste generation as stated in the Hanford Site Solid Waste Acceptance Criteria (WHC-EP-0063) and RLID 5820.2A (Radioactive Waste Management). The information presented in this document will be reevaluated at least annually or when significant changes to either program occur.

This ICD is reflected in the Solid Waste Program Technical Baseline Document (WHC-SD-WM-RPT-060) and can be changed only by use of an engineering change notice (ECN) approved by representatives of both Analytical Services and Solid Waste Disposal.

2.0 SCOPE

This ICD deals with the waste sampling support needed by SWD and the waste generated by the specified analytical laboratories. The baseline description of wastes includes waste volumes, characteristics and shipping schedules, which will be used to plan the proper support requirements.

The laboratories included in this document are 222-S Laboratory Facility and the Waste Sampling and Characterization Facility (WSCF). These facilities provide support to the entire site and are not associated with one major program/facility. The laboratories associated with major facilities or programs such as Engineering/Environmental Development Laboratory at K Basins Operation are not within the scope of this document. Waste generated by these laboratories are included in the major facilities waste forecast and therefore will be incorporated into that facility specific ICD.

Wastes generated by the 325 Laboratory are included in the waste volume forecasts provided by Pacific Northwest Laboratory.

Figure 1. Interfaces Between Analytical Services and Solid Waste Disposal

WHC-SD-WM-PICD-005, REV. 1

3.0 WASTE CHARACTERIZATION SUPPORT NEEDED BY SWD TO BE PROVIDED BY ANALYTICAL SERVICES

Analytical Services will provide waste characterization of the samples taken by SWD as identified in this section. Any changes to the information regarding these materials will be updated in this document through formal revision requiring an ECN.

While completing the sampling requirement forecast, the following assumptions were made:

- Any soil samples coming from a radiologically controlled area are assumed to require handling as a radioactive sample.
- WRAP 1 LLW processing begins operation in March 1997 at 50% throughput for the first year.
- Mixed Waste treatment begins operations in September 1999 at 50% throughput for the first year. Characterization confirmation samples will be analyzed prior to waste shipments to the mixed waste stabilization contractor as well as treatment verification samples of waste returning from the mixed waste stabilization contractor.
- Samples taken at WRAP 1 from separate packages in a single drum will be one composite sample.
- Samples taken from the T Plant PWR pool, Tank 15-1, and sludges from the 2706T sump. Waste samples, such as oils and antifreeze from vehicles to be decontaminated, and unknown wastes are sent to Analytical Services for characterization.

The estimated annual sample volume is summarized in Appendix C, Tables 13 through 16.

Specific requirements as to the types of analyses required and the precision requirements are provided on a facility specific basis in the facility sample schedules.

WHC-SD-WM-PICD-005, REV 1
Table 4-1 222-S Solid Waste Volume (m³) Forecast

Material Source/Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
CII LLW I	454	406	402	402	402	357	357	357	357	357	357	357	357	357	357	
CII LLMW I	62	48	48	48	48	48	48	48	48	48	48	48	48	48	48	
CII TRUM	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	
Hazardous	32	31	31	31	31	26	26	26	26	26	26	26	26	26	26	
Material Source/Category	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	30 Yr Tot
CII LLW I	332	332	332	332	332	332	332	332	332	332	332	332	332	332	332	10,616
CII LLMW I	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	1,124
CII TRUM	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	9
Hazardous	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	806

WHC-SD-WM-PICD-005, REV 1

Table 4-2 Waste Sampling Characterization Facility (WSCF) Solid Waste Volume (m³) Forecast

Material Source/Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
CH LLW I	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
CH LLMW I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Hazardous	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Material Source/Category	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	30 Yr Tot
CH LLW I	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	60
CH LLMW I	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	30
Hazardous	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	120

4.0 SOLID WASTE GENERATED BY ANALYTICAL SERVICES REQUIRING MANAGEMENT BY SWD

SWD will manage the solid wastes generated by Analytical Services as identified in Appendix A. Solid wastes generated by Analytical Services will be accepted by Solid Waste Disposal provided the waste meets the established criteria outlined in the Hanford Site Solid Waste Acceptance Criteria (WHC-EP-0063). SWD will provide storage, treatment and disposal as necessary for the solid waste generated by Analytical Services. Acceptance of unique waste will be handled on a case by case basis. These quantities are expected to be minimal. Appendix B contains the Multi-Year Program Plan (MYPP) baseline waste projections for solid waste generated by Analytical Services requiring storage, treatment, and/or disposal. The waste volumes forecasted are for streams originating from the 222-S Laboratory (Table 4-1) and WSCF (Table 4-2). Any changes to the information regarding these wastes will be updated in this document through formal revision requiring ECN.

REFERENCES

Department of Energy, September 1993, *Hanford Site Solid Waste Acceptance Criteria*, WHC-EP-0063-4, Westinghouse Hanford Company, Richland Washington.

Department of Energy, February 1996, *Fiscal Year 1996 Solid Waste Integrated Life-Cycle Forecast Volume Summary*, WHC-EP-0900, Westinghouse Hanford Company, Richland Washington.

R. P. Carter, Department of Energy - Richland Field Office, November 22, 1995, RL, *Hanford Analytical Sample Projections*, Letter 9556228, A. G. King, Westinghouse Hanford Company, Richland Washington.

APPENDIX A - ANALYTICAL SERVICES

A.1 INTRODUCTION

Analytical Services is chartered to provide laboratory support to the major programs at the Hanford Reservation. Analytical Services provides the technical, managerial, and programmatic functions to complete the waste characterization process. The Analytical Services facilities (within the scope of this document) that are or will be in the near future generating solid waste are:

- 222-S Laboratory
- WSCF

A.2 222-S LABORATORY

The primary mission of 222-S Laboratory is to provide analytical support to the Waste Management and Environmental Restoration programs. Additionally the laboratory prepares and characterizes radiochemical standards for waste characterization analysis completed at various laboratories onsite.

The 222-S Laboratory generates waste streams which are defined by waste class and container type. The primary source of the low-level waste comes from laboratory waste and equipment, along with lab packs. Laboratory analysis of Tank Farm core samples and site wide sampling generates the majority of low-level mixed waste at the laboratory. Hazardous waste is generated in the 222-S Standards Laboratory.

While completing the 222-S Laboratory solid waste forecast, the following assumptions were made:

- Physical form, radionuclide content and waste code will be similar to previous years samples.
- As tank farm core sample quantities increase during fiscal years 1996 through 2000, waste volumes will increase in all categories.

Compactable low-level waste will be segregated from non compactable items prior to packaging and low-level waste in general will be segregated from mixed waste. The anticipated shipping schedule for all waste streams is 25 % of total yearly volume per quarter. The waste streams are described in the tables in Appendix A. The 1995 222-S Laboratory MYPP Solid Waste Volume Forecast is in Appendix B.

A.3 WSCF

The WSCF facility will complete waste characterization analysis on air, water, and soil samples. Sample constituents will primarily be low-level radioactive isotopes and non-radiological hazardous materials taken from various effluent streams on the Hanford Site.

WSCF is anticipated to generate the following waste streams, which have been defined by waste class and container type. Those are:

- Low-Level Waste Category I in 55 Gallon Drums;
- Low-Level Mixed Waste Category I in 55 Gallon Drums;
- Hazardous Waste in 8 Gallon Drums;
- Hazardous Waste in 55 Gallon Drums.

The Low-Level Mixed Waste in drums will primarily be laboratory samples in lab packs. Detailed information is available on the tables in Appendix A and in the 1995 MYPP Solid Waste forecast data in Appendix B.

A.4 ARCHIVE SAMPLES

Currently, archive samples are not included in the Waste Volume Forecasts as a waste stream, however, it is anticipated that these samples may be classified as waste. Thus, they would be shipped to SWD for disposal. These archive samples, upon reclassification as waste will then be included in forecast requests and in future revisions of this ICD.

**Table A.1 Drummed Contact-Handled Low-Level Waste Category I
Generated at the 222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category I (CH-LLW-I)
Waste Stream Description:	Laboratory waste and equipment
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	1996 - 262; 1997 - 234; 1998-2000 - 232, 2001-2010 - 206, 2011-2025 - 192
Percent of Total Annual Volume:	15%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 68.1; 1997 - 60.9; 1998-2000 - 60.3, 2001-2010 - 53.6, 2011-2025 - 49.8
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Predominantly Combustible Debris Waste (5440)
Waste Form and Content:	19% Solid Process Residue 60% Combustible Debris Waste 21% Other Debris Waste See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION:

Not applicable

RADIOLOGICAL DESCRIPTION:

See Appendix B

**Table A.2 Boxed Contact-Handled Low-Level Waste Category I
Generated at the 222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category I (CH-LLW-I)
Waste Stream Description:	Laboratory waste and equipment
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	4' x 4' x 8' Box W/Skids
Container External Volume:	4 m ³
Number of Containers Generated Annually:	1996 - 97; 1997 - 87 ; 1998-2000 - 86, 2001-2010 - 76, 2011- 2025 - 71
Percent of Total Annual Volume:	85%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 385.9; 1997 - 345.1; 1998-2000 - 341.7, 2001-2010 - 303.5, 2011-2025 - 282.2
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Uncategorized Heterogenous Debris Waste (5490)
Waste Form and Content:	3% Inorganic Particulates 1% Contaminated Soils 96% Debris Waste See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION:

Not applicable

RADIOLOGICAL DESCRIPTION:

See Appendix B

Table A.3 Drummed Contact-Handled Low-Level Mixed Waste Category I Generated at the 222-S Analytical Laboratory

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Mixed Category I (CH-LLMW-I)
Waste Stream Description:	Laboratory waste, equipment and sample vials
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	1996 - 236; 1997-2010 - 183; 2011-2025 - 99
Percent of Total Annual Volume:	99%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 61.4; 1997-2010 - 47.5; 2011-2025 - 25.7
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	See Appendix B
Waste Form and Content:	See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

See Appendix B

Table A.4 Drummed Contact-Handled Low-Level Mixed Waste Category I Generated at the 222-S Analytical Laboratory

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Mixed Category I (CH-LLMW-I)
Waste Stream Description:	Laboratory waste, equipment, and debris wastes
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	85 Gallon Drums
Container External Volume:	.4 m ³
Number of Containers Generated Annually:	1996 - 16; 1997-2010 - 12; 2011-2025 - 7
Percent of Total Annual Volume:	1%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 6.2; 1997-2010 - 4.8; 2011-2025 - 2.6
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Lab Packs, Debris Waste
Waste Form and Content:	See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

See Appendix B

**Table A.5 Drummed (55 Gallon) Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous Waste
Waste Stream Description:	Laboratory waste, equipment and lab packs
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	1996 - 62; 1997-2000 - 60; 2001-2025 - 50
Percent of Total Annual Volume:	50%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 16; 1997-2000 - 15.5; 2001-2025 - 13
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Organic Lab Packs (6110)
Waste Form and Content:	26% Inorganic Particulates 26% Debris Waste 48% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.6 Drummed (8 Gallon) Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Lab packs containing organic standards
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	8 Gallon Drums
Container External Volume:	.04 m ³
Number of Containers Generated Annually:	1996 - 65; 1997-2000 - 63; 2001-2025 - 53
Percent of Total Annual Volume:	8%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 2.6; 1997-2000 - 2.5; 2001-2025 - 2.1
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Organic Lab Packs (6110)
Waste Form and Content:	20% Inorganic Particulates 80% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.7 Drummed (30 Gallon) Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Lab packs containing organic standards
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	30 Gallon Drums
Container External Volume:	.12 m ³
Number of Containers Generated Annually:	1996 - 76; 1997-2000 - 75; 2001-2025 - 63
Percent of Total Annual Volume:	29%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 9.3; 1997-2000 - 9; 2001-2025 - 7.5
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Organic Lab Packs (6110)
Waste Form and Content:	20% Inorganic Particulate 80% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.8 Boxed Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Lab packs containing organic standards
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	12 B Box
Container External Volume:	.5 m ³
Number of Containers Generated Annually:	1996-2025 - 1
Percent of Total Annual Volume:	.5%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - .2; 1997-2000 - .15; 2001-2025 - .13
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Organic Lab Packs (6110)
Waste Form and Content:	20% Inorganic Particulates 80% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.9 Drummed (15 Gallon) Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	Laboratory wastes
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	15 Gallon Drum
Container External Volume:	.07 m ³
Number of Containers Generated Annually:	1996 - 42; 1997-2000 - 40; 2001-2025 - 1
Percent of Total Annual Volume:	9%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 2.9; 1997-2000 - 2.8; 2001-2025 - .02
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	
Waste Form and Content:	50% Organic Particulates 50% Other Special Wastes See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.10 Drummed (2.5 Gallon) Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	2.5 Gallon Drum
Container External Volume:	.01 m ³
Number of Containers Generated Annually:	1996 - 64; 1997-2000 - 62; 2001-2025 - 52
Percent of Total Annual Volume:	2%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - .64; 1997-2000 - .62; 2001-2025 - .52
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Uncategorized Lab Packs (6190)
Waste Form and Content:	50% Organic Particulates 50% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.11 Drummed (5 Gallon) Hazardous Waste Generated at the
222-S Analytical Laboratory**

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	5 Gallon Drum
Container External Volume:	.02 m ³
Number of Containers Generated Annually:	1996 - 160; 1997-2000 - 155; 2001-2025 - 130
Percent of Total Annual Volume:	1%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1996 - 3.2; 1997-2000 - 3.1; 2001-2025 - 2.6
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Uncategorized Lab Packs (6190)
Waste Form and Content:	50% Organic Particulates 50% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

Table A.12 Drummed (55 Gallon) Contact Handled TRU Mixed Wastes Generated at the 222-S Analytical Laboratory

STREAM DESCRIPTION

Waste Class:	CH-TRUM
Waste Stream Description:	
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drum
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	2
Percent of Total Annual Volume:	100%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	.3 m ³
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Uncategorized Lab Packs (6190)
Waste Form and Content:	See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

**Table A.13 Drummed Contact-Handled Low-Level Waste Category I,
Generated at the Waste Sampling and Characterization Facility**

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Category I (CH-LLW-I)
Waste Stream Description:	Laboratory waste
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	8
Percent of Total Annual Volume:	100%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	2
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	
Waste Form and Content:	28% Inorganics 15% Metal 15% Inorganic nonmetal 42% Plastic/Rubber See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION:

Not applicable

RADIOLOGICAL DESCRIPTION:

See Appendix B

Table A.14 Drummed Contact-Handled Low-Level Mixed Waste Category I Generated at the Waste Sampling and Characterization Facility

STREAM DESCRIPTION

Waste Class:	Contact-Handled Low-Level Mixed Category I (CH-LLMW-I)
Waste Stream Description:	Laboratory waste
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	4
Percent of Total Annual Volume:	100%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	1
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	
Waste Form and Content:	100% Lab Packs See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

See Appendix B

Table A.15 Drummed (55 Gallon) Hazardous Waste Generated at the Waste Sampling and Characterization Facility

STREAM DESCRIPTION

Waste Class:	Hazardous Waste
Waste Stream Description:	Laboratory waste
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	55 Gallon Drums
Container External Volume:	.26 m ³
Number of Containers Generated Annually:	15
Percent of Total Annual Volume:	95%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	3.8
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Organic Lab Packs (6110)
Waste Form and Content:	See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

Table A.16 Drummed (8 Gallon) Hazardous Waste Generated at the Waste Sampling and Characterization Facility

STREAM DESCRIPTION

Waste Class:	Hazardous
Waste Stream Description:	
Year(s) of Generation:	The stream will be active annually through 2025

CONTAINER DESCRIPTION

Container Type:	8 Gallon Drums
Container External Volume:	.04 m ³
Number of Containers Generated Annually:	5
Percent of Total Annual Volume:	5%

PHYSICAL FORM DESCRIPTION

Annual Volume (m ³) Generated:	.2
Density:	TBD
Annual Weight Generated:	TBD
Physical Form:	Organic Lab Packs (6110)
Waste Form and Content:	See Appendix B for content detail

HAZARDOUS CONSTITUENTS DESCRIPTION

See Appendix B

RADIOLOGICAL DESCRIPTION

Not Applicable

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APPENDIX B

**1995 222-S LABORATORY/WSCF MULTI-YEAR PROGRAM PLAN SOLID WASTE
VOLUME FORECAST**

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Volumes (m³) for Analytical Services

Waste Generator	Waste Class	Data	1996	1997	1998	1999	2000	2001	2002	2003
WHC_ANALYT_LAB	CH_LLMW_I	VOL	62.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
	CH_LLW_I	VOL	454.0	406.0	402.0	402.0	402.0	357.0	357.0	357.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
	CH_TRUM	VOL	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
		MINPCT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		MAXPCT	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	HAZ	VOL	32.0	31.0	31.0	31.0	31.0	26.0	26.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
WHC_ANALYT_LAB Total Volume		548.3	485.3	481.3	481.3	481.3	431.3	431.3	431.3	
WHC_WSCF	CH_LLMW_I	VOL	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
	CH_LLW_I	VOL	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
	HAZ	VOL	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
WHC_WSCF Total Volume		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Program Total		555.3	492.3	488.3	488.3	488.3	438.3	438.3	438.3	

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1995 Solid Waste Forecast Volumes (m³) for Analytical Services
(cont.)

Waste Generator	Waste Class	Data	2004	2005	2006	2007	2008	2009	2010	2011
WHC_ANALYT_LAB	CH_LLMW_I	VOL	48.0	48.0	48.0	48.0	48.0	48.0	48.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
	CH_LLW_I	VOL	357.0	357.0	357.0	357.0	357.0	357.0	357.0	332.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
	CH_TRUM	VOL	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
		MINPCT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		MAXPCT	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	HAZ	VOL	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
WHC_ANALYT_LAB Total Volume			431.3	431.3	431.3	431.3	431.3	431.3	384.3	
WHC_WSCF	CH_LLMW_I	VOL	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
	CH_LLW_I	VOL	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
	HAZ	VOL	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
WHC_WSCF Total Volume			7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Program Total			438.3	438.3	438.3	438.3	438.3	438.3	391.3	

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1995 Solid Waste Forecast Volumes (m³) for Analytical Services
(cont.)

Waste Generator	Waste Class	Data	2012	2013	2014	2015	2016	2017	2018	2019
WHC_ANALYT_LAB	CH_LLMW_I	VOL	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
	CH_LLW_I	VOL	332.0	332.0	332.0	332.0	332.0	332.0	332.0	332.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
	CH_TRUM	VOL	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
		MINPCT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		MAXPCT	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
	HAZ	VOL	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
WHC_ANALYT_LAB	Total Volume		384.3	384.3	384.3	384.3	384.3	384.3	384.3	384.3
WHC_WSCF	CH_LLMW_I	VOL	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
	CH_LLW_I	VOL	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
	HAZ	VOL	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0	125.0	125.0
WHC_WSCF	Total Volume		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Program Total			391.3	391.3	391.3	391.3	391.3	391.3	391.3	391.3

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1995 Solid Waste Forecast Volumes (m³) for Analytical Services
(cont.)

Waste Generator	Waste Class	Data	2020	2021	2022	2023	2024	2025
WHC_ANALYT_LAB	CH_LLMW_I	VOL	26.0	26.0	26.0	26.0	26.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0
	CH_LLW_I	VOL	332.0	332.0	332.0	332.0	332.0	332.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0
	CH_TRUM	VOL	0.3	0.3	0.3	0.3	0.3	0.3
		MINPCT	100.0	100.0	100.0	100.0	100.0	100.0
		MAXPCT	200.0	200.0	200.0	200.0	200.0	200.0
	HAZ	VOL	26.0	26.0	26.0	26.0	26.0	26.0
		MINPCT	80.0	80.0	80.0	80.0	80.0	80.0
		MAXPCT	120.0	120.0	120.0	120.0	120.0	120.0
WHC_ANALYT_LAB Total Volume		384.3	384.3	384.3	384.3	384.3	384.3	
WHC_WSCF	CH_LLMW_I	VOL	1.0	1.0	1.0	1.0	1.0	1.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0
	CH_LLW_I	VOL	2.0	2.0	2.0	2.0	2.0	2.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0
	HAZ	VOL	4.0	4.0	4.0	4.0	4.0	4.0
		MINPCT	75.0	75.0	75.0	75.0	75.0	75.0
		MAXPCT	125.0	125.0	125.0	125.0	125.0	125.0
WHC_WSCF Total Volume		7.0	7.0	7.0	7.0	7.0	7.0	
Program Total		391.3	391.3	391.3	391.3	391.3	391.3	

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Container Percentages for Analytical Services				
<u>Waste Generator</u>	<u>Waste Class</u>	<u>Years</u>	<u>Container</u>	<u>Percent</u>
WHC_ANALYT_LAB	CH_LLMW_I	All	55 GAL DRUM	99.00
			85 GAL DRUM	1.00
				<hr/> 100.00
	CH_LLW_I	All	4X4X8 BOX SKID	85.00
			55 GAL DRUM	15.00
				<hr/> 100.00
	CH_TRUM	All	55 GAL DRUM	100.00
				<hr/> 100.00
	HAZ	1996-1999	12B	0.50
			15 GAL.	10.00
			2.5 GAL	2.00
			30 GAL DRUM	29.00
			5 GAL	0.50
			55 GAL DRUM	50.00
			8 GAL	8.00
				<hr/> 100.00
		2000-2003	12B	0.50
			15 GAL.	8.50
			2.5 GAL	2.40
			30 GAL DRUM	28.90
			5 GAL	1.00
			55 GAL DRUM	50.00
			8 GAL	8.70
				<hr/> 100.00
		2004-2070	12B	0.40
			15 GAL.	8.40
			2.5 GAL	2.30
			30 GAL DRUM	29.30
			5 GAL	1.10
			55 GAL DRUM	48.80
			8 GAL	9.70
				<hr/> 100.00
WHC_WSCF	CH_LLMW_I	All	55 GAL DRUM	100.00
				<hr/> 100.00
	CH_LLW_I	All	55 GAL DRUM	100.00
				<hr/> 100.00
	HAZ	All	55 GAL DRUM	95.00
			8 GALLON	5.00
				<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Physical Waste Form Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>Percent</u>
WHC_ANALYT_LAB	CH_LLMW_I	55 GAL DRUM	D INORG NM	15.00
			D METAL	5.00
			D ORG	20.00
			D PLAS/RUB	15.00
			IN SALT WASTE	4.00
			LAB PACKS	20.00
			ORG ABSORB	20.00
			SOIL SOIL/GRAV	1.00
				<hr/> 100.00
		85 GAL DRUM	D INORG NM	15.00
			D METAL	5.00
			D ORG	20.00
			D PLAS/RUB	15.00
			IN SALT WASTE	4.00
			LAB PACKS	20.00
			ORG ABSORB	20.00
			SOIL SOIL/GRAV	1.00
				<hr/> 100.00
	CH_LLW_I	4X4X8 BOX SKID	D INORG NM	1.30
			D METAL	47.00
			D ORG	29.00
			D PLAS/RUB	22.00
			SOIL SOIL/GRAV	0.70
				<hr/> 100.00
		55 GAL DRUM	D INORG NM	15.00
			D METAL	10.00
			D ORG	30.00
			D PLAS/RUB	20.00
			ORG ABSORB	20.00
			SOIL SOIL/GRAV	5.00
				<hr/> 100.00
CH_TRUM	55 GAL DRUM		D INORG NM	15.00
			D ORG	20.00
			D PLAS/RUB	20.00
			ORG ABSORB	20.00
			SH LEAD	25.00
				<hr/>

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Physical Waste Form Percentages for Analytical Services				
<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>Percent</u>
				100.00
WHC_ANALYT_LAB	HAZ	5 GAL	LAB PACKS	100.00
				100.00
		8 GAL	LAB PACKS	100.00
				100.00
		15 GAL	LAB PACKS	100.00
				100.00
		12B	AERO/CG	1.00
			D INORG	10.00
			IN PART	35.00
			LAB PACKS	47.00
			MERCURY	5.00
			ORG PART	2.00
				100.00
		2.5 GAL	LAB PACKS	100.00
				100.00
		30 GAL DRUM	LAB PACKS	100.00
				100.00
		55 GAL DRUM	D INORG NM	4.00
			D METAL	2.00
			D PLAS/RUB	4.00
			LAB PACKS	90.00
				100.00
WHC_WSCF	CH_LLMW_I	55 GAL DRUM	LAB PACKS	100.00
				100.00
	CH_LLW_I	55 GAL DRUM	D INORG	28.00
			D INORG NM	15.00
			D METAL	15.00
			D PLAS/RUB	42.00
				100.00

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1995 Solid Waste Forecast Physical Waste Form Percentages for Analytical Services				
<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>Percent</u>
	HAZ	55 GAL DRUM	LAB PACKS	100.00
				100.00
		8 GALLON	MERCURY	100.00
				100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
WHC_ANALYT_LAB	CH_LLMW_I	55 GAL DRUM	D INORG NM	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			D METAL	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			D ORG	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			D PLAS/RUB	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			IN SALT WASTE	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
WHC_ANALYT_LAB	CH_LLMW_I	55 GAL DRUM	LAB PACKS	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			ORG ABSORB	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			SOIL SOIL/GRAV	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
		85 GAL DRUM	D INORG NM	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
			D METAL	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
WHC_ANALYT_LAB	CH_LLMW_I	85 GAL DRUM	D ORG	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			D PLAS/RUB	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			IN SALT WASTE	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
			LAB PACKS	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
			ORG ABSORB	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
WHC_ANALYT_LAB	CH_LLMW_I	85 GAL DRUM	SOIL SOIL/GRAV	Corrosive	1.00
				Ignitable	8.00
				Metal	19.00
				Mtl Mecury	1.00
				Organic	39.00
				PCB < 50ppm	4.00
				WT-WP-WC	28.00
					<hr/> 100.00
	CH_TRUM	55 GAL DRUM	D INORG NM	BDG	100.00
					<hr/> 100.00
			D ORG	BDG	100.00
					<hr/> 100.00
			D PLAS/RUB	BDG	100.00
					<hr/> 100.00
			ORG ABSORB	BDG	100.00
					<hr/> 100.00
			SH LEAD	Metal	100.00
					<hr/> 100.00
HAZ	5 GAL	LAB PACKS	AB		100.00
					<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
WHC_ANALYT_LAB HAZ	8 GAL	LAB PACKS		Corrosive	8.00
				Ignitable	8.00
				Metal	5.00
				Organic	9.00
				Reactive	5.00
				WT-WP-WC	65.00
					<u>100.00</u>
	15 GAL	LAB PACKS		Corrosive	8.00
				Ignitable	8.00
				Metal	5.00
				Organic	9.00
				Reactive	5.00
				WT-WP-WC	65.00
					<u>100.00</u>
	12B	AERO CG		ABCG	100.00
					<u>100.00</u>
		D INORG		ABCG	100.00
					<u>100.00</u>
		IN PART		ABCG	100.00
					<u>100.00</u>
		LAB PACKS		ABCG	100.00
					<u>100.00</u>
		MERCURY		ABCG	100.00
					<u>100.00</u>
		ORG PART		ABCG	100.00
					<u>100.00</u>
	2.5 GAL	LAB PACKS		Corrosive	6.00
				Ignitable	20.00
				Metal	12.00
				Organic	6.00
				Reactive	6.00
				WT-WP-WC	50.00
					<u>100.00</u>

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
		30 GAL DRUM	LAB PACKS	Corrosive	6.00
				Ignitable	6.00
				Metal	22.00
				Mtl Mecury	4.00
				Organic	34.00
				WT-WP-WC	28.00
					<hr/> 100.00
		55 GAL DRUM	D INORG NM	Corrosive	6.00
				Ignitable	6.00
				Metal	22.00
				Mtl Mecury	4.00
				Organic	34.00
				WT-WP-WC	28.00
					<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>HCD</u>	<u>Percent</u>
WHC_ANALYT_LAB	HAZ	55 GAL DRUM	D METAL	Corrosive	6.00
				Ignitable	6.00
				Metal	22.00
				Mtl Mecury	4.00
				Organic	34.00
				WT-WP-WC	28.00
					<hr/> 100.00
			D PLAS/RUB	Corrosive	6.00
				Ignitable	6.00
				Metal	22.00
				Mtl Mecury	4.00
				Organic	34.00
				WT-WP-WC	28.00
					<hr/> 100.00
			LAB PACKS	Corrosive	6.00
				Ignitable	6.00
				Metal	22.00
				Mtl Mecury	4.00
				Organic	34.00
				WT-WP-WC	28.00
					<hr/> 100.00
WHC_WSCF	CH_LLMW_I	55 GAL DRUM	LAB PACKS	AFG	20.00
				FG	80.00
					<hr/> 100.00
	HAZ	55 GAL DRUM	LAB PACKS	AG	5.00
				BG	35.00
				FG	30.00
				WT-WP-WC	30.00
					<hr/> 100.00
		8 GALLON	MERCURY	Mtl Mecury	100.00
					<hr/> 100.00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>Radionuclide</u>	<u>Concentration</u>
WHC_ANALYT_LAB	CH_LLMW_I	55 GAL DRUM	D INORG NM	AMERICIUM	2.35E-07
				CESIUM137	1.42E-04
				STRONTIUM90	1.42E-04
			D METAL	AMERICIUM	1.57E-08
				CESIUM137	9.44E-06
				STRONTIUM90	9.44E-06
			D ORG	AMERICIUM	3.45E-07
				CESIUM137	2.08E-04
				STRONTIUM90	2.08E-04
		85 GAL DRUM	D PLAS/RUB	AMERICIUM	3.45E-07
				CESIUM137	2.08E-04
				STRONTIUM90	2.08E-04
		85 GAL DRUM	IN SALT WASTE	AMERICIUM	3.13E-07
				CESIUM137	1.89E-04
				STRONTIUM90	1.89E-04
		85 GAL DRUM	LAB PACKS	AMERICIUM	5.95E-07
				CESIUM137	3.59E-04
				STRONTIUM90	3.59E-04
		85 GAL DRUM	ORG ABSORB	AMERICIUM	1.57E-08
				CESIUM137	9.44E-06
				STRONTIUM90	9.44E-06
		85 GAL DRUM	SOIL SOIL/GRAV	AMERICIUM	1.57E-08
				CESIUM137	9.44E-06
				STRONTIUM90	9.44E-06
		85 GAL DRUM	D INORG NM	AMERICIUM	7.35E-07
				CESIUM137	1.42E-04
				STRONTIUM90	1.42E-04
			D METAL	AMERICIUM	1.57E-08
				CESIUM137	9.44E-06
				STRONTIUM90	9.44E-06
			D ORG	AMERICIUM	3.45E-07
				CESIUM137	2.08E-04

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>Radionuclide</u>	<u>Concentration</u>
				STRONTIUM90	2.08E-04
WHC_ANALYT_LAB	CH_LLMW_1	85 GAL DRUM	D PLAS/RUB	AMERICIUM	3.45E-07
				CESIUM137	2.08E-04
				STRONTIUM90	2.08E-04
			IN SALT WASTE	AMERICIUM	3.13E-07
				CESIUM137	1.89E-04
				STRONTIUM90	1.89E-04
			LAB PACKS	AMERICIUM	5.59E-07
				CESIUM137	3.59E-04
				STRONTIUM90	3.59E-04
			ORG ABSORB	AMERICIUM	1.57E-08
				CESIUM137	9.44E-06
				STRONTIUM90	9.44E-06
			SOIL SOIL/GRAV	AMERICIUM	3.13E-07
				CESIUM137	9.44E-06
				STRONTIUM90	9.44E-06
	CH_LIW_I	4X4X8 BOX SKID	D INORG NM	AMERICIUM	9.11E-08
				CESIUM137	3.60E-05
				STRONTIUM90	3.60E-05
			D METAL	AMERICIUM	5.86E-07
				CESIUM137	2.31E-04
				STRONTIUM90	2.31E-04
			D ORG	AMERICIUM	5.73E-07
				CESIUM137	2.26E-04
				STRONTIUM90	2.26E-04
			D PLAS/RUB	AMERICIUM	5.73E-07
				CESIUM137	2.26E-04
				STRONTIUM90	2.26E-04
			SOIL SOIL/GRAV	AMERICIUM	1.30E-08
				CESIUM137	5.14E-06
				STRONTIUM90	5.14E-06

WHC-SD-WM-PCID-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PWF</u>	<u>Radionuclide</u>	<u>Concentration</u>
		55 GAL DRUM	D INORG NM	AMERICIUM	4.91E-07
				CESIUM137	2.21E-04
				STRONTIUM90	2.21E-04
WHC_ANALYT_LAB	CH_LLW_I	55 GAL DRUM	D METAL	AMERICIUM	1.54E-07
				CESIUM137	6.91E-05
				STRONTIUM90	6.91E-05
			D ORG	AMERICIUM	1.85E-06
				CESIUM137	8.29E-04
				STRONTIUM90	8.29E-04
			D PLAS/RUB	AMERICIUM	1.85E-06
				CESIUM137	8.29E-04
				STRONTIUM90	8.29E-04
			ORG ABSORB	AMERICIUM	3.07E-08
				CESIUM137	1.35E-05
				STRONTIUM90	1.38E-05
			SOIL SOIL/GRAV	AMERICIUM	5.53E-07
				CESIUM137	2.49E-04
				STRONTIUM90	2.49E-04
	CH_TRUM	55 GAL DRUM	D INORG NM	AMERICIUM	3.21E-02
				CESIUM137	2.70E-03
				STRONTIUM90	2.70E-03
			D ORG	AMERICIUM	1.29E-01
				CESIUM137	1.08E-02
				STRONTIUM90	1.08E-02
			D PLAS/RUB	AMERICIUM	1.29E-01
				CESIUM137	1.08E-02
				STRONTIUM90	1.08E-02
			ORG ABSORB	AMERICIUM	3.21E-02
				CESIUM137	2.70E-03
				STRONTIUM90	2.70E-03
			SH LEAD	AMERICIUM	3.21E-02
				CESIUM137	2.70E-03

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>PVF</u>	<u>Radionuclide</u>	<u>Concentration</u>
				STRONTIUM90	2.70E-03
WHC_WSCF	CH_LLMW_I	55 GAL DRUM	LAB PACKS	AMERICIUM	6.45E+00
				CESIUM137	1.73E+00
				PLUTONIUM	3.76E+00
				RADIUM226	3.67E+00
				STRONTIUM90	9.00E+00
				TECHNETIUM99	3.17E+00
				TRITIUM	3.60E+00
				URANIUM238	3.67E+00
	CH_LLW_I	55 GAL DRUM	D INORG	AMERICIUM	6.45E+00
				CESIUM137	1.73E+00
				PLUTONIUM	3.76E+00
				RADIUM226	3.67E+00
				STRONTIUM90	9.00E+00
				TECHNETIUM99	3.17E+00
				TRITIUM	3.60E+00
				URANIUM238	3.67E+00
			D INORG NM	AMERICIUM	6.45E+00
				CESIUM137	1.73E+00
				PLUTONIUM	3.76E+00
				RADIUM226	3.67E+00
				STRONTIUM90	9.00E+00
				TECHNETIUM99	3.17E+00
				TRITIUM	3.60E+00
				URANIUM238	3.67E+00
			D METAL	AMERICIUM	6.45E+00
				CESIUM137	1.73E+00
				PLUTONIUM	3.76E+00
				RADIUM226	3.67E+00
				STRONTIUM90	9.00E+00
				TECHNETIUM99	3.17E+00
				TRITIUM	3.60E+00
				URANIUM238	3.67E+00
			D PLAS/RUB	AMERICIUM	6.45E+00
				CESIUM137	1.73E+00
				PLUTONIUM	3.76E+00
				RADIUM226	3.67E+00

WHC-SD-WM-PICD-005, REV 1

1995 Solid Waste Forecast Hazardous Constituent Percentages for Analytical Services

<u>Waste Generator</u>	<u>Waste Class</u>	<u>Container</u>	<u>FWF</u>	<u>Radionuclide</u>	<u>Concentration</u>
				STRONTIUM90	9.00E+00
				TECHNETIUM99	3.17E+00
				TRITIUM	3.60E+00
				URANIUM238	3.67E+00

APPENDIX C

SOLID WASTE PROGRAM ANALYTICAL SAMPLE PROJECTIONS

As defined in Letter 9556228, A. G. King, WHC to R. P. Carter, RL, "Hanford Analytical Sample Projections, dated November 22, 1995

4.3 SOLID WASTE

Sample projections for the Solid Waste Program have been provided for the Central Waste Complex, the Mixed Waste Stabilization Program, WRAP Module 1, and T-Plant.

Table 13 provides the yearly sample project by radiation level. Table 14 provides the yearly sample analysis summary. Table 15 provides the yearly sample projections by protocol. Table 16 provides the yearly sample projections by matrix.

TREND

Projections show no change during the next two years in the number of samples. Major uncertainties in analytical needs exist after FY 1997.

Table 13
Yearly Sample Projections by Radiation Level for the Solid Waste Program

Radiation Level	FY 96	FY 97	FY 98	FY 99	FY 00
Non Radioactive	58	208	56	103	137
< 1 mR/hr β - γ ; < 10nCi/g α	1,587	1,186	?	?	?
1 mR/hr β - γ to 10 mR/hr β - γ ; and < 10nCi/g α	167	124	2	5	7
< 10 mR/hr β - γ ; and < 200nCi/g α	0	11	21	21	21
10 mR/hr β - γ to < 100 mR/hr β - γ ; and < 200nCi/g α	0	0	0	0	0
> 100 mR/hr β - γ	0	0	0	0	0
> 200nCi/g α	0	0	11	21	21
TOTAL	1,809	1,529	90	150	186

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Table 14
Yearly Sample Analysis Summary for the Solid Waste Program

Analysis Category	Analysis	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000
VOA/SEMI-VOA	VOA	213	330	82	142	178
	SEMI-VOA	213	330	82	142	178
PEST/PCB	PESTICIDES	213	330	82	142	178
	PCBs	213	330	82	142	178
OTHER ORGANIC	WTPH-G	213	330	82	142	178
	OIL/GREASE	213	330	82	142	178
INORGANIC	CHLORIDE	245	354	82	142	178
	NITRATE	245	354	82	142	178
	SULFACT	245	354	82	142	178
	IRON	245	354	82	142	178
	MANGANESE	245	354	82	142	178
METALS	ARSENIC	245	354	82	142	178
	CADMIUM	245	354	82	142	178
	CHROMIUM	245	354	82	142	178
	LEAD	245	354	82	142	178
	MERCURY	245	354	82	142	178
RAD CHEM	GROSS ALPHA	1809	1529	90	150	186
	GROSS BETA	1809	1529	90	150	186
	TOTAL RADIUM	1809	1529	90	150	186
	RADIUM - 226	1809	1529	90	150	186
WET CHEM	CYANIDE	213	330	82	142	178

Table 15

Yearly Sample Projections by Protocol for the Solid Waste Program

PROTOCOL	FY 96	FY 97	FY 98	FY 99	FY 00
Process Control	1,628	1,223	8	8	8
RCRA	181	306	82	142	178

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Table 16

Yearly Sample Projections by Matrix for the Solid Waste Program

MATRIX	FY 96	FY 97	FY 98	FY 99	FY 00
Water	32	24	0	0	0
Air	1,564	1,175	8	8	8
Complex Solid Waste	213	330	82	142	178