

Department of Energy

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DEC 5 1995

95-CHD-094

Mr. John T. Conway, Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue NW, Suite 700
Washington, D.C. 20004

Dear Mr. Conway:

TRANSMITTAL OF THE U.S. DEPARTMENT OF ENERGY, RICHLAND OPERATIONS OFFICE (RL),
DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB) 93-5 QUARTERLY REPORT

Enclosed is the DNFSB 93-5 Quarterly Report for July 1 to September 30, 1995. In accordance with Commitment 1.10, this report is being submitted to you to provide information and status on actions associated with the Recommendation 93-5 Implementation Plan.

The Safety, Waste Compatibility, Historical and Disposal Data Quality Objectives (DQOs) were transmitted to the Board during this quarter.

Revision 1 of the "Tank Waste Characterization Basis," WHC-SD-WM-TA-164, was issued on August 30, 1995. This document integrated the informational needs identified in the Retrieval and Pretreatment/Disposal DQOs with the Safety, Historical, and Waste Compatibility DQOs.

RL completed an Independent Readiness Assessment of the Rotary Mode Core Sampling Systems #3 and #4 on July 13, 1995. The assessment determined that the trucks were operational. The Rotary Mode Core Sampling Systems have increased their field "availability" from 17% in July to 66% in September.

The extension of flammable gas Watch List Tank controls to sixteen additional tanks has impacted the rotary mode core sampling schedule. An urgent project is underway to qualify the rotary mode core system to operate in tanks that require Watch List Tank controls.

An X-ray imager has been developed by WHC to meet the requirements of Commitment 3.18 that requires a means for measuring core sample recovery. Field sampling was completed in August and is now operational.

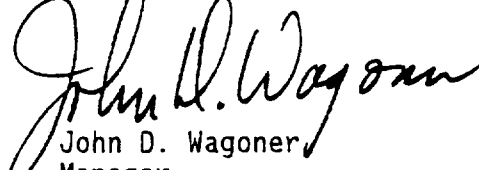
Mr. John T. Conway
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If you have any questions, you may contact me at (509) 376-7395 or your staff may contact Mr. Jackson Kinzer, Assistant Manager for Tank Waste Remediation System, at (509) 376-7591.

Sincerely,


John D. Wagoner
Manager

CHD:CAB

Enclosure

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EXECUTIVE SUMMARY

More significant steps were taken this Quarter toward the goal of characterizing the Hanford High Level Waste Tanks. A DOE-RL Independent Readiness Assessment for new Rotary Mode Core Systems #3 and #4 was completed on July 13, 1995 and the systems deployed for field operations. The Characterization Basis document was revised to include the information needs of the Pretreatment, Retrieval, and Disposal programs. During the quarter, 5 push and 8 rotary mode core samples were taken. An X-Ray Imager that provides immediate field information on core recovery was tested and made field operational. Two additional core sample crews were certified, bringing the number of certified crews to one push and three rotary crews. The push mode certified crew will be used to set up and move the sampling trucks deployed to the field for sampling. The Rotary Mode Core System demonstrated field availability improved from 17% for truck #2 in 1994 to an average of 66% for trucks #2, 3 and 4. Twenty-one commitments were forwarded to DNFSB for closure during this Quarter. This leaves open thirteen of eighty-nine implementation plan commitments (those not related to continuing reporting and change control).

The extension of flammable gas Watch List Tank controls to sixteen additional tanks has impacted the rotary core sampling schedule, since many of the tanks most desired to be rotary core sampled for the characterization basis cannot now be sampled. An urgent project is underway to qualify the rotary mode core system for flammable gas tanks. A follow up Conduct of Operations Assessment is scheduled for the month of October.

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1. PURPOSE

This quarterly report provides a report on High Level Waste Tank Characterization activities at the Hanford Site related to the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 93-5 (July 1993) during the period July 1 to September 30, 1995. This Recommendation dealt with the characterizing of wastes in both single and double-shell high level waste tanks. In January 1994, an Implementation Plan (WHC 1994) responding to Recommendation 93-5 was sent to the U.S. Department of Energy for transmittal to the DNFSB. The plan was accepted by the DNFSB on March 25, 1994. The status of each open commitment is described in Section 4 of this report.

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2. QUARTERLY HIGHLIGHTS

2.1 Tank Characterization Reports (30) Submitted

Tank Characterization Reports for thirty tanks were submitted to DOE-RL during the month of August. These reports document the combined historical records and sampling results for each tank.

2.2 Tank Waste Analysis Plan Submitted

The Tank Waste Analysis Plan (TWAP) for 1996 was submitted to DOE-RL along with 65 Tank Characterization Plans (TCP). The TWAP and the TCP's provide the list of potential tanks, samples, and analyses to be conducted during FY-96.

2.3 Characterization Basis Update for Pretreatment, Retrieval, and Disposal Issued

Revision 1 to the "Tank Waste Characterization Basis," WHC-SD-WM-TA-164, was issued on August 30, 1995. This revision integrates the information needs identified by the Retrieval and Pretreatment/Disposal Data Quality Objectives (DQOs) into the previously identified information needs from the Safety, Historical, and Waste Compatibility DQOs. The tank prioritization list from this document will determine the tanks to be sampled and their priority. This input will be modified by the operational constraints to create the tank sampling schedule for the next twelve to eighteen months.

2.4 Submittal of Accelerated Safety Analysis

The Accelerated Safety Analysis was submitted to DOE-RL in July 1995. This document identifies worst case scenarios using "bounding tank" methodology and analyzes postulated accident scenarios. The bounding tanks were developed using the existing tank content information from historical records, models, and sample results. The postulated consequences of the accident were compared with the Risk Acceptance Guidelines (RAG) consistent with DOE Order 5480.23. If the unmitigated consequences of potential accidents exceed the RAG, then design features, safety systems, structures and components and/or administrative controls are identified to reduce the consequence or frequency of an accident to an acceptable level.

2.5 Conduct of Maintenance Assessment

A Conduct of Maintenance Assessment was conducted during the month of July. Maintenance activities for the Push and Rotary Core Sampling Systems, the 222-S Laboratory, and the Waste Sampling and Characterization Facility were evaluated against the DOE Orders for Maintenance Management, Quality Assurance, and Conduct of Operations, and the TWRS Administration manual.

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2.6 X-Ray Imager Operational

Commitment 3.18 required developing a means for measuring core sample recovery. Prototype testing of the Sample Verification Instrumented Receiver was completed in June 1995 with disappointing results. An alternate X-Ray imager (XRI) has been developed and is now available in the field to give sample crews immediate feedback on percent core recovery. Extensive field testing was completed in August and the unit has been made operational. Three additional units have been placed on order to provide one unit for each core sample truck.

2.7 Delivery of Rotary Mode Core Drilling Systems #3 and #4

On June 30, 1995, WHC completed all prerequisites for field operation of Rotary Mode Core Sampling Systems #3 and #4. This included Acceptance Testing, Operational Testing, Permitting, and a WHC Readiness Assessment. The DOE-RL Independent Readiness Assessment was completed on July 13, 1995 and the trucks were declared operational.

2.8 Rotary Core Sampler Testing

Testing of three new core samplers in various simulants and utilizing a new drill bit design was conducted. Retention and recovery from solid simulants was excellent. By varying insertion rates and purge gas flow excellent recovery rates from thick slurry simulants were achieved. One of the experimental drill bit designs has proven to be very promising in recovering dry crystalline material in waste simulants of this type. Testing is continuing.

2.9 Rotary Core Sampling Improvement Testing

A test and evaluation program was conducted this quarter to determine the best combinations of drilling parameters for each type of waste. This involved varying rotation speed, insertion speed, down force, purge gas flow, types of samplers and types of bits. These parameters were varied in cores taken from the same risers in tanks BY-108 and BY-110 in order to minimize waste type as a variable as much as possible. Gaining the capability to collect waste samples in dry, crumbly, saltcake material found in tanks like BY-110 was a preliminary achievement. In four previous attempts to recover waste from the top portion of BY-110, only very small waste recovery was achieved. By changing the drill bit type and drilling mode, substantial recovery (greater than 49 percent) was achieved in all segments of the most recent core of BY-110. Recovery of all but one segment in the cores from both risers in tank BY-108 was greater than 80 percent. Toward the end of this period, the new Tank Sampling Assistance Panel (TSAP) sampler and drill bit were deployed in the field and were partially successful in recovering dry, soft, saltcake samples. Recovering this type material had been virtually impossible prior to deploying the TSAP sampler. Refinements to the sampler are continuing. A complete evaluation of the lessons learned from this development period is in progress.

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2.10 Operator Certifications

Adequate personnel are now certified to four core sampling crews (one push and three rotary) in the field. The push mode certified crew will be used to set up and move the sampling trucks deployed to the field. The table below shows the number of personnel that hold each certification (i.e. a person with rotary is included in the push and ground crew numbers, since they hold that lower certification).

<u>Certification</u>	<u>Number</u>
Ground Crew	27
Push	9
Rotary	7

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3. CURRENT ISSUES

3.1 Management/Administration

None

3.2 Technical

3.2.1 Vapor Analysis:

A total of 42 waste tank headspace gas and vapor characterization reports as well as a summary report of all gas and vapor results to completed to date were issued to DOE-RL on September 28, 1995. Submittal of these reports completed Secretarial Safety Initiative 2o (revision 5) to "sample and characterize remaining suspect tanks by October 1995." Quality assurance assessments were recently conducted at both laboratories supporting the vapor program this past year (Oak Ridge National Laboratory and Pacific Northwest Laboratories). All previously identified QA issues were successfully closed (although 5 new items were identified at PNL relating to recent technology transfer work scope from ORNL). Additional actions are being implemented to improve the overall quality of the program including establishing a vapor program technical basis to support revision of the existing generic vapor Data Quality Objective (DQO), revision of the vapor project QA plan, and implementation of HASQAP protocol in supporting laboratories.

3.2.2 Variability in TGA and DSC Results:

The last Quarterly Report noted that approximately 30 percent of the thermogravimetric analysis (TGA) and differential scanning calorimeter (DSC) results had a relative percent difference (rpd) greater than 10 rpd. Since then, a guidance document has been developed for evaluating analytical results. Actions have been taken to implement this document in the project coordination and laboratory areas. Equipment has been delivered and a test plan is being drafted to conduct homogeneity studies that will provide greater insight into the significance of sample result variability. These studies are expected to be completed during the first half of FY-96.

3.2.3 Flammable Gas Controls on Non-Watchlist Tanks

The current Characterization sampling schedule is being revised to reflect changes to the Operating Specification Document for Watch List Tanks, OSD-T-151-00030 (OSD-30), Appendix B, which requires additional tanks be treated with Flammable Gas Watch List tank controls. There are now twenty-five tanks on the Flammable Gas Watch List (Appendix A), and sixteen tanks that have the Flammable Gas Watchlist controls imposed on them by OSD-30 Appendix B. Since the Rotary Mode Core Sampling (RMCS) system is not currently authorized for use in sampling Flammable Gas Watch List Tanks, this reduces the number of tanks that can be rotary sampled in the near future. Fourteen of these tanks are on Appendix A or B lists and are high priority tanks for rotary sampling under the Characterization Basis. The project to certify the rotary

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mode system for flammable gas tanks has been accelerated. This project expects to accomplish this goal by eliminating the possible sources of ignition in both the waste and the vapor space, installing monitors to detect the presence of flammable gases during sampling operations, and revising the Safety Basis as necessary. This project is scheduled for completion by June 30, 1996.

3.3 Personnel and Equipment

3.3.1 Rotary Mode Core Sample (RMCS) System Design Problems

Rotary Mode Sampling operations were delayed in September due to a mechanical interference between the drill string and the remote latch unit on both RMCS trucks #2 and #4. An engineering investigation revealed that the internal dimension of the drill string was undersized to specifications. Characterization Engineering has issued a non-conformance report and is working with the manufacturer, Longyear, to correct the situation. At the same time, a washer under a screw head on the outside of the sampler was found to be too thick, causing the screw head to contact drill string. A drawing change and field retrofit was accomplished to correct this problem.

A construction design deficiency with the strength of the sample receiver hydraulic pistons and the supporting framework was found on rotary Truck #2. These components did not have an adequate design factor for strength and flexed excessively in some field situations. Compensatory changes to the operating procedure and the rotation and traverse speed adjustments have been made until a design change can be installed. The hydraulic cylinder deficiency applies to Trucks #2, #3, and #4, while the frame deficiency only applies to Truck #2.

3.3.2 Rotary Mode Core Sample System Reliability/Availability

Since the commencement of rotary core drilling with Trucks #2, #3, and #4 in July, each system's reliability has been tracked through a performance indicator called "Availability." This indicator tracks the percent of time each system is available to operate. Detractors from this time are field failures, design problems, planned maintenance, and documentation shortcomings related to the system itself. The reliability modifications installed in Truck #2 in May and in Trucks #3 and #4 in new construction as well as other system design and documentation improvements have improved system availability from the 17% demonstrated by Truck #2 in 1994 to an average of 66% during July through September for Trucks #2, 3, and 4.

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3.3.3 Conduct of Operations Events

3.3.3.1 Core sample conducted without sampler in place:

On August 4th during rotary mode core sampling of tank BY-108, a core sample was attempted to be taken without the sampler in place. This occurred because several indications were either incorrectly observed or were not believed. The ground operator trainee mistakenly confirmed the withdrawal of the sampler from the storage cask into the shielded receiver in preparation for inserting the sampler into the drill string. The observation and confirmation of this critical indication was not performed by the Certified Ground Crew Operator. Other indications and equipment parameters, if properly questioned, analyzed and acted upon, would have caused a more immediate recognition of the absence of the sampler. Numerous corrective actions were carried subsequent to this event, including: crew training on conduct of operations principles (particularly log keeping, belief of indications, and control of trainees), issuing a standing order on the supervision of trainees, and revising the log sheets to include parameter limits.

3.3.3.2 Vapor sample taken on wrong tank:

When attempting to obtain a vapor sample from tank B-112, a sampling crew sampled tank B-110 instead. This occurred because the Person In Charge (PIC) directed the crew to the wrong tank from the fence line. Other members of the sample crew did not verify the tank because they assumed the PIC to be correct. The corrective actions included: requiring the PIC to enter the farm when supervising intrusive work, second person verification of tank and riser correctness, identifying scope and time to install clear markings on all Single Shell Tanks, and reinforcement of prejob brief requirements and individual responsibilities for questioning the correctness of their actions.

3.3.3.3 222-S waste water transferred to TEDF without proper confirmation of limits:

On August 5th, the 222-S Laboratory transferred approximately 5,000 gallons of waste water to the Treated Effluent Disposal Facility (TEDF). The preliminary analyses indicated that the total alpha was above release limits. The transfer was stopped and TEDF notified when the situation was discovered. A confirmation analysis showed that the water was not above the transfer limits. Several errors contributed to this event. Old limits in an unofficial log book instead of the procedure were referenced by the Chemical Technologist. The Shift Manager did not personally review the analytical results prior to authorizing the transfer. In addition, the correct transfer limits and the procedural reference had not been updated in two other data tracking locations. The causes of this incident have been corrected by 222-S Laboratory management.

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4. STATUS OF OPEN COMMITMENTS

4.1 Strengthen Technical Management

4.1.1 Commitment 1.5 - Implement Plan to Improve Tech Staff Competencies:

WHC letter 9552755 dated May 18, 1995 forwarded a report of completion of this commitment to DOE-RL. DOE-RL has provided comments to WHC on improving this submittal. The Plan to Improve Staff Competencies was implemented as written under the Characterization Program. However, completion of the implementation was not reported before the establishment of the Characterization Project. What remains to close this commitment is to validate that the Hanford site wide computerized training requirements and status matrix (TMX) reflects the required training for the Project organization. These actions will be completed by December 30, 1995.

4.1.2 Commitment 1.11 - Field Schedule for Sampling All Activities FY95 & 96:

A schedule for FY-96 and the first half of FY-97 will be provided in Revision 1 to the 93-5 Implementation Plan, now in preparation.

4.1.3 Commitment 1.23 - Identify Bounding Tanks for Disposal

WHC letter 9457986, dated November 30, 1994, forwarded WHC-SD-WM-TA-154, "Strategy for Sampling Hanford Site Tank Wastes for the Development of Disposal Technology." to DOE-RL. This document identifies tanks representative of key waste types that may prove to limit the disposal processes, and provides the strategy for obtaining process development information from the tanks identified. WHC-SD-WM-TA-154 was updated to Revision 1 and transmitted to DOE-RL by WHC letter 9553504 dated June 29, 1995.

4.2 Accelerate Safety Related Characterization

4.2.1 Commitment 2.3 - Complete Sampling & Analysis of All Watch List Tanks.

The completion date for this commitment depends upon the numbers and types of samples required by the Integrated Characterization Basis, the demonstrated reliability of the Rotary Mode Core Systems and the quality of the samples obtained, and the degree to which the assumptions of the Characterization Basis are confirmed by the sampling and analysis during next eighteen months. The original October 1995 due date will not be met. A completion date for this commitment will be established when the second revision to the Implementation Plan is submitted (April 1997).

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4.3 Improve the Quality and Quantity of Sampling

4.3.1 Commitment 3.2 - Review Characterization Field Procedures/DOE Conduct of Operations

WHC letter 9451458, dated February 28, 1994, reported completion of the review. DOE-RL letter 94-OCH-031, dated June 7, 1994, requested a letter report identifying which field procedures were reviewed and a schedule for revising those needing revision. DOE-RL letter 94-OCH-033, dated June 30, 1994, advised DNFSB that a satisfactory product should be provided to DNFSB by August 15, 1994. WHC letter 9451458 R1, dated August 4, 1994, provided a report of partial completion of the procedure reviews. Since establishment of the Characterization Project, all procedures have been subjected to a series of table top reviews for accuracy, human factors, conduct of operations principles, and adherence to the safety documents by Certified Operators, Procedure Writers, Equipment Engineers, Industrial and Nuclear Safety representatives, and Characterization Operations Managers. These were completed June 30, 1995. When each review was completed, the changes developed were incorporated into the procedure. A field validation walkdown of the procedure was then conducted by Certified Operators and Persons In Charge (PICs). The required changes identified by this field validation were then be incorporated into the procedure. The field validation of all active procedures was completed by August 30, 1995. In addition, an Assessment Review Team comprised of Quality Assurance, Nuclear Safety, Safety Analysis, TWRS Plant Engineering and Characterization Equipment Engineering was established to validate that all operating procedures included the controls required by the safety requirements and the Safety Basis. This validation has been completed on all active operating procedures. WHC letter 9555033 dated September 20, 1995 reported completion of commitment to DOE-RL.

4.3.2 Commitment 3.10 - Qualify Two Additional Push/Rotary Mode Crews

Two additional Rotary Mode Core Sampling crews were trained and certified during June through August 1995. This will provide a total of one Push Mode and three Rotary Mode trained crews. WHC letter 9555144 dated September 27, 1995 reported completion of this commitment to DOE-RL.

4.3.3 Commitment 3.11 - Additional Rotary Mode Core Systems

WHC letter 9553603 dated June 30, 1995 reported completion of construction, the Acceptance Test Program, and the Operational Test Plan. The DOE-RL Independent Readiness Review was completed satisfactorily on July 13, 1995. DOE-RL letter 95-CHD-067 dated August 20, 1995 reported completion of the DOE-RL Independent Readiness Assessment on July 13, 1995, and recommended deployment of the systems for field operations.

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4.3.4 Commitment 3.12 - Hire/Train/Qualify Four Additional Rotary Mode Crews

DOE EM-36 letter of March 9, 1995 reported to DNFSB that these additional crews would not be hired and trained until the Characterization Basis was completed and the numbers of samples required have been evaluated. Whether acceleration of the sampling rate is necessary or not in the future depends on the degree to which the assumptions of the Characterization Basis are confirmed by the sampling and analysis during the next eighteen months. This commitment will be recommended for deletion in the next Implementation Plan revision.

4.3.5 Commitment 3.13 - Deploy Prototype Cone Penetrometer

A truck mounted 45-ton Cone Penetrometer was ordered in September 1994. This decision was reevaluated in July 1995 and the order was changed to a skid mounted 35-ton unit on July 31, 1995. The current delivery date is estimated to be September 1996.

4.3.6 Commitment 3.16 - Direct Drill Bit Temperature Monitoring

Laboratory testing of a prototype drill bit temperature monitor has been completed at Sandia National Laboratory. When this Implementation Plan was first written, direct monitoring of the drill bit temperature was thought to be the only method of insuring that the drill bit temperature stayed below the safety limits during rotary drilling. Since then, computer modeling and confirmation testing have shown that monitoring the down force, rotational speed, and purge gas flow are sufficient to control drill bit temperature. Consequently, the need for direct drill bit temperature monitoring is now greatly reduced. The benefit will also be reduced by anticipated changes in the safety limits to reflect higher allowed drill bit temperatures and the knowledge that many tanks thought to require rotary drilling could probably be sampled by push mode core sampling. This greatly reduced benefit has been further reduced by additional costs due to the greater system complexity that would result from the drill bit instrumentation and its consequence on system reliability. This commitment will be recommended for deletion in the next Implementation Plan revision.

4.3.7 Commitment 3.18 - Develop Means for Measuring Complete Sample Recovery

This commitment was originally envisioned to be development of an instrumented sample receiver to replace the existing receiver. Prototype testing of this concept was completed in June 1995 with disappointing results. An alternate concept using an X-Ray imaging device was procured on a parallel path and proved to be very successful in tests. This device was field tested during the months of July and August 1995. The field tests were so successful that three more instruments have been ordered to provide one for each core sample truck. WHC letter 9554924 dated September 14, 1995 reported completion of this commitment to DOE-RL and forwarded the Acceptance Test Report as an Attachment.

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4.4 Streamline Tank Access

All Commitments are Closed.

4.5 Improve the Quality and Quantity of Analyses

4.5.1 Commitment 5.2 - Complete Renovation of 325 'A' Hot Cell

When the 93-5 Implementation Plan was developed, substantial sampling and analysis capacity greater than that available at the 222-S laboratory were projected to be needed. DOE EM-36 letter of March 9, 1995 reported to DNFSB that the 325 hot cells will not be needed until the safety screening and safety issue resolution logic is completed and the final sampling needs are evaluated. With the new 222-S hot cells operational, 222-S has sufficient hot cell capacity for the sampling rate currently anticipated. This makes the 325 hot cells unnecessary for production analysis. However, the PNL 325 Laboratory is needed to provide backup production capability, to do Specialty Analysis, and to provide a second laboratory for the 222-S Sample Exchange Evaluation program. Upgrade of the 325 Laboratory Hot Cell will be completed by March 31, 1996.

4.5.2 Commitment 5.14 - Two PAS-1 Casks will be ready for use Jan. 1995

The Safety Analysis Report for the Packaging amendment was prepared by VECTRA Technologies. The report was submitted to DOE-RL and forwarded to DOE-HQ for approval in July 1994. Two rounds of questions concerning the Safety Analysis Report have been completed. DOE-HQ has announced a third round of questions. The casks will now be used to ship pretreatment process samples to LANL, not characterization samples as originally planned. Since this commitment is not now needed by characterization, this milestone will be recommended for deletion in the next revision to the Implementation Plan.

4.6 Improve Data Management

All Commitments are Closed.

4.7 Change Control

4.7.1 Commitment 7.1 - Formally Submit Changes to Commitments

A Change Request is expected to be submitted to DOE-RL in October 1995. This request will provide new milestone dates based on the best knowledge of tank sampling needs derived from the DQOs. It will also reflect the current and planned equipment and staff resources.

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4.7.2 Commitment 7.2 - Address Changes to Milestones in Quarterly

This commitment is ongoing. A status of all open milestones with new expected completion dates is provided in this report.

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5. APPENDICES

5.1 Tanks Sampled during Third Quarter 1995 (July through September)

SAMPLE	Actual Start	Actual Finish
B-106 Push Sample 2 Segments 2	6/29/95	7/15/95
S-112 VAPOR SAMPLING (Type 3)	7/10/95	7/11/95
T-108 AUGER SAMPLING Sample 2 Segments 1	7/14/95	7/25/95
BY-108 Rotary Samples 3 Segments 5 (Eberlein)	7/14/95	8/18/95
SX-102 VAPOR SAMPLING (Type 3)	7/18/95	7/19/95
SX-101 VAPOR SAMPLING (Type 3)	7/20/95	7/21/95
SX-104 VAPOR SAMPLING (Type 3)	7/24/95	7/25/95
SX-105 VAPOR SAMPLING (Type 3)	7/25/95	7/26/95
T-106 AUGER SAMPLING Sample 2 Segments 1	7/25/95	8/11/95
SX-109 VAPOR SAMPLING (Type 3)	7/26/95	8/1/95
U-204 VAPOR SAMPLE (Type 3)	8/7/95	8/8/95
U-203 VAPOR SAMPLE (Type 3)	8/8/95	8/9/95
U-109 VAPOR SAMPLING (Type 3)	8/9/95	8/10/95
U-108 VAPOR SAMPLING (Type 3)	8/10/95	8/29/95
T-109 AUGER SAMPLING Sample 2 Segments 1	8/14/95	8/22/95
S-107 Push Sample 3 Segments 8	8/14/95	9/30/95
AW-106 GRAB SAMPLE Compatibility	8/23/95	8/24/95
AW-102 Grab Sample	8/24/95	8/25/95
AW-105 GRAB SAMPLE Samples	8/28/95	8/29/95
T-110 VAPOR SAMPLING (Type 3)	8/30/95	8/31/95
AN-101 Grab Samples	8/31/95	9/6/95
SX-108 AUGER SAMPLING Sample 2 Segments 1	9/14/95	9/27/95
AY-102 GRAB SAMPLE	9/18/95	9/18/95
C-301 IMUST VAPOR SAMPLING (Type 3)	9/29/95	9/29/95

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5.2 Chart of Samples Taken vs. Samples Scheduled

Two pages inserted following this page.

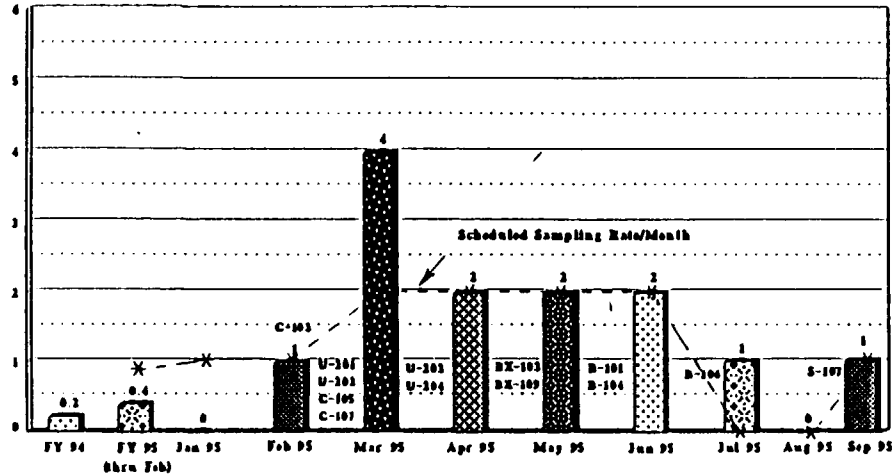
Improvements in Field Sampling Rates

Tanks Sampled/Month

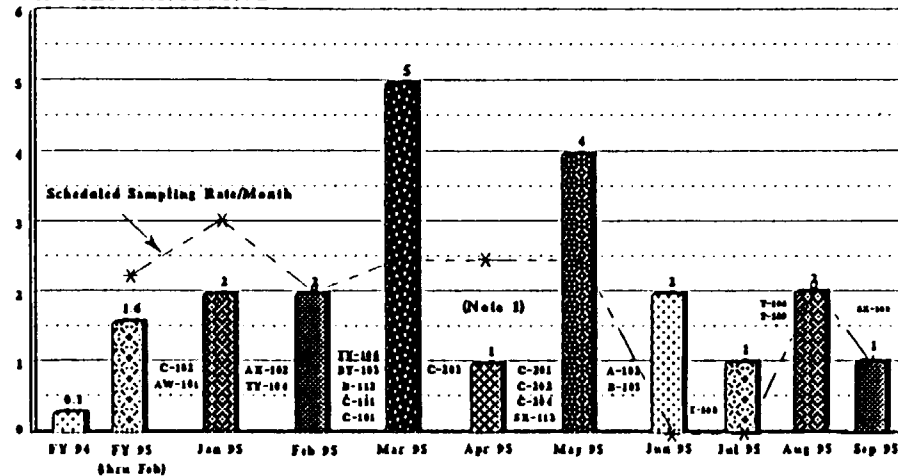
Note 1: All sampling activities suspended Apr/May 1995.

Note 2: Grab sampling suspended after 5 unsuccessful attempts on waste surface not compatible with sampling.

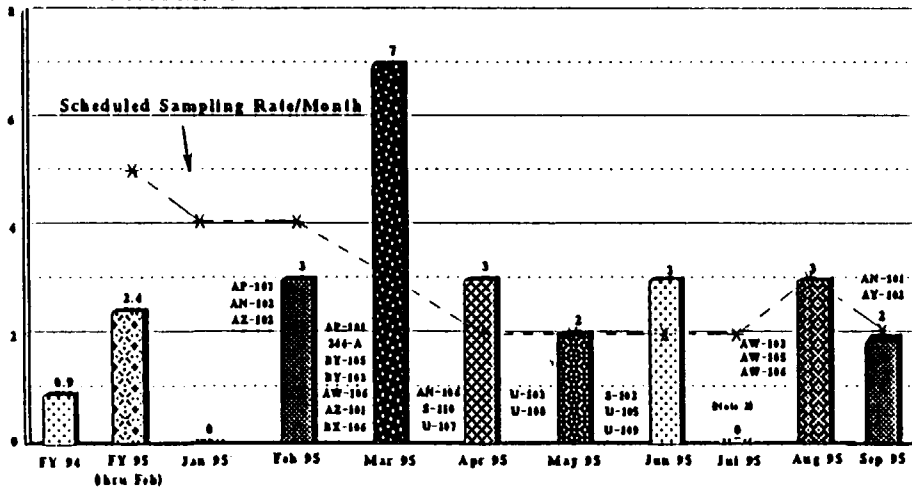
PUSH SAMPLING



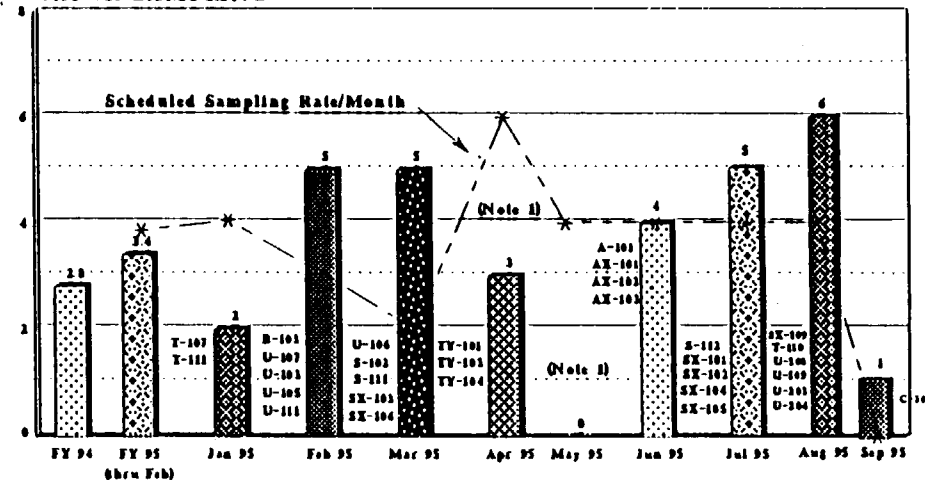
AUGER SAMPLING



GRAB SAMPLING



VAPOR SAMPLING



Characterization Project Operations

10/2/95

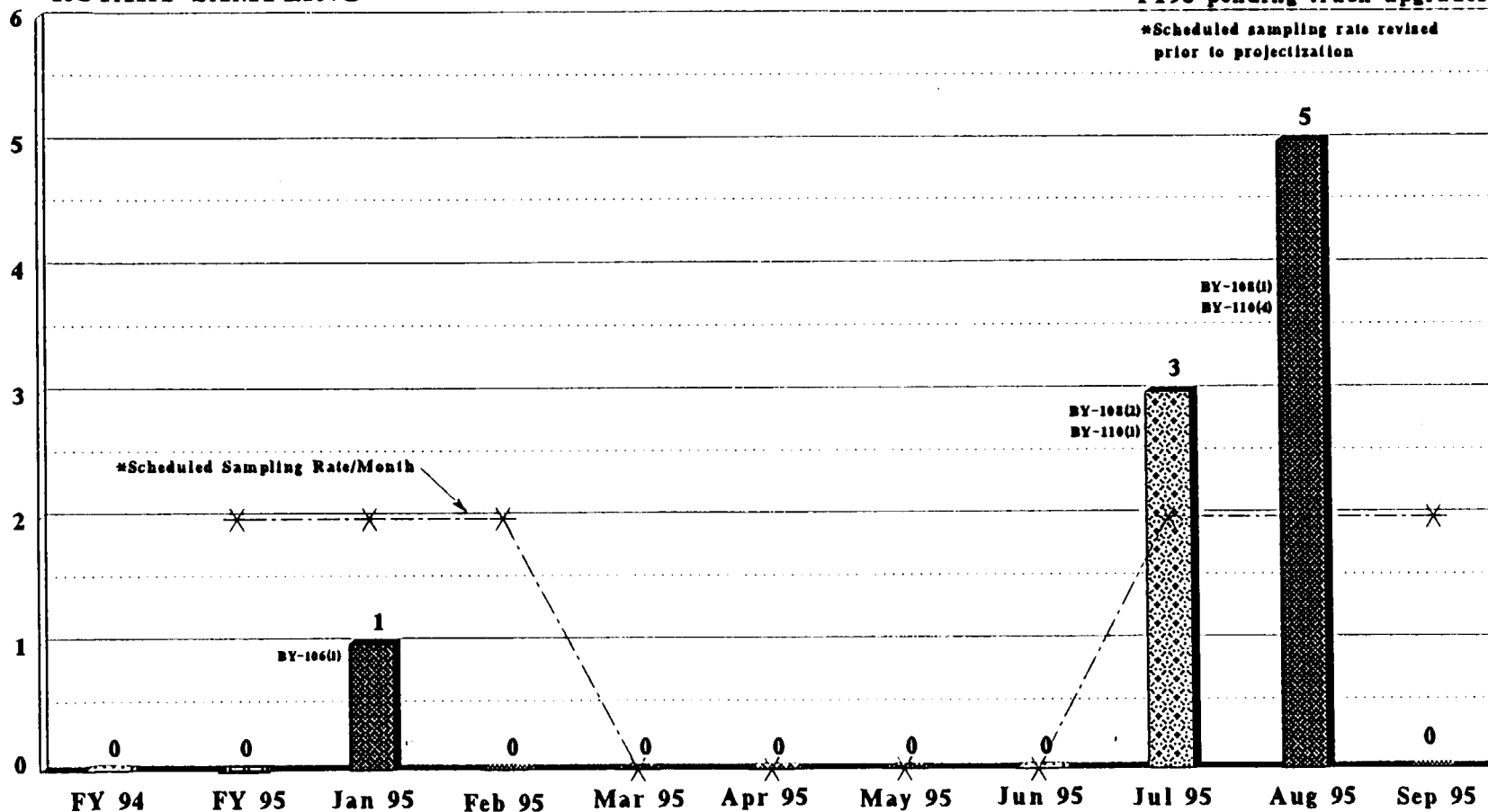
Improvements in Field Sampling Rates

Cores Sampled/Month

ROTARY SAMPLING

Note: Rotary sampling suspended in FY95 pending truck upgrades.

*Scheduled sampling rate revised prior to projectization



Characterization Project Operations

10/2/95

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5.3 Sampling Schedule for Fourth Quarter 1995 (October through December)

TITLE	Early Start	Early Finish
BY-105 Rotary Sample 2 Segment 9 (Eberlein)	9/6/95	10/25/95
BY-104 Rotary Sample 2 Segment 7 (Eberlein)	9/26/95	11/14/95
AN-104 Grab Sample	10/2/95	10/4/95
AW-101 Push Sample 2 Segment 22 (Eberlein)	10/2/95	10/19/95
TX-111 Vapor Sample (Type 3)	10/2/95	10/4/95
AN-105 Grab Sample	10/5/95	10/9/95
A-103 Vapor Sample (Type 3)	10/9/95	10/11/95
B-204 Push Sample (2) Segment 14	10/10/95	10/20/95
AY-102 Grab Sample	10/12/95	10/13/95
BX-110 Auger Sample 2 Segment 1	10/16/95	10/20/95
BX-107 Vapor Sample (Type 3)	10/16/95	10/18/95
AZ-101 Grab Sample	10/18/95	10/20/95
SX-104 Grab Sample Compatibility	10/23/95	10/25/95
BY-102 Vapor Sample (Type 3)	10/23/95	10/25/95
BY-103 Rotary Sample 2 Segment 8 (Eberlein)	10/26/95	12/18/95
A-101 Grab Sample Compatibility	10/30/95	11/1/95
S-110 Vapor Sample (Type 3)	10/30/95	11/1/95
S-101 Vapor Sample (Type 3)	11/2/95	11/6/95
AX-101 Grab Sample Compatibility	11/6/95	11/8/95
S-103 Vapor Sample (Type 3)	11/9/95	11/13/95
AN-107 Grab Sample (Caustic Addition)	11/13/95	11/15/95
S-106 Vapor Sample (Type 3)	11/14/95	11/16/95
BY-106 Rotary Sample 1 Segment 13 (Eberlein)	11/15/95	12/7/95
BX-112 Auger Sample 2 Segment 1	11/20/95	11/28/95
AP-105 CAMPAIGN 96-1 Grab Sample	11/20/95	11/22/95
S-107 Vapor Sample (Type 3)	11/28/95	11/30/95
SY-102 Grab Sample Compatibility	11/29/95	12/1/95
AN-105 Push Sample 2 Segment 22) Eberlein	11/30/95	12/19/95
S-108 Vapor Sample (Type 3)	12/1/95	12/4/95
AN-102 Grab Sample	12/4/95	12/5/95
AN-107 Grab Sample (Caustic Addition)	12/6/95	12/7/95
S-109 Vapor Sample (Type 3)	12/7/95	12/11/95
AP-104 CAMPAIGN 96-2 Grab Sample	12/12/95	12/14/95
S-105 Vapor Sample (Type 3)	12/14/95	12/18/95
TX-118 Rotary Sample 6(5R) Segment 7 (Eberlein)	12/14/95	2/12/96

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<u>TITLE</u>	<u>Early Start</u>	<u>Early Finish</u>
AW-101 Grab Sample Safety Screening	12/15/95	12/19/95
TX-111 Rotary Sample 5(4R) Segment 8 (Eberlein)	12/18/95	1/31/96
A-102 Vapor Sample (Type 3)	12/21/95	12/22/95
AN-107 Grab Sample (Caustic Addition)	12/22/95	1/4/96

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5.4 Tank Characterization Plan Completion Schedule

Sixty-five Tank Characterization Plans for tanks that may be sampled in FY-1996 were submitted to DOE-RL and Washington Department of Ecology with the Tank Waste Analysis Plan on August 30, 1995. The next scheduled plan submittal is for FY-97 in August 1996.

5.5 List of Tank Characterization Plans issued during the Quarter

Title	Number	Rev	Date
Tank 241-T-108 TCP and Auger SAP	SD-WM-TSAP-013	0	7/13/95
Tank 241-BY-108 TCP	SD-WM-TP-275	0-D	7/19/95
Tank 241-T-109 TCP	SD-WM-TP-368	0	8/15/95
Tank 241-BY-108 TCP	SD-WM-TP-275	0-E	8/18/95
Tank 241-U-105 TCP	SD-WM-TP-289	0-A	8/24/95
Tank 241-BY-105 TCP	SD-WM-TP-218	1-B	8/24/95
Tank 241-TY-103 TCP	SD-WM-TP-300	0-B	8/24/95
Tank 241-BY-104 TCP	SD-WM-TP-230	0-A	8/24/95
Tank 241-BY-103 TCP	SD-WM-TP-231	1-B	8/24/95
Tank 241-BY-106 TCP	SD-WM-TP-217	1-A	8/24/95
Tank 241-S-101 TCP	SD-WM-TP-386	0	8/25/95
Tank 241-U-109 TCP	SD-WM-TP-316	0	8/25/95
Tank 241-A-101 TCP	SD-WM-TP-331	0	8/25/95
Tank 241-U-108 TCP	SD-WM-TP-315	0	8/25/95
Tank 241-BX-110 TCP	SD-WM-TP-382	0	8/25/95
Tank 241-TX-109 TCP	SD-WM-TP-398	0	8/28/95
Tank 241-TX-104 TCP	SD-WM-TP-395	0	8/28/95
Tank 241-C-104 TCP	SD-WM-TP-208	0	8/28/95
Tank 241-S-109 TCP	SD-WM-TP-391	0	8/28/95
Tank 241-S-111 TCP	SD-WM-TP-317	0-A	8/28/95

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Title	Number	Rev	Date
Tank 241-TX-118 TCP	SD-WM-TP-241	0-A	8/28/95
Tank 241-TX-105 TCP	SD-WM-TP-293	0-A	8/28/95
Tank 241-S-102 TCP	SD-WM-TP-238	0-B	8/28/95
Tank 241-SX-103 TCP	SD-WM-TP-313	0-A	8/28/95
Tank 241-TX-112 TCP	SD-WM-TP-400	0	8/28/95
Tank 241-SX-109 TCP	SD-WM-TP-334	0	8/28/95
Tank 241-AY-101 TCP	SD-WM-TP-406	0	8/28/95
Tank 241-S-112 TCP	SD-WM-TP-392	0	8/28/95
Tank 241-TX-116 TCP	SD-WM-TP-403	0	8/28/95
Tank 241-AX-101 TCP	SD-WM-TP-332	0	8/28/95
Tank 241-TX-113 TCP	SD-WM-TP-401	0	8/28/95
Tank 241-TX-115 TCP	SD-WM-TP-402	0	8/28/95
Tank 241-TX-111 TCP	SD-WM-TP-399	0	8/28/95
Tank 241-S-108 TCP	SD-WM-TP-390	0	8/28/95
Tank 241-S-106 TCP	SD-WM-TP-389	0	8/28/95
Tank 241-S-105 TCP	SD-WM-TP-388	0	8/28/95
Tank 241-S-103 TCP	SD-WM-TP-387	0	8/28/95
Tank 241-BX-110 TCP	SD-WM-TP-382	0-A	8/28/95
Tank 241-AN-106 TCP	SD-WM-TP-407	0	8/28/95
Tank 241-TX-101 TCP	SD-WM-TP-393	0	8/28/95
Tank 241-TX-106 TCP	SD-WM-TP-396	0	8/28/95
Tank 241-TX-108 TCP	SD-WM-TP-397	0	8/28/95
Tank 241-SX-108 TCP	SD-WM-TP-405	0	8/28/95
Tank 241-AN-105 TCP	SD-WM-TP-385	0	8/28/95
Tank 241-TX-103 TCP	SD-WM-TP-394	0	8/28/95
Tank 241-AN-103 TCP	SD-WM-TP-383	0	8/28/95
Tank 241-AN-104 TCP	SD-WM-TP-384	0	8/28/95

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5.6 List of Tank Characterization Reports issued during the Quarter

The 30 Tank Characterization Reports were initially submitted to DOE-RL on the date in the "Original Date" column, and issued in their final version on September 28, 1995.

Tank	Document Name	Document Number	Original Date
241-AW-101	<i>Tank Characterization Report for Double-Shell Tank 241-AW-101</i>	WHC-SD-WM-ER-470, Revision 0	7/26/95
241-AW-103	<i>Tank Characterization Report for Double-Shell Tank 241-AW-103</i>	WHC-SD-WM-ER-455, Revision 0	7/14/95
241-AW-104	<i>Tank Characterization Report for Double-Shell Tank 241-AW-104</i>	WHC-SD-WM-ER-453, Revision 0	7/14/95
241-AX-102	<i>Tank Characterization Report for Single-Shell Tank 241-AX-102</i>	WHC-SD-WM-ER-472, Revision 0-B	8/9/95*
241-AY-102	<i>Tank Characterization Report for Double-Shell Tank 241-AY-102</i>	WHC-SD-WM-ER-454, Revision 0	7/6/95
241-AZ-101	<i>Tank Characterization Report for Double-Shell Tank 241-AZ-101</i>	WHC-SD-WM-ER-410, Revision 0	7/27/95
241-AZ-102	<i>Tank Characterization Report for Double-Shell Tank 241-AZ-102</i>	WHC-SD-WM-ER-411, Revision 0	7/27/95
241-B-102	<i>Tank Characterization Report for Single-Shell Tank 241-B-102</i>	WHC-SD-WM-ER-405, Revision 0-B	7/31/95
241-B-103	<i>Tank Characterization Report for Single-Shell Tank 241-B-103</i>	WHC-SD-WM-ER-488, Revision 0-A	8/7/95**
241-B-112	<i>Tank Characterization Report for Single-Shell Tank 241-B-112</i>	WHC-SD-WM-ER-466, Revision 0-B	8/7/95*
241-B-202	<i>Tank Characterization Report for Single-Shell Tank 241-B-202</i>	WHC-SD-WM-ER-371, Revision 0	8/8/95
241-BX-101	<i>Tank Characterization Report for Single-Shell Tank 241-BX-101</i>	WHC-SD-WM-ER-408, Revision 0-B	7/19/95*
241-BX-105	<i>Tank Characterization Report for Single-Shell Tank 241-BX-105</i>	WHC-SD-WM-ER-406, Revision 0-B	8/7/95*
241-BX-108	<i>Tank Characterization Report for Single-Shell Tank 241-BX-108</i>	WHC-SD-WM-ER-407, Revision 0-B	8/7/95*
241-C-101	<i>Tank Characterization Report for Single-Shell Tank 241-C-101</i>	WHC-SD-WM-ER-473, Revision 0-B	8/9/95*

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241-C-105	<i>Tank Characterization Report for Single-Shell Tank 241-C-105</i>	WHC-SD-WM-ER-489, Revision 0-B	8/8/95*
241-C-107	<i>Tank Characterization Report for Single-Shell Tank 241-C-107</i>	WHC-SD-WM-ER-474, Revision 0-B	8/8/95*
241-C-111	<i>Tank Characterization Report for Single-Shell Tank 241-C-111</i>	WHC-SD-WM-ER-475, Revision 0-B	8/9/95*
241-C-201	<i>Tank Characterization Report for Single-Shell Tank 241-C-201</i>	WHC-SD-WM-ER-476, Revision 0-B	8/4/95*
241-C-202	<i>Tank Characterization Report for Single-Shell Tank 241-C-202</i>	WHC-SD-WM-ER-477, Revision 0-B	8/7/95*
241-C-203	<i>Tank Characterization Report for Single-Shell Tank 241-C-203</i>	WHC-SD-WM-ER-478, Revision 0-B	8/7/95*
241-SX-113	<i>Tank Characterization Report for Single-Shell Tank 241-SX-113</i>	WHC-SD-WM-ER-480, Revision 0-B	8/4/95*
241-SY-101	<i>Tank Characterization Report for Double-Shell Tank 241-SY-101</i>	WHC-SD-WM-ER-409, Revision 0	8/4/95
241-SY-102	<i>Tank Characterization Report for Double-Shell Tank 241-SY-102</i>	WHC-SD-WM-ER-366, Revision 0	6/9/95
241-TY-104	<i>Tank Characterization Report for Single-Shell Tank 241-TY-104</i>	WHC-SD-WM-ER-481, Revision 0-A	8/3/95**
241-TY-106	<i>Tank Characterization Report for Single-Shell Tank 241-TY-106</i>	WHC-SD-WM-ER-482, Revision 0-B	7/7/95*
241-U-201	<i>Tank Characterization Report for Single-Shell Tank 241-U-201</i>	WHC-SD-WM-ER-483, Revision 0-B	8/7/95*
241-U-202	<i>Tank Characterization Report for Single-Shell Tank 241-U-202</i>	WHC-SD-WM-ER-484, Revision 0-B	8/1/95*
241-U-203	<i>Tank Characterization Report for Single-Shell Tank 241-U-203</i>	WHC-SD-WM-ER-485, Revision 0-B	8/8/95*
241-U-204	<i>Tank Characterization Report for Single-Shell Tank 241-U-204</i>	WHC-SD-WM-ER-486, Revision 0-B	7/28/95*

* Revision 0-A transmitted on 9/1/95, Revision 0-B transmitted on 9/20/95.

** Revision 0-A transmitted on 9/20/95.

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5.7 List of 45 Day Reports Issued by Analytical Services

Tank	Type	Number	Title	Date
BX-103	Push	WHC-SD-WM-DP-135	45-Day Safety Screen Results for Tank 241-BX-103, Push Mode, Cores 86 and 87	07/14/95
B-103	Auger	WHC-SD-WM-DP-134	45-Day Safety Screen Results and Final Report for Tank 241-B-103, Auger Samples 95-Aug-031 and 95-Aug-032	07/18/95
A-102	Auger	WHC-SD-WM-DP-136	45-Day Safety Screen Results for Tank 241-A-102, Auger Sample 95-Aug-033	07/21/95
B-104	Push	WHC-SD-WM-DP-137	45-Day Safety Screen Results for Tank 241-B-104, Push Mode, Cores 88 and 89	07/28/95
B-101	Push	WHC-SD-WM-DP-139	45-Day Safety Screen Results for Tank 241-B-101, Push Mode, Cores 90 and 91	08/10/95
B-106	Push	WHC-SD-WP-DP-140	45-Day Safety Screen Results for Tank 241-B-106, Push Mode, Cores 93 and 94	08/18/95
T-108	Auger	WHC-SD-WM-DP-141	45-Day Safety Screen Results for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037	08/24/95
T-106	Auger	WHC-SD-WM-DP-143	45-Day Safety Screen Results for Tank 241-T-106, Auger Samples 95-AUG-038 and 95-AUG-039	09/20/95

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5.8 List of Commitments submitted to DOE-RL during the Quarter

<u>Number</u>	<u>Description</u>	<u>Due Date</u>	<u>Submitted to DOE-RL</u>	<u>Submitted to DNFSB</u>
1.10.52	Issue Quarterly Progress Reports	7/31/95	7/25/95	8/8/95
1.18	Historical Tank Content Est Reports NW/SE	3/31/95	7/30/95	8/24/95
3.02	Review Char. Field Proc's/DOE Conduct of Ops	1/31/94	9/20/95	
3.10	Qual of 2 Additional Crews/Push & Rotary Trucks	6/30/94	9/27/95	
3.18	Dev. Means for Measuring Complete Sample Recovery	1/31/95	9/14/95	

5.9 List of Commitments Recommended by DOE as Closed during the Quarter

<u>Number</u>	<u>Description</u>	<u>Due Date</u>	<u>Submitted to DOE-RL</u>	<u>Submitted to DNFSB</u>
1.10.52	Issue Quarterly Progress Reports	7/31/95	7/25/95	8/8/95
1.16	Complete Historical Tank Layering Models	9/30/94	5/18/95	9/18/95
1.18	Historical Tank Content Est Reports NW/SE	3/31/95	7/30/95	8/24/95
1.19	Develop Statistical Tools for Samples Needed	12/30/94	12/29/94	8/8/95
1.20	TWRS Risk Acceptance Criteria	8/31/94	5/19/95	9/29/95
1.21.01	Ferrocyanide Safety Issue DQO	12/15/93	5/1/95	9/12/95
1.21.02	C-103 Vapor DQO Draft Report	1/31/94	3/25/94	9/12/95
1.21.03	C-103 Dip Sample DQO	12/16/94	3/25/94	9/12/95
1.21.04	C-106 High Heat DQO Final Report	12/20/94	1/19/94	9/12/95
1.21.05	Organic Safety Issue DQO Report (PNL)	1/31/94	5/1/95	9/12/95
1.21.06	Safety Screening Module DQO	1/31/94	5/1/95	9/12/95
1.21.07	Waste Compatibility DQO Report	2/28/94	5/1/95	9/18/95
1.21.08	In-tank Generic Vapor DQO Final	3/3/94	5/1/95	9/29/95
1.21.09	Vapor Rotary Core DQO Final Draft Report	1/20/94	3/25/94	9/18/95
1.21.10	Hydrogen Generating DQO Final Report	4/29/94	5/1/95	9/12/95
1.21.11	Pretreatment DQO Draft Report	8/22/94	6/29/95	9/18/95
1.21.12	HLW Immobilization DQO Draft Report	9/6/94	6/29/95	9/18/95
1.21.13	LLW Immobilization DQO Draft Report	9/21/94	6/29/95	9/18/95
2.01	DQOs for all Six Safety Issues	4/29/94	5/1/95	9/12/95
2.02	Safety Screening Module DQO Report	1/31/94	5/1/95	9/12/95
5.01	Install Core Scanning in Hot Cell	9/30/94	9/1/94	8/2/95
5.04	Cyanide Speciation Tech Transfer (PNL)	9/30/94	9/1/94	8/2/95

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5.10 Table of DNFSB 93-5 Commitments Status

<u>Number</u>	<u>Description</u>	<u>Due Date</u>	<u>Submitted to DOE-RL</u>	<u>Submitted to DNFSB</u>
1.01	Enhance WHC Characterization Program Management Staff	2/28/94	2/28/94	6/27/94
1.02	Reduce Management Layers in WHC TWRS	3/31/94	3/24/94	6/30/94
1.03	Improve RL Oversight	5/31/94	5/31/94	5/31/94
1.04	Plan to Improve Char. Prog. Tech. Staff Competencies	4/30/94	4/29/94	4/29/94
1.05	Implement Plan to Improve Tech Staff Competencies	5/31/95		
1.06	Define Resp of Key Characterization Managers	3/31/94	3/31/94	7/12/94
1.07	Streamline DQO Process	1/31/94	12/31/93	5/26/94
1.08	Issue TWRS Characterization Quality Assurance Plan	2/28/94	2/28/94	5/26/94
1.09	Plan for Blind Samples	5/31/94	5/24/94	6/1/94
1.10.41	Issue Quarterly Progress Reports	4/30/94	5/3/94	5/3/94
1.10.42	Issue Quarterly Progress Reports	7/30/94	7/25/94	7/25/94
1.10.43	Issue Quarterly Progress Reports	10/30/94	10/20/94	10/20/94
1.10.44	Issue Quarterly Progress Reports	1/31/95	1/20/95	1/20/95
1.10.51	Issue Quarterly Progress Reports	4/30/95	4/21/95	5/10/95
1.10.52	Issue Quarterly Progress Reports	7/31/95	7/25/95	8/8/95
1.10.53	Issue Quarterly Progress Reports	10/20/95		
1.10.54	Issue Quarterly Progress Reports	1/19/96		
1.10.61	Issue Quarterly Progress Reports	4/19/96		
1.10.62	Issue Quarterly Progress Reports	7/19/96		
1.10.63	Issue Quarterly Progress Reports	10/18/96		
1.11	Field Schedule for Sampling All Activities FY95 & 96	6/30/94	9/30/94	
1.12	Management Staff Complete System Eng Training	5/31/94	2/15/94	5/25/94
1.13	Charact. Functions/Requirements in Functional Analysis	1/31/94	4/28/94	6/1/94
1.14	Charact. Part of Initial Systems Eng Analysis Results	6/30/94	6/30/94	6/30/94
1.15	Integrate Vapor Sample Prog into Charact. Program	10/31/94	11/3/94	12/3/94
1.16	Complete Historical Tank Layering Models	9/30/94	5/18/95	9/18/95
1.17	Historical Tank Content Est Reports NE/SW	6/30/94	6/29/94	6/30/94
1.18	Historical Tank Content Est Reports NW/SE	3/31/95	7/30/95	8/24/95
1.19	Develop Statistical Tools for Samples Needed	12/30/94	12/29/94	8/8/95
1.20	TWRS Risk Acceptance Criteria	8/31/94	5/19/95	9/29/95
1.21.01	Ferrocyanide Safety Issue DQO	12/15/93	5/1/95	9/12/95
1.21.02	C-103 Vapor DQO Draft Report	1/31/94	3/25/94	9/12/95
1.21.03	C-103 Dip Sample DQO	12/16/94	3/25/94	9/12/95
1.21.04	C-106 High Heat DQO Final Report	12/20/94	1/19/94	9/12/95
1.21.05	Organic Safety Issue DQO Report (PNL)	1/31/94	5/1/95	9/12/95
1.21.06	Safety Screening Module DQO	1/31/94	5/1/95	9/12/95
1.21.07	Waste Compatibility DQO Report	2/28/94	5/1/95	9/18/95
1.21.08	In-tank Generic Vapor DQO Final	3/3/94	5/1/95	9/29/95

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<u>Number</u>	<u>Description</u>	<u>Due Date</u>	<u>Submitted to DOE-RL</u>	<u>Submitted to DNFSB</u>
1.21.09	Vapor Rotary Core DQO Final Draft Report	1/20/94	3/25/94	9/18/95
1.21.10	Hydrogen Generating DQO Final Report	4/29/94	5/1/95	9/12/95
1.21.11	Pretreatment DQO Draft Report	8/22/94	6/29/95	9/18/95
1.21.12	HLW Immobilization DQO Draft Report	9/6/94	6/29/95	9/18/95
1.21.13	LLW Immobilization DQO Draft Report	9/21/94	6/29/95	9/18/95
1.22	Update FY94 Field Sched to Incorp New Tech. Approach	2/28/94	2/8/94	6/27/94
1.23	Identify 'Bounding Tanks' for Disposal	11/30/94	6/29/95	
2.01	DQOs for all Six Safety Issues	4/29/94	5/1/95	9/12/95
2.02	Safety Screening Module DQO Report	1/31/94	5/1/95	9/12/95
2.03	Complete Sampling & Analysis of All Watch List Tanks	10/31/95		
3.01	Initiate Const. of 2nd & 3rd Rotary Core Sample Trucks	11/30/93	11/1/93	11/15/93
3.02	Review Char. Field Proc's/DOE Conduct of Ops	1/31/94	9/20/95	
3.03	Complete Qualif. of 1st Push Mode Crew	2/28/94	1/26/94	6/30/94
3.04	Redeploy Push Mode Core Sampling	3/31/94	3/30/94	6/30/94
3.05	Complete Training & Quals for Sampling Cog Eng's	2/28/94	2/24/94	8/11/94
3.06	Restore Rotary Mode Sampling (TPA)	3/31/94	10/26/94	11/2/94
3.07	Complete Qual 1st Rotary Mode Crew	3/31/94	3/31/94	6/30/94
3.09	Detailed Plans for Acquiring/Training Add'l Crews	4/30/94	4/29/94	6/30/94
3.10	Qual of 2 Additional Crews/Push & Rotary Trucks	6/30/94	9/27/95	
3.11	Additional Rotary Mode Core Systems	9/30/94	6/30/95	
3.12	Hire/Train/Qualify 4 Add'l Rotary Mode Crews	10/31/94		
3.13	Deploy Prototype Cone Penetrometer	5/31/95		
3.14	Installation of Flammable Gas Monitors	4/30/95	4/24/95	6/23/95
3.15	Eng Eval for In Situ Moisture Monitoring	6/30/94	6/28/94	6/30/94
3.16	Direct Drill Bit Temperature Monitoring	1/31/95		
3.17	Review Procedures with Outside Drilling Experts	6/30/94	6/30/94	8/2/94
3.18	Dev. Means for Measuring Complete Sample Recovery	1/31/95	9/14/95	
3.19	Eng Eval of New Risers on SSTs	8/31/94	8/31/94	9/12/94
4.01	Issue Approved Broad Based Environmental Assessment	2/28/94	2/10/94	2/25/94
4.02	DOE-RL submit Delegation of Authority request to HQ	1/31/94	1/10/94	1/10/94
4.03	Obtain Delegation of Authority for DOE-RL	4/30/94	1/10/94	7/28/94
5.01	Install Core Scanning in Hot Cell	9/30/94	9/1/94	8/2/95
5.02	Complete Renovation of 325 'A' Hot Cell	9/30/95		
5.03	Letter Assessing Operability of New Extruder	3/31/94	3/28/94	10/26/94
5.04	Cyanide Speciation Tech Transfer (PNL)	9/30/94	9/1/94	8/2/95
5.05	Issue Results of Sampler Exchange Phase II	3/31/94	3/31/94	6/30/94
5.06	Evaluate Laboratory Staff Training	6/30/94	6/30/94	7/13/94
5.07	Develop & Implement Training for Laboratory Staff	8/31/94	6/30/94	7/13/94
5.08	Procure & Receive 2 PAS-1 Casks	9/30/94	8/18/94	8/25/94
5.09	Plan to Upgrade INEL Lab	1/31/94	2/8/94	6/28/94

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Number	Description	Due Date	Submitted to DOE-RL	Submitted to DNFSB
5.10	Plan to Upgrade LANL Lab	3/29/94	3/28/94	6/30/94
5.11	Develop Min/Max Lab Capacity Strategy	2/28/94	2/28/94	6/30/94
5.12	Upgrade INEL Lab to Ready to Serve Mode	10/31/94	10/31/94	11/4/94
5.13	Upgrade LANL Lab to Ready To Serve Mode	2/28/95	2/6/95	4/10/95
5.14	Two PAS-1 Casks will be ready for use Jan. 1995	1/31/95		
6.01	Prepare a Customer Needs Analysis (data)	4/30/94	5/2/94	6/23/94
6.02	Issue a Data Mgmt Improvement Plan	5/31/94	5/1/94	5/26/94
6.03	Initial On-Line Capability for LABCORE-1	1/31/94	1/31/94	6/23/94
6.04	Demonstrate Off-Site Access to Tank Charact. Database	1/31/94	1/28/94	7/12/94
6.05	Complete data Loading of 20 Tanks into Database	9/30/94	9/30/94	10/25/94
6.06	Evaluate 12 Validated Data Reports for Safety	1/31/94	4/25/94	6/30/94
7.01	Formally Submit Changes to Commitments			
7.02	Address Changes to Milestones in Quarterly			

6. REFERENCES

None.