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

99-PDD-091

NOV 0 9 1999

Mr. Mike Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
P.O. Box 47600
Olympia, Washington 98504

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EDMC

Dear Mr. Wilson:

TRANSMITTAL OF A WASTE INFORMATION REQUIREMENTS DOCUMENT (WIRD) QUARTERLY REPORT FOR THE PERIOD JULY 1, 1999, TO SEPTEMBER 30, 1999, FULFILLING THE AGREEMENT MADE BETWEEN THE U.S. DEPARTMENT OF ENERGY, OFFICE OF RIVER PROTECTION AND THE STATE OF WASHINGTON DEPARTMENT OF ECOLOGY (ECOLOGY) SUBMITTAL OF QUARTERLY REPORTS IDENTIFYING PROGRESS UNDER THE DELIVERABLES IDENTIFIED IN THE FISCAL YEAR (FY) 1999 WIRD

The attached WIRD Quarterly Report covers the period from July 1, 1999, to September 30, 1999, and includes discussion of major accomplishments, significant issues, and the Characterization Project performance that occurred during this reporting period. The Characterization Project activities planned for the next 90-day period are also included in this report.

During this quarter, a final FY 2000 Technical Sampling Basis-Waste Information Requirements Documents (TSB-WIRD) was issued, and one paper copy and seven electronicTank Characterization Reports were issued. Hanford Federal Facility Agreement and Consent Order Milestones M-44-14C, M-44-15C, and M-44-16C deliverables were completed and submitted.

Five core samples were obtained during this quarter and a total of thirteen core samples were obtained during FY 1999. The core sampling planned for the FY 1999 Multi-Year Work Plan (MYWP) was met. However, due to contamination problems encountered while sampling the Tank 241-AZ-102 there was a delay in the sampling of Tank 241-AZ-101, a tank that was scheduled to be sampled in support of the FY 1999 WIRD Waste Feed Delivery (Phase 1) requirement. Due to this delay, the sampling of Tank 241-AZ-101 has been rescheduled for the first quarter of FY 2000.

Grab samples were taken from nine planned tanks during this quarter. This completed the FY 1999 grab sampling MYWP schedule and WIRD commitments.

The point of contact for this TSB-WIRD is Wen-Shou Liou, Program Development Division, on 373-9879.

Sincerely,

George H. Sanders, Program Manager
Office of Regulatory Liaison

Attachment

cc w/o attach:
S. L. Dahl, Ecology
D. S. Dougherty, Ecology (w/attach)
D. R. Sherwood, EPA
TPA Administration Record, FDH
C. Defigh-Price, LMHC
J. G. Field, LMHC
J .W. Hunt, LMHC
T. R. Pauly, LMHC
M. A. Payne, LMHC
D. J. Washenfelder, LMHC
G. H. Sanders, ORL

ATTACHMENT

WASTE INFORMATION REQUIREMENTS DOCUMENT QUARTERLY REPORT FOR THE PERIOD JULY 1, 1999 TO SEPTEMBER 30, 1999

WIRD Quarterly Report, July 1, 1999 through September 30, 1999

EXECUTIVE SUMMARY

Highlights for this reporting period included completion of:

- Retrieval of 2 cores from Tank AW-103 and 3 cores from Tank AZ-102.
- Retrieval of 2 cores from Tank Z-361.
- Continued support to waste sluicing operations from Tank C-106 to Tank AY-102 with grab sampling of Tank AY-102 in August.
- Issued 1 hard copy Tank Characterization Report (TCR) and 7 Auto (Electronic) TCRs.
- Obtained liquid grab samples from Tanks SY-102 (compatibility in preparation of evaporator operations), AP-107 (evaporator), AW-104, AP-103, AP-108 (compatibility), U-105, S-109, and S-111 (interim stabilization).
- Standard Hydrogen Monitoring System (SHMS) vapor grab samples were taken from tanks AN-103, AZ-101, 102, and SY-103.
- Issued the Fiscal Year (FY) 2000 Tank Characterization Technical Sampling Basis and Waste Information Requirements Document (TSB-WIRD) August 11, 1999, and transmitted it to the U.S. Department of Energy, Office of River Protection (ORP) on August 17, 1999. The document was forward to the Washington State Department of Ecology (Ecology) on August 25, 1999 (Tri-Party Agreement Milestone M-44-14C).
- Issued the FY 1999 Waste Information Requirements Document (WIRD) Deliverables Report September 13, 1999. The document was forwarded to Ecology September 27, 1999 after DOE-ORP review (Tri-Party Agreement M-44-15C).
- Issued the annual report of electronic data entry accessible to DOE, Ecology, and the U.S. Environmental Protection Agency (EPA), September 15, 1999. The report was forwarded to Ecology on September 27, 1999 (Tri-Party Agreement Milestone M-44-16C).
- The Air Emission and Dangerous Waste Data Quality Objectives (DQOs) were revised and issued in July 1999.
- Partnering Team meetings were held July 13, 1999, and on August 10, 1999, to discuss resolution of comments on the Draft FY 2000 TSB-WIRD.

Significant issues that occurred during this reporting period are discussed and a look-ahead at the Characterization Project activities planned for the next 90 day period is provided. Reporting on a tank-by-tank basis of sampling performed during the subject period is also provided.

Five cores were obtained (2 from Tank AW-103 and 3 from Tank AZ-102) during the fourth quarter which completed the core field sampling schedule commitments of the FY 1999 Multi-Year Work Plan (MYWP). One tank, AZ-101, supporting the FY 1999 WIRD Waste Feed Delivery (Phase 1) requirement is being sampled in first quarter FY 2000. Nine tanks (AP-103, AP-107, AP-108, AW-104, AY-102, S-109, S-111, SY-102, and U-105) were grab-sampled, completing the FY1999 grab sampling MYWP schedule and WIRD commitments. The details regarding the schedule are discussed in Section 2.0 of this report.

An up-date of the FY 1999 Waste Information Requirements Document (WIRD) Deliverables Report is provided in Section 6.0 which reflects activities completed during the month of September 1999 in support of the FY 1999 WIRD.

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1.0 CHARACTERIZATION ACCOMPLISHMENTS AND ISSUES

1.1 Accomplishments

A summary of sampling events and reports completed by the Characterization Project during the fourth quarter of FY1999 (July 1, 1999 through September 30, 1999) is shown in Tables 1 and 2. These tables are patterned after Tables 5-1a and 5-2 in the FY 1999 WIRD. These tables compare progress against planning levels in the FY 1999 WIRD for the entire FY. Table 3 lists all TCRs issued during FY 1999 and the associated issues addressed by each. Notable accomplishments of the Characterization Project during the fourth quarter of FY 1999 include:

- Retrieved 2 cores from Tank AW-103 and 3 cores from Tank AZ-102.
- Although not a FY 1999 WIRD deliverable, 2 cores were retrieved from Tank Z-361.
- Continued support to waste sluicing operations from Tank C-106 to Tank AY-102 with grab sampling of Tank AY-102 in August 1999.
- Issued 1 hard copy TCR and 7 Auto (Electronic) TCRs. Details are in Section 2.5 of this report.
- Obtained liquid grab samples from Tanks SY-102 (compatibility in preparation of evaporator operations), AP-107 (evaporator), AW-104, AP-103, AP-108 (compatibility), U-105, S-109, and S-111 (interim stabilization).
- Standard Hydrogen Monitoring System (SHMS) vapor grab samples were taken from Tanks AN-103, AZ-101, 102, and SY-103.
- Issued the FY 2000 TSB-WIRD August 11, 1999, and transmitted it to ORP on August 17, 1999. The document was forward to the Ecology on August 25, 1999 (Tri-Party Agreement Milestone M-44-14C).
- Issued the FY 1999 Waste Information Requirements Document (WIRD) Deliverables Report September 13, 1999. The document was forwarded to Ecology September 27, 1999, after ORP review (Tri-Party Agreement M-44-15C).
- Issued the annual report of electronic data entry accessible to DOE, Ecology, and EPA, September 15, 1999. The report was forwarded to Ecology on September 27, 1999 (Tri-Party Agreement Milestone M-44-16C).
- The Air Emission and Dangerous Waste DQOs were revised and issued in July 1999.
- Partnering Team meetings were held July 13, 1999 and on August 10, 1999 to discuss resolution of comments on the Draft FY 2000 TSB-WIRD.

1.2 Issues

Notable issues encountered by the Characterization Project during the fourth quarter of FY 1999 include:

- August 1999 core sampling of Tank AZ-102 encountered significant contamination control problems which temporarily suspended sampling of that tank as well as start of sampling of Tank AZ-101, a similar tank. Successful implementation of controls was, however, achieved leading to completion of Tank AZ-102 sampling in September 1999.

- SHMS sampling was not performed on Tanks AN-107 and AX-103 as planned due to operational and maintenance priorities. Tank AN-107 became inoperable during the fourth quarter and Tank AX-103 had plugged vent ports and was not available for sampling at all during FY 1999. Tank AN-107 was sampled 3 times during FY 1999. Currently, Tank AX-103 is planned for grab vapor sampling during FY 2000.

2.0 CHARACTERIZATION PROJECT PERFORMANCE

2.1 Core Sampling

The third quarter report "Look Ahead" section anticipated Tank AW-103 (1 core), Tank AZ-101 (2 cores), and Tank AZ-102 (2 cores) to be sampled in support of FY 1999 WIRD deliverables. What occurred was the retrieval of 2 cores from Tank AW-103 and 3 cores from Tank AZ-102. The significant contamination control problems encountered which temporarily suspended sampling of Tank AZ-102 caused the delay in sampling of Tank AZ-101. However, core sampling MYWP schedule commitments for FY 1999 were met. The WIRD deliverable commitment for three tanks to be sampled for the Waste Feed Delivery Phase 1 issue will be completed by the sampling of Tank AZ-101 in the first quarter of FY 2000.

2.2 Grab Sampling

During the fourth quarter of FY 1999, 9 tanks (AP-103, AP-107, AP-108, AW-104, AY-102, S-109, S-111, SY-102, and U-105) were planned for grab sampling, and all 9 were completed. Tank AY-102 was grab sampled in support of Tank C-106 sluicing operations and process testing; Tank AP-107 was sampled for evaporator operations; Tank SY-102 was sampled for cross-site transfer and evaporator support; Tanks AP-103, AP-108, and AW-104 were sampled for compatibility; and Tanks S-109, S-111, and U-105 were sampled in support of Interim Stabilization. This completed the grab sampling schedule commitments as well as the WIRD commitments for FY 1999.

2.3 Vapor Sampling

During the fourth quarter of FY 1999, 4 tanks had Standard Hydrogen Monitoring System (SHMS) grab samples performed. Those tanks sampled are: AN-103, AZ-101, 102, and SY-103. AN-107 and AX-103 were not sampled as planned due to operational and maintenance priorities. (See Section 1.2.)

2.4 Auger Sampling

No auger sampling was planned or scheduled for FY 1999.

2.5 Tank Characterization Reports

All TCRs and Auto (Electronic) TCRs planned for FY1999 are completed, meeting the FY1999 WIRD commitment. See Table 3.

One paper copy TCR was released during the fourth quarter: HNF-SD-WM-ER-545, Revision 2, *Tank Characterization Report for Double-Shell Tank 241-AN-102* in July 1999.

Seven Auto (Electronic) TCRs and the associated Tank Interpretive Reports (TIRs) were released: Tanks AN-103, AN-104, AN-105, BY-105, S-110, SX-102, and U-107 and are accessible at http://pctwins.pnl.gov:9397/autotcr/TankInterpretiveReport.html and http://pctwins.pnl.gov:9397/autotcr/autotcrstartup.html.

Issuing of these documents meets the FY 1999 WIRD commitment.

3.0 STATUS TABLES

Table 1, Summary of Sampling/Reporting by Issue, is patterned after Table 5-1a in the FY 1999 WIRD. Table 1 rows of particular interest for FY 1999 Quarterly Reports are:

Tanks FY 1999. Numbers are the number of tanks originally identified in the FY 1999 WIRD as the minimum needing to be sampled during FY 1999 (condensed or vapor phase) in support of each of the RPP program issues. These numbers are sometimes referred to as the FY 1999 deliverables commitment to Ecology. They are considered the baseline numbers for FY 1999 and are not subject to change.

Total Tanks Scheduled FY 1999. Numbers are the number of tanks supporting each issue currently scheduled to be sampled in FY 1999. They are based on the most current Characterization Project sampling schedule, schedule Revision 5.6 issued February 25, 1999.

Total Tanks Sampled FY 1999. Numbers are the number of tanks supporting each issue that have been sampled in FY 1999 through June 30, 1999.

Similar rows describe TCRs planned, scheduled, and issued through June 30, 1999.

There were significant changes made during the second quarter, FY1999 in the fourth row, Total Tanks Scheduled FY 1999. The number of tanks scheduled for each issue changed in several cases from that seen in the FY 1999 WIRD and the Quarterly Report of October 1, 1998 through December 31, 1998. Changes reflect the Baseline Sampling Schedule, Change 99-01, Sampling Schedule Revision 5.6, issued February 25, 1999. The changes were discussed among the Partnering Team in a meeting held February 25, 1999 and are discussed in detail in the second quarterly report, Section 4.0. See DOE-ORP letter 99-PDD-030 dated April 29, 1999. These numbers are the revised deliverables commitment to Ecology based on agreed upon changes in River Protection Project program needs.

Table 2, Tank List with Associated Sampling Priority Values, is patterned after Table 5-2 in the FY 1999 WIRD and reflects relative tank priorities plus specific tanks sampled and type of sample taken during FY 1999.

Table 3 lists Tank Characterization Reports issued during FY 1999 and the associated issues addressed by each.

Table 1. Summary of Sampling/Reporting by Issue

	Flammable Gas		Organic Fuel	Waste Feed Delivery [Phase I]	Privatization - DOE Mgmt of Contract [Phase I]	W-320 Sluicing of tank 241-C-106 / High heat	Dangerous Waste and Air Emissions		SST Waste Retrieval and Tank Closure	Privatization - Provide Samples to Contractor [Phase I][2]	Retrieval, Pretreatment, and Immobilization [Phase II][1]	Historical Model Evaluation	Compatibility (Interim Stab.)[2]	Evaporator[2]	Caustic Mitigation[2]	Safety Screening [including criticality]
Sampling Needed:	Cond.[1]	Vapor[2,3]	Cond.	Cond.	Cond.	Cond.	Cond.	Vapor[2]	Cond.	Cond.	Cond.	Cond.	Cond.	Cond.	Cond.	Cond.
Total Tank Samplings Needed for Issue[4]	0	45	0	10	4	1	19	11	2	7	18	Opport.	5	Oper.	Oper.	Opport.
Milestone Due Date (FY)	1998	N/A	1998	2003	2002	1998	N/A[5]	N/A[5]	2002	2003	2004	N/A	1999	N/A	N/A	N/A
Tanks FY1999	0	45	0	3	2	1	5	3	1	2	3	Opport.	5	Oper.	Oper.	Opport.
Total Tanks Scheduled FY1999[7]	1	32	0	4	4	1	0	0	0	2	2	3	9	4	0	3
Total Tanks Sampled FY1999	1*	31**	0	2*	2*	1#	0	0	0	1##	2+++	2yyy	12###	3++	0	3zzz
Tanks FY2000	-	45	-	3	1	-	5	3	1	2	4	Opport.	-	Oper.	Oper.	Opport.
Tanks FY2001	-	45	-	2	1	-	5	3	-	2	4	Opport.	-	Oper.	Oper.	Opport.
Tanks FY2002	-	45	-	2	-	-	4	2	-	1	4	Opport.	-	Oper.	Oper.	Opport.
Tanks FY2003	-	45	-	-	-	-	-	-	-	-	3	Opport.	-	Oper.	Oper.	Opport.
TCRs Planned FY1999 From FY1999 Sampling[6]	0	-	0	0	0	0	0	-	0	-	-	1	-	-	-	1
TCRs Planned FY1999 From FY1998 Sampling	3	-	2	0	0	0	0	-	1	-	-	1	-	-	-	8
TCRs Planned FY1999 From Archive	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Total TCRs Planned FY1999	3	-	2	3	0	0	0	-	1	-	-	2	-	-	-	9
Total TCRs Scheduled[7]	3	-	2	3	0	0	0	-	1	-	-	2	-	-	-	9
Total TCRs Issued+	11	0	17	4	4	0	0	0	1	3	5	7	8	0	0	17

Notes: Archive = Have data or will get data from archive sample, Cond. = Condensed, N/A = Not Applicable, Oper. = Operations Driver, Opport. = Opportunistic

1 Condensed phase pertains to Retained Gas Sampling.
2 TCRs are not required for this issue.
3 These tanks are sampled using SHMS cabinets.
4 Needs for each program may change over time.
5 For projection purposes, the same milestone due date as Waste Feed Delivery is assumed.

[6] TCRs for FY1999 from FY1999 sampling are calculated by assuming 9 months for TCR production., after tank is sampled.

[7] These numbers reflect the working sampling schedule dated 2/25/99.

NOTE: Items in **bold** apply to fourth quarter FY1999 completions. Others were completed in first, second, and third quarters FY1999.

* **AW-103 and AZ-102 core sampling addresses these issues. SY-101, previously counted in earlier reports as supporting Waste Feed Delivery (Phase 1) and Privatization (Phase 1) was removed from such support due to a change in program needs. (See Section 5.4.)**

** 31 tanks have SHMS grabs done (AN-101, **103**, 104, 107; AX-101; AY-102; **AZ-101, 102**; BY-103, 106, 109; S-101, 102, 106, 107, 111, 112; SY-102, **103**; SX-101, **102**, 104, 105, 106, 109; T-110; U-102, 103, 107, 108, 109)

\# W-320: AY-102 was grab sampled 11/18/98 and 12/20/98 in support of C-106 sluicing operations in accordance with the project control plan and TSAP. Vapor samples were also obtained 12/16/98 from C-106 and AY-102 during the C-106 process test. AY-102 was grab sampled 3 times (April, May, June) in support of W-320 sluicing operations. **AY-102 was grab sampled in August in support of sluicing operations.**

\## AZ-102 core sampling addresses this issue. Two other tank archive samples (AN-102 and C-104) were shipped in October 1998 and March 1999 in support of this issue. No further sampling was required.

\### Compatibility/Interim Stabilization: S-102, 106, **109, 111**, U-102, 103 and **U-105** were grab sampled; S-102 and S-106 grab samples were done for ammonia analysis and were used to augment compatibility analyses performed on core samples previously obtained. The compatibility DQO was also applied during the SY-101 core sampling for transfer purposes, not Interim Stabilization. AP-107 was grab sampled for compatibility to support eventual evaporator operations. **AW-104, AP-103, and AP-108 were sampled for compatibility.**

\+ TCRs were issued for AX-102, AX-104, TX-104, SX-103, SX-115,. S-102, SX-105, S-111, and U-109. **TCRs/TIRs were issued for AN-102, S-110, SX-102, AN-103, 104, 105, BY-105, and U-107.** (Total, 17 TCRs/TIRs)

++ **AP-107,** AW-102, and **SY-102** were sampled to support Evaporator operations.

+++ TX-113 and TX-118 support this issue. SY-101, initially identified as supporting this issue, was redesignated to the Waste Feed Delivery (Phase 1) issue.

yyy TX-113 and TX-118 support this issue.

zzz TX-113, TX-118, and SY-101 support this issue.

Table 2. Tank List With Associated Sampling Priority Values. (6 Sheets)

Tanks	Solids Value	Supernatant Value	Vapor Value	Operations Value[1]	FY 99 First Quarter				FY 99 Second Quarter				FY 99 Third Quarter				FY 99 Fourth Quarter			
					Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops
SY-101	100	0	74	0	X*				X											
AZ-102	96	19	100	0	X*		X				X				X		X		X	
SY-103	67	0	74	0			X								X#				X	
C-104	57	0	0	0																
S-102	45	0	74	44				X			X									
U-109	45	0	74	0			X													
AZ-101	45	100	100	0			X				X				X				X	
S-111	40	0	74	44			X											X		
AN-107	16	64	100	23			X				X				X					
AW-101	16	64	100	44																
AN-105	16	31	100	77																
AN-103	16	19	100	44			X				X				X				X	
AN-104	16	19	100	44			X													
AN-102	16	12	0	23																
AX-104	13	0	0	0																
C-106	13	0	74	0			X				X									
SX-101	7	0	74	44											X					
SX-104	7	0	74	44											X					
TX-118	6	0	0	0									X							
SX-103	6	0	74	44																
TX-113	6	0	0	0					X				X+							
TX-116	6	0	0	0																
TX-105	5	0	0	0																
TX-110	5	0	0	0																
TX-115	5	0	0	0																
SX-114	5	0	0	0																
S-110	5	0	0	0																
SX-107	5	0	0	0																
SX-110	5	0	0	0																
SX-111	5	0	0	0																
SX-112	5	0	0	0																
TY-105	4	0	0	0																
BY-105	4	0	74	44																

Table 2. Tank List With Associated Sampling Priority Values. (6 Sheets)

Tanks	Solids Value	Supernatant Value	Vapor Value	Operations Value[1]	FY 99 First Quarter				FY 99 Second Quarter				FY 99 Third Quarter				FY 99 Fourth Quarter			
					Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops
SX-109	4	0	74	0											X					
TX-106	4	0	0	0																
C-102	1	0	0	0																
TX-111	1	0	0	0																
AY-101	0	0	0	23																
AY-102	0	43	100	44			X**	X				X			X**	X**				X
AP-102	0	19	26	0																
AP-104	0	19	26	100																
SY-102	0	19	100	44			X													X
244-A	0	0	74	0																
244-BX	0	0	74	0																
244-S	0	0	74	0																
244-TX	0	0	74	0																
244-U	0	0	0	0				X												
A-101	0	0	74	44																
A-102	0	0	0	0																
A-103	0	0	0	0																
A-104	0	0	0	0																
A-105	0	0	0	0																
A-106	0	0	0	0																
AN-101	0	0	74	44			X													
AN-106	0	0	0	0																
AP-101	0	0	0	44																
AP-103	0	0	0	44														X		
AP-105	0	0	0	44																
AP-106	0	0	0	44																
AP-107	0	0	0	100												X##				X
AP-108	0	0	0	44														X		
AW-102	0	0	0	77								X								
AW-103	0	0	0	0													X			
AW-104	0	0	0	77														X		
AW-105	0	0	0	44																
AW-106	0	0	0	44																

Table 2. Tank List With Associated Sampling Priority Values. (6 Sheets)

Tanks	Solids Value	Supernatant Value	Vapor Value	Operations Value[1]	FY 99 First Quarter				FY 99 Second Quarter				FY 99 Third Quarter				FY 99 Fourth Quarter			
					Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops
AX-101	0	0	74	44							X									
AX-102	0	0	0	0																
AX-103	0	0	74	0																
B-101	0	0	0	0																
B-102	0	0	0	0																
B-103	0	0	0	0																
B-104	0	0	0	0																
B-105	0	0	0	0																
B-106	0	0	0	0																
B-107	0	0	0	0																
B-108	0	0	0	0																
B-109	0	0	0	0																
B-110	0	0	0	0																
B-111	0	0	0	0																
B-112	0	0	0	0																
B-201	0	0	0	0																
B-202	0	0	0	0																
B-203	0	0	0	0																
B-204	0	0	0	0																
BX-101	0	0	0	0																
BX-102	0	0	0	0																
BX-103	0	0	0	0																
BX-104	0	0	0	0																
BX-105	0	0	0	0																
BX-106	0	0	0	0																
BX-107	0	0	0	0																
BX-108	0	0	0	0																
BX-109	0	0	0	0																
BX-110	0	0	0	0																
BX-111	0	0	0	0																
BX-112	0	0	0	0																
BY-101	0	0	0	0																
BY-102	0	0	0	0																

Table 2. Tank List With Associated Sampling Priority Values. (6 Sheets)

Tanks	Solids Value	Supernatant Value	Vapor Value	Operations Value[1]	FY 99 First Quarter				FY 99 Second Quarter				FY 99 Third Quarter				FY 99 Fourth Quarter			
					Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops
BY-103	0	0	74	0							X									
BY-104	0	0	0	0																
BY-106	0	0	74	44							X									
BY-107	0	0	0	0																
BY-108	0	0	0	0																
BY-109	0	0	74	0			X													
BY-110	0	0	0	0																
BY-111	0	0	0	0																
BY-112	0	0	0	0																
C-101	0	0	0	0																
C-103	0	0	0	44																
C-105	0	0	0	0																
C-107	0	0	0	0																
C-108	0	0	0	0																
C-109	0	0	0	0																
C-110	0	0	0	0																
C-111	0	0	0	0																
C-112	0	0	0	0																
C-201	0	0	0	0																
C-202	0	0	0	0																
C-203	0	0	0	0																
C-204	0	0	0	0																
S-101	0	0	74	44			X													
S-103	0	0	0	44																
S-104	0	0	0	0																
S-105	0	0	0	0																
S-106	0	0	74	44			X	X												
S-107	0	0	74	44			X													
S-108	0	0	0	0																
S-109	0	0	74	44														X		
S-112	0	0	74	44			X													
SX-102	0	0	74	44											X					
SX-105	0	0	74	44											X					

Table 2. Tank List With Associated Sampling Priority Values. (6 Sheets)

Tanks	Solids Value	Supernatant Value	Vapor Value	Operations Value[1]	FY 99 First Quarter				FY 99 Second Quarter				FY 99 Third Quarter				FY 99 Fourth Quarter			
					Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops
SX-106	0	0	74	44											X					
SX-108	0	0	0	0																
SX-113	0	0	0	0																
SX-115	0	0	0	0																
T-101	0	0	0	0																
T-102	0	0	0	0																
T-103	0	0	0	0																
T-104	0	0	0	0																
T-105	0	0	0	0																
T-106	0	0	0	0																
T-107	0	0	0	0																
T-108	0	0	0	0																
T-109	0	0	0	0																
T-110	0	0	74	44			X													
T-111	0	0	0	0																
T-112	0	0	0	0																
T-201	0	0	0	0																
T-202	0	0	0	0																
T-203	0	0	0	0																
T-204	0	0	0	0																
TX-101	0	0	0	0																
TX-102	0	0	0	0																
TX-103	0	0	0	0																
TX-104	0	0	0	0																
TX-107	0	0	0	0																
TX-108	0	0	0	0																
TX-109	0	0	0	0																
TX-112	0	0	0	0																
TX-114	0	0	0	0																
TX-117	0	0	0	0																
TY-101	0	0	0	0																
TY-102	0	0	0	0																
TY-103	0	0	0	0																

Table 2. Tank List With Associated Sampling Priority Values. (6 Sheets)

Tanks	Solids Value	Supernatant Value	Vapor Value	Operations Value[1]	FY 99 First Quarter				FY 99 Second Quarter				FY 99 Third Quarter				FY 99 Fourth Quarter			
					Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops	Sol	Sup	Vap	Ops
TY-104	0	0	0	0																
TY-106	0	0	0	0																
U-101	0	0	0	0																
U-102	0	0	74	44			X							X						
U-103	0	0	74	44			X			X										
U-104	0	0	0	0																
U-105	0	0	74	0		X												X		
U-106	0	0	0	0																
U-107	0	0	74	44			X													
U-108	0	0	74	44			X													
U-110	0	0	0	0																
U-111	0	0	0	44																
U-112	0	0	0	0																
U-201	0	0	0	0																
U-202	0	0	0	0																
U-203	0	0	0	0																
U-204	0	0	0	0																

Note:

[1] Operations activities usually require grab samples for supernatant, however if solid sampling retrieves supernatant, it may be used in place of a grab sample.

* 1 core done and 2 more planned on SY-101 and AZ-102. SY-101 completed.

** AY-102 was vapor sampled during C-106 process test on 12/16/98 and a SHMS grab was also done first quarter. AY-102 grab sampled 3 times and SHMS sampled 2 times.

\# Sampled 2 times.

\#\# AP-107 was sampled for compatibility to support eventual evaporator operations.

\+ TX-113 was completed.

Table 3. TCRs Issued from October 1, 1998 through September 30, 1999

TCRs	Paper/AutoTCR	Issues Addressed
AN-102	Paper	Safety Screening, Organic Solvents, Compatibility, Manage Private Contract (LAW), Waste Feed Delivery (LAW)
AN-103	AutoTCR	Flammable Gas, Safety Screening, Organic Solvents, Manage Private Contract (LAW), Waste Feed Delivery (LAW), Provide Samples to Contractor
AN-104	AutoTCR	Flammable Gas, Safety Screening, Organic Solvents, Manage Private Contract (LAW), Waste Feed Delivery (LAW), Provide Samples to Contractor
AN-105	AutoTCR	Flammable Gas, Safety Screening, Organic Solvents, Manage Private Contract (LAW), Waste Feed Delivery (LAW), Provide Samples to Contractor
AX-102	Paper	Safety Screening, Organic Complexants, Organic Solvents
AX-104	Paper	HTI, Safety Screening, Organic Complexants, Organic Solvents
BY-105	AutoTCR	Flammable Gas, Historical Model, Pretreatment, Compatibility, Safety Screening, Organic Complexants, Organic Solvents, Vapor Space Phenomenology
S-102	Paper	Flammable Gas, Historical Model, Pretreatment, Compatibility, Safety Screening, Organic Complexants, Organic Solvents, Vapor Space Phenomenology
S-110	AutoTCR	Historical Model, Safety Screening, Organic Complexants, Vapor Space Phenomenology
S-111	AutoTCR	Flammable Gas, Historical Model, Safety Screening, Organic Complexants, Organic Solvents, Compatibility
SX-102	AutoTCR	Flammable Gas, Safety Screening, Organic Complexants, Organic Solvents
SX-103	Paper	Flammable Gas, Historical Model, Pretreatment, Safety Screening, Organic Complexants, Organic Solvents, Compatibility
SX-105	AutoTCR	Flammable Gas, Safety Screening, Organic Complexant, Organic Solvents, Compatibility
SX-115	Paper	Safety Screening, Organic Complexants, Organic Solvents
TX-104	Paper	Safety Screening, Organic Complexants, Organic Solvents
U-107	AutoTCR	Flammable Gas, Historical Model, Pretreatment, Compatibility, Safety Screening, Organic Complexants, Organic Solvents
U-109	AutoTCR	Flammable Gas, Historical Model, Pretreatment, Compatibility, Safety Screening, Organic Complexants, Organic Solvents, Vapor Space Phenomenology

NOTE: Most of the TCRs address issues for which sampling was conducted prior to FY 1999.

4.0 LOOK AHEAD

Characterization Project activities planned for the first quarter of FY 2000 (October 1 through December 31, 1999) include:

- Obtain 2 cores (push) from Tank AZ-101
- Obtain 2-4 cores (push) from Tank AY-102
- Grab sample Tank SY-102 in support of compatibility and eventual cross-site transfer
- Vapor sample Tank AZ-101 in support of Air Lift Circulator tests
- Vapor sample Tank AZ-102 in support of Air Lift Circulator tests
- Issue 2 Auto (Electronic) TCRs

5.0 PROGRAMS AND ISSUE STATUS

This section addresses only the milestones that were completed, impacted, or active during the subject fiscal year quarter.

5.1 Partnering Team Meeting

Partnering Team (DOE-ORP, Ecology, and Contractor) meetings were held July 13, 1999, and August 10, 1999, to discuss resolution of comments on the Draft FY 2000 TSB-WIRD.

5.2 Flammable Gas

Drivers:

- Tri-Party Agreement (TPA) Milestone M-40-00, which requires mitigation/resolution of tank safety issues for high priority Watch List tanks by September 30, 2001.

Flammable gas vapor sampling is used to verify real time SHMS cabinet readings by obtaining vapor samples for confirmatory laboratory mass spectrometry analysis.

Although the Flammable Gas USQ was closed for Single-Shell Tanks (SSTs) and Double-Shell Tanks (DSTs), not Inactive Miscellaneous Underground Storage Tanks in September 1998, the Flammable Gas Safety Issue remains open and is still a driver for additional characterization. During the fourth quarter of FY1999, 4 tanks had SHMS grab samples performed. Those tanks sampled are: Tanks AN-103, AZ-101, 102, and SY-103. Two tanks did not get sampled as planned (Tanks AN-107 and AX-103) due to operational and maintenance priorities.

Tank AN-107 became inoperable during the fourth quarter and Tank AX-103 had plugged vent ports and was not available for sampling at all during FY 1999. Tank AN-107 was sampled 3 times during FY1999. Currently, Tank AX-103 is planned for grab vapor sampling during FY 2000.

5.3 Organic Fuel

Drivers:

- TPA Milestone M-40-00, which requires mitigation/resolution of tank safety issues for high priority Watch List tanks by September 30, 2001;
- Authorization Basis

The Organic Complexant Safety Issue for DSTs, SSTs, Double-Contained Receiver Tanks, and catch tanks has been closed and the Organic Solvent issue is about to be closed. No further sampling is required. However, the issue remained open for tracking purposes during FY 1999 for TCRs/Auto (Electronic) TCRs addressing the Organic Fuel issue.

5.4 Waste Feed Delivery (Phase 1)

Drivers:

- TPA Milestone M-50-00, which requires completion of pretreatment processing of Hanford tank waste by December 31, 2028;
- TPA Milestone M-50-04 which requires starting hot operations of HLW pretreatment facility by June 30, 2008;
- TPA Milestone M-51-00, which requires completion of vitrification of HLW by December 31, 2028;
- TPA Milestone M-51-02, which required completion of melter tests and selection of reference melter by September 30, 1998;
- TPA Milestone M-51-03, which requires initiation of hot operations of the HLW vitrification facility by December 31, 2009;
- TPA Milestone M-60-00, which requires completion of pretreatment and immobilization of LAW by December31, 2024;
- TPA Milestone M-60-10, which requires selection of 2 Contractor Owned/Contractor Operated (COCO) contractors and issuance of authorization to proceed with Part B work for LAW pretreatment and immobilization by July 31, 1998;
- TPA Milestone M-60-11, which requires start of construction of 2 Phase 1 LAW pretreatment and immobilization facilities by August 31, 1998;
- TPA Milestone M-60-12, which requires start of hot operations of 2 COCO Phase 1 LAW pretreatment and immobilization facilities by December 31, 2002;

NOTE: The former M-60 milestones pertain to pretreatment and immobilization ofLAW. These milestones, along with other disposal milestones, are currently being revised or deleted because of the award of contract for privatized immobilization to BNFL Inc. in August 1998.

- TPA Milestone M-61-00, which requires completion of pretreatment and immobilization of LAW by December 31, 2028;
- TPA Milestone M-61-01, which requires start of construction of Phase 1 LAW pretreatment and immobilization facility by a date yet to be determined;
- TPA Milestone M-61-02, which requires initiation of hot operations of Phase 1 LAW pretreatment and immobilization facility by December 31, 2003;
- TPA Milestone M-90-00, which requires completion of acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities as necessary for storage of Hanford site Immobilized HLW and Immobilized LAW (ILAW), and disposal of LAW by a date yet to be determined;
- TPA Milestone M-90-05-T01, which requires submission of ILAW disposal facility performance assessment to Ecology for review by December 31, 2001;
- Privatization Contract with BNFL Inc.

Tanks AW-103 and AZ-102 were core sampled in support of this issue during the fourth quarter.

When Tank SY-101 was sampled, it was intended to support this issue and credit was taken for both the Waste Feed Delivery (WFD) Phase 1 and Privatization Management Phase 1 issues in the first quarter report (Sanders 1999a). On August 24, 1999, an engineering change notice (ECN) to the Tank SY-101 Tank Sampling Analysis Plan (TSAP) was issued that deleted the laboratory analyses supporting the WFD DQO and the Privatization Management DQO. The programs determined the analyses had become a lower priority because of revisions in the waste retrieval schedule and because Tank SY-101 will be mixed with other wastes in a series of transfers scheduled for FY 2000. The sample material retrieved (3 cores) is being used for the other DQOs applied in the TSAP (Flammable Gas, Compatibility, and Safety Screening). Remaining sample material will be archived in the event the retrieval/disposal program(s) should later need it.

Preliminary work for sampling of Tank AZ-101 has been completed. The tank sampling and analysis plan has been published, the sampling work package has been completed, and risers have been prepared for sampling. The sampling truck is in position and core sampling is expected to be complete in the next quarter.

5.5 Privatization - DOE Management of Contract (Phase 1)

Drivers: • Privatization Contract with BNFL Inc.

Tanks AW-103 and AZ-102 were core sampled during the fourth quarter in support of this issue.

As with the WFD issue, Tank SY-101 was intended to support Privatization Management Analysis and sampling credit was taken in the first quarter for the issue. However, in August 1999 Tank SY-101 was programmatically removed from the issue's support. Tank AZ-102, first sampled in October 1998, was also intended to support the Privatization Management issue. All sample material however, was sent directly to BNFL in support of the Privatization Samples issue. A second core from Tank AZ-102 taken in August 1999 was also sent to BNFL in support of the Privatization Samples issue. Two other cores taken from Tank AZ-102 in September 1999 support the Privatization Management issue.

5.6 W-320 Sluicing of Tank C-106/High Heat

Drivers:

- TPA Milestone M-40-00, which requires mitigation/resolution of tank safety issues for high priority Watch List tanks by September 30, 2001;
- TPA Milestone M-45-00 which requires closure of all SST farms by September 30, 2024;
- DNFSB 5.4.3.6.D which requires completion of the topical report to resolve the High Heat safety issue by May 31, 1998 (Overdue)

One liquid grab sample was collected from Tank AY-102 in support of Tank C-106 sluicing during August of the fourth quarter of FY 1999 as well as 1 SHMS grab. Sluicing of Tank C-106 was completed on October 6, 1999; additional sampling of Tank AY-102 is scheduled for FY 2000.

5.7 Air Emissions and Dangerous Waste

Drivers: • Regulatory

DQOs to support regulatory sampling and analysis have been generated. The Waste Integration Team's DQO was issued in December 1998. The Air Emission and Dangerous Waste DQOs were revised in July 1999.

No sampling activities associated with this issue or driver occurred in FY 1999. (See Section 4.7, second quarterly report, ORP letter 99-PDD-030 dated April 29, 1999).

5.8 Single-Shell Tank Waste Retrieval and Tank Closure

Due to indefinite suspension of the Light Duty Utility Arm (LDUA) activity in February 1999, the LDUA was not deployed in FY 1999 and no samples and analyses were, therefore, conducted.

5.9 Privatization - Provide Samples to Private Contractor (Phase 1)

Drivers:

- See Section 5.4 of this report for TPA Milestones M-51, M-60, and M-61.
- Privatization Contract with BNFL Inc. See Section 4.5 of this report.

A core from Tank AZ-102 was retrieved in the first quarter FY 1999 and shipped to BNFL. A second Tank AZ-102 core was retrieved in August 1999 and the solids were shipped to BNFL in September 1999. In addition, samples from Tank AN-102 were shipped to BNFL in October 1998 and from Tank C-104 in March 1999. Since sufficient archive was available for these latter two shipments, no additional sampling was required in FY 1999. Tank AN-104 was initially planned for sampling during FY 1999 for shipment in FY 2000. However, it has been found that sufficient archive material exists, and no further sampling is required. FY 1999 WIRD deliverables for this issue have been satisfied.

5.10 Retrieval, Pretreatment, and Immobilization (Phase 2)

Drivers:

- TPA Milestone M-45-00 which requires closure of all SST farms by 9/30/24;
- TPA Milestone M-45-02C, M-45-02D, M-45-02E, M-45-02F, and M-45-02G which requires submittal of the annual update of SST retrieval sequence to Ecology for approval by 9/30 of 98, 99, 00, 01, and 02;
- See Section 4.4 of this report for M-50, M-51, M-60, and M-61.
- See Section 4.5 of this report.

When the FY 1999 WIRD was generated, sampling and analysis in support of Phase II was to support enhanced sludge washing studies, determination of tank retrieval sequences, and salt cake dissolution studies to be conducted within RPP and privatization programs.

Sampling of Tank SY-101 was initially planned to support this issue. However, subsequent reprogramming caused Tank SY-101 samples to be redesignated to support the Waste Feed Delivery (Phase 1) issue.

FY 1999 sampling in support of this issue was satisfactorily completed in the third quarter.

5.11 Historical Model Evaluation

Drivers:

- DNFSB 5.6.3.1.I which requires update of tank content models or definition of limitation of the models by December 31, 1998 (Complete);

A letter reporting completion of 5.6.3.1.I was submitted to DNFSB on December 28, 1998. The driver associated with this issue is complete. However, for continued enhancement of the database, the Historical Model DQO continued to be applied opportunistically to selected tank samples.

FY 1999 sampling in support of this issue was satisfactorily completed in the third quarter.

5.12 Compatibility

Drivers:

- TPA Milestones M-41-00, M-41-22, M-41-23, M-41-24, M-41-25, M-41-26, M-41-27, M-41-27-T03, M-41-27-T04, M-41-27-T05 which support interim stabilization of tanks through September 30, 2000.
- Authorization Basis

During the fourth quarter of FY 1999, Tanks U-105, S-109 and S-111 were grab sampled in preparation for interim stabilization. Tanks AW-104, AP-103, and AP-108 were sampled for compatibility.

5.13 Evaporator

Drivers:

- Authorization Basis

Tanks AP-107 and SY-102 were sampled during the fourth quarter in support of future Evaporator operations.

5.14 Caustic Mitigation

Drivers:

- Authorization Basis

No characterization sampling activities associated with this operationally contingent issue or driver were generated nor occurred during FY 1999.

5.15 Safety Screening

Drivers:

- DNFSB 5.6.3.1.J which requires core sampling of all tanks by December 31, 2002.
- TPA Milestone M-40-00, which requires mitigation/resolution of tank safety issues for high priority Watch List tanks by September 30, 2001;
- TPA Milestone M-40-12, which requires resolution of the nuclear criticality safety issue by September 30, 1999;
- Authorization Basis

FY 1999 sampling in support of this issue was completed in the third quarter.

5.16 Characterization Information Deliverables

Drivers:

- TPA Milestone M-44-00A which requires completion of delivery of information requirements as identified in the annually submitted WIRD by September 30, 2002;
- TPA Milestone M-44-13C, which requires submittal of the draft WIRD by June 30, 1999 (Complete)
- TPA Milestone M-44-14C, which requires submittal of the final WIRD by August 31, 1999 (Complete)
- TPA Milestone M-44-15C, which requires issuance of characterization deliverables consistent with the current WIRD by September 30, 1999 (Complete)
- TPA Milestone M-44-16C, which requires loading of data into an electronic database accessible to DOE, Ecology, and EPA by September 30, 1999 (Complete)

The FY 2000 TSB-WIRD was issued on August 11, 1999, and transmitted to ORP on August 17, 1999. The document was forwarded to Ecology on August 25, 1999 (Tri-Party Agreement Milestone M-44-14C).

The FY 1999 WIRD Deliverables Report was issued September 13, 1999. The document was forwarded to Ecology on September 27, 1999, after DOE-ORP review. (TPA Milestone M-44-15C).

The annual report on data loading into an electronic database with access to DOE, Ecology, and EPA was issued on September 15, 1999. The document was forwarded to Ecology on September 27, 1999 (Tri-Party Agreement Milestone M-44-16C).

6.0 UPDATE TO FY 1999 WASTE INFORMATION REQUIREMENTS DOCUMENT (WIRD) DELIVERABLES REPORT

The FY 1999 WIRD Deliverables Report in support of Tri-Party Agreement Milestone M-44-15C was issued September 13, 1999, to ORP and after ORP review, was forwarded to Ecology on September 27, 1999. The information cutoff date for the report was August 31, 1999, in order to prepare and submit the report by the September 1999 milestone due dates.

This section provides an update to the report covering the month of September 1999. For ease of following this update, see the FY 1999 WIRD Deliverables Report, Section 4.0, "Projection: Remainder of FY 1999."

6.1 Field Work

- Two cores were retrieved from Tank Z-361 in September 1999.

- Two cores were retrieved from Tank AW-103 and two cores from Tank AZ-102 in September 1999 in support of the Waste Feed Delivery (Phase 1) and Privatization Management (Phase1) issues. A third Tank AZ-102 core was retrieved for the Privatization (BNFL) samples issue. The Tank AW-103 cores completed FY 1999 WIRD deliverables for the Privatization Management issue. Completion of sampling of Tank AZ-101 in October 1999 will complete the FY 1999 WIRD deliverables for the Waste Feed Delivery (Phase 1) issue.

- Grab samples were retrieved in September 1999 from Tanks AP-107 and SY-102 in support of the Evaporator issue. Tank AP-108 was sampled for compatibility but was not needed for the Evaporator issue.

- SHMS vapor samples were obtained in September 1999 from Tanks AZ-101 and AZ-102. Tanks AN-107 and AX-103 were not sampled due to SHMS cabinets being non-operational. Therefore, only 31 of the 32 tanks scheduled for sampling in the FY 1999 WIRD were completed. Tank AN-107 has been sampled during FY 1999 on three other occasions. Loss of a fourth Tank AN-107 sample has minimal impact on the Flammable Gas issue. Tank AX-103 is planned for vapor sampling in early FY 2000.

- The additional Tank AZ-102 core sludge samples were shipped to BNFL.

6.2 Data Analysis and Engineering Work

- Auto-TCRs for AN-104, AN-105, BY-105, and U-107 were issued in September 1999, completing FY 1999 TCR commitments.

- The revised TCR for Tank AX-104 reflecting temporary suspension of the HTI program was issued in September 1999 (HNF-SD-WM-ER-675, Rev. 2A).

- A letter confirming the loading of all FY 1999 data into an electronic database (tank characterization database) and provision of offsite access to EPA, Ecology, and DOE was issued on September 15, 1999, completing Tri-Party Agreement Milestone M-44-16C.

6.3 Table Summary

Table 1, this report, reflects the final FY 1999 WIRD deliverables completions for tanks sampled and TCRs issued.

Table 2, this report, reflects the final FY 1999 samplings by FY quarter and type samples retrieved.

Table 3, this report, reflects completion of the FY 1999 TCR commitment and issues that each TCR has addressed.

6.4 Conclusion

As discussed above and in the FY 1999 WIRD Deliverables Report, all sampling in support of FY 1999 deliverables has been completed except for AZ-101 (core) in support of the Waste Feed Delivery (Phase 1) issue and Tank AX-103 (SHMS Vapor) in support of the Flammable Gas issue. Tank AZ-101 will be completed in the first quarter of FY 2000. Tank AX-103 is planned for vapor sampling early FY 2000, the late sampling having no adverse impacts on the FY 1999 Flammable Gas issue.

With completion of Tank AZ-101, FY 1999 WIRD deliverables are considered satisfactorily met.