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Department of Energy

Carlsbad Area Office
P. O. Box 3090
Carlsbad, New Mexico 88221

February 23, 2000

Mr. John Kieling, Hazardous Waste Permits Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502-6110

FEB 2000
RECEIVED

Dear Mr. Kieling:

Enclosed is the Carlsbad Area Office (CAO) audit report for the audit conducted at the Hanford Site near Richland, Washington on January 24-28, 2000. The report is being transmitted to you for information purposes as required by the WIPP Hazardous Waste Facility Permit, Attachment B6, Section B6-5.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to be [sic] the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Please contact Sam Vega of my staff at (505) 234-7423 if you have any questions or concern.

Sincerely,

Barbara Edmunt
for Dr. Ines Triay, Manager
Carlsbad Area Office

Enclosure



John Kieling

-2-

cc w/enclosure:

R. Kehrman, WID

L. Chism, CAO

C. Zvonar, CAO

W. Most, WID (Operating Record)

cc w/o enclosure:

L. Stevens, WID

U.S. DEPARTMENT OF ENERGY
CARLSBAD AREA OFFICE

AUDIT REPORT

OF THE

HANFORD SITE

RICHLAND, WASHINGTON

AUDIT NUMBER A-00-05

JANUARY 24- 28, 2000

TRU WASTE CHARACTERIZATION, CERTIFICATION, AND
TRANSPORTATION



Prepared By: _____

Steven D. Calvert
Steven D. Calvert
Audit Team Leader

Date: _____

2/23/00

Approved By: _____

Samuel A. Vega
Samuel A. Vega
CAO QA Manager

Date: _____

2/23/00

1.0 EXECUTIVE SUMMARY

Carlsbad Area Office (CAO) Audit A-00-05 was conducted to evaluate the adequacy, implementation, and effectiveness of the Hanford Site transuranic (TRU) waste characterization, transportation, and certification activities.

The audit was conducted at the Hanford Site during January 24-28, 2000. The audit team concluded that the Hanford technical and quality assurance (QA) procedures are adequate relative to the flow down of requirements from the CAO Quality Assurance Program Document (QAPD), the Waste Analysis Plan (WAP) of the Hazardous Waste Facility Permit (HWFP), Waste Acceptance Criteria (WAC), and the TRUPACT-II Authorized Methods for Payload Control (TRAMPAC).

The audit team concluded that the Hanford QA program satisfactorily met the requirements of the QAPD, WAP, WAC, and TRAMPAC. They also concluded that the QA program is being satisfactorily implemented and, except for the areas noted in this report, that the Hanford technical processes evaluated are satisfactorily implemented and effective.

The audit team identified nine conditions adverse to quality that resulted in the issuance of five CAO corrective action reports (CARs), which require corrective action in the areas of assessments, gas analysis, document control, nondestructive assay, and corrective actions. Five isolated deficiencies requiring only remedial corrective actions were corrected during the audit (CDA). Nine Observations were identified, and 17 Recommendations are being offered for Hanford management is consideration. The CARs, CDAs, Observations, and Recommendations are described in section 6.0.

2.0 SCOPE

The audit team evaluated the adequacy, implementation, and effectiveness of technical and QA processes related to Hanford TRU waste characterization, certification, and transportation activities.

The following elements were evaluated in accordance with the CAO QAPD:

- Organization
- QA Program Implementation
- Personnel Qualification and Training
- Quality Improvement
- Document Control
- Records Management
- Nonconformance Control
- Corrective Action
- Procurement

Measuring and Test Equipment
Assessments/Audits
Sample Control
Software Control
QA Grading
Performance Demonstration Program (PDP)

The following CAO technical characterization elements were evaluated in accordance with the WAP:

Sampling Design
Sample Handling
Headspace Gas Sampling and Analysis
Nondestructive Assay (NDA)
Real-Time Radiography (RTR)
Visual Examination (VE)
Acceptable Knowledge (AK)
Data Validation, Usability, and Reporting
WIPP Waste Information System (WWIS)

The following transportation technical elements were evaluated in accordance with the CAO TRAMPAC:

Inspection of Packaging
Visual Inspection
TRUPACT-II Preparation and Loading
TRUPACT-II Leak Check
Shipping Preparation
Package Maintenance
Documentation and Records
Payload and Drum Certification
Transportation Tracking and Communications (TRANSCOM)

Evaluation of Hanford TRU Waste Characterization Program documents was based on current revisions of the following documents:

Hanford Site Quality Assurance Project Plan (QAPjP) for the Transuranic Waste Characterization Program
Hanford Site Transuranic Waste Certification Plan
Related Hanford technical and QA implementing procedures

3.0 AUDIT TEAM, INSPECTORS, AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Samuel Vega	CAO QA Manager
Steven Calvert	Audit Team Leader, CTAC
Pete Rodriguez	Auditor, CTAC
Chet Wright	Auditor, CTAC
John Ptacek	Auditor, CTAC
Mario Chavez	Auditor, CTAC
Dee Scott	Auditor, CTAC
Dave Kimbro	Auditor, CTAC
Al Williams	Technical Specialist, CTAC
Ken Coop	Technical Specialist, CTAC
Karen Gaydosh	Technical Specialist, CTAC
BJ Verret	Technical Specialist, CTAC
Kerry Watson	Technical Specialist, CTAC
Tom Ward	Technical Specialist, WID

OBSERVERS/INSPECTORS

Mike Eagle	EPA Inspector
Jim Oliver	EPA Inspector
Nick Stone	EPA Observer
Bill Vocke	EPA/TechLaw Inspector
Ray Wood	EPA/TechLaw Inspector
Ivy Porpotage	EPA/TechLaw Inspector
Don Hammer	EPA/TechLaw Inspector
Howard Finkel	EPA/TechLaw Inspector
Dave Stuenkel	EPA/TechLaw Inspector
Connie Walker	EPA/TechLaw Inspector
Julie Shanahan	NMED Observer
Bruce Christain	NMED Observer
June Dreith	NMED Observer
Bob Thielke	NMED Observer
Steve Zappe	NMED Observer
Chris Dean	NMED Observer
James Channell	EEG Observer
Tim Harm	DOE-HQ Observer
Bert Crapse	DOE-SRS Observer
Jerry Wells	DOE-ID Observer
Dennis Murphy	Bechtel Idaho Observer

4.0 AUDIT PARTICIPANTS

Hanford individuals involved in the audit process are identified in Attachment 1. A preaudit meeting was held at the 2420 Stevens Dr. Building, Conference Room 153, on January 24, 2000. A daily meeting was held with Hanford management and staff to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held in Conference Room 153 of the 2420 Stevens Dr. Building on January 28, 2000.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

The audit team concluded that the Hanford QA program satisfactorily met the requirements of the CAO QAPD, revision 3; the WIPP WAP, effective date November 27, 1999; the WAC, revision 7; and the TRAMPAC, revision 18. The audit team also concluded that the QA program was being satisfactorily implemented. The Hanford technical processes evaluated by the audit team were determined to be satisfactorily implemented and effective except in the areas noted in this report.

5.2 QA Program Audit Activities

Details of audit activities, including specific objective evidence reviewed, are contained in the audit checklists, which are maintained as QA records. The quality assurance program procedures evaluated during this audit are provided in Attachment 2. Three CARs (00-012, 00-015, and 00-016) were issued relating to corrective action, document control, and assessments.

5.3 Technical Activities

Evaluations of applicable Hanford technical activities are summarized below. Technical procedures evaluated during the audit are provided in Attachment 2.

5.3.1 Nondestructive Assay

The audit team evaluated procedures and activities associated with the gamma energy assay (GEA) and reviewed analyses and the reporting of data and NDA results. Several issues relating to the operation and documentation of results for the GEA were identified during this audit (CAR 00-013). The audit team concluded that the written program was adequate. Based on the issues identified in the CAR, the audit team concluded that the NDA process was unsatisfactorily implemented and ineffective (see Recommendations 2, 3, and 9).

5.3.2 Data Generation and Data Verification and Validation

Evaluations of batch data reports from nondestructive examination (NDE), NDA, and headspace gas processes were performed to verify implementation of procedural requirements. The audit team determined that procedures for data generation had incorporated upper-tier requirements and were adequate and that the current process for data generation was satisfactorily implemented and effective (see Recommendations 5 and 17).

The audit team evaluated project level verification and validation activities by reviewing data packages from the NDE, NDA, and headspace gas processes. They determined that procedures for project level data verification and validation had incorporated upper-tier requirements. The audit team concluded that the procedures for data verification and validation were adequate and that the current process for data verification and validation was satisfactorily implemented and effective (see Observation 8).

5.3.3 Real-Time Radiography

The audit team evaluated procedures and activities associated with the RTR system and reviewed analyses and the reporting of data and RTR results. They determined that the RTR procedures are adequate and that the RTR process was satisfactorily implemented and effective (see Observation 7 and Recommendation 1).

5.3.4 Visual Examination

The audit team evaluated procedures and activities associated with the VE system and reviewed analyses and the reporting of data and VE results. They determined that the VE procedures are adequate and that the VE process was satisfactorily implemented and effective (see Recommendation 4).

5.3.5 Sample Handling and Chain-of-Custody

Activities for sample handling and chain-of-custody were evaluated by observing the process steps and examining related documentation. The audit team concluded that the procedure for sample handling and chain-of-custody was adequate and that the sample handling and chain-of-custody processes were satisfactorily implemented and effective.

5.3.6 Headspace Gas Sampling and Analysis

The audit team evaluated headspace gas sampling and analysis activities by reviewing procedures and witnessing the sampling process. They determined that procedures for headspace gas sampling and analysis incorporated the upper-tier requirements except in the area of tentatively identified compounds (TICs) (CAR 00-014). The audit team concluded that the procedures for headspace gas sampling and analysis were

adequate (except for the issue identified in the CAR) and that the processes for headspace gas sampling and analysis were satisfactorily implemented and effective (see Observation 9 and Recommendations 6, 7, and 9).

5.3.7 Transportation

The transportation program was evaluated by reviewing applicable documentation and procedures. The audit team observed transportation personnel performing loading, inspection, and testing activities associated with the TRUPACT II container and determined that the procedures are adequate. The audit team concluded that the transportation process was satisfactorily implemented and effective.

5.3.8 Software

The audit team evaluated the software QA program to the requirements of the Hanford Site procedures for software development and configuration management. The evaluation included a review of the development and control of the GEA, imaging activities passive neutron (IPAN), and NDE VJ-480 software baselines and the use of spreadsheet software routines. The lifecycle documentation reviewed for the vendor-acquired GEA, IPAN, and NDE VJ-480 systems included the software evaluation, software requirements, software verification and validation planning, implementation, test reports and software problem reports and change requests (PR/CR). The spreadsheets included the TRU program software inventory for organic chemistry (WSCF) and the calculation of assay results. One condition adverse to quality was discovered relative to documenting the disposition of comments for the independent technical review of the spreadsheets for the NDA calculation of assay results (CAR 00-013). The written software procedures are adequate and the software QA process is satisfactorily implemented and effective (see Observation 1).

5.3.9 WIPP Waste Information System

Hanford input to the WWIS process was demonstrated for the audit team and applicable documentation was reviewed. The team verified that access control had been established and that Hanford has the ability to input correct data into the WWIS. The evaluation included a demonstration of the electronic data transfer to the WWIS. It was proved during the demonstration that data could be transferred to the WIPP site. The audit team concluded that the procedure for WWIS is adequate and that, for the part of the WWIS reviewed, the process has been satisfactorily implemented and is effective. Transmission of the actual data to WIPP will be included as part of the review process prior to Hanford being allowed to ship.

5.3.10 Acceptable Knowledge

The AK process was evaluated by reviewing the summary documents, references, and other applicable documentation. It was determined that the AK procedure had captured the upper-tier requirements. The activities associated with data reconciliation were also reviewed and found to be satisfactorily implemented and effective. The audit team concluded overall that the program for AK and data reconciliation was adequate and that the implementation and effectiveness of AK activities are satisfactory except in the areas of AK confirmation, reconciliation, and reevaluation. These areas will be examined during follow-up activities at the site (see Observations 4, 5, and 6, and Recommendations 13, 14, 15, and 16).

6.0 CAR, CDA, OBSERVATIONS, AND RECOMMENDATIONS

6.1 CARs

6.1.1 Status of CARs Initiated as a Result of CAO Audit A-99-05

CAR 99-092, issued as a result of Audit A-99-05, was evaluated during this audit. The corrective actions for this CAR have not been completed. CAR 99-092 will remain open until the required corrective actions have been completed and verified.

6.1.2 CARs Initiated as a Result of CAO Audit A-00-05

The following five CARs, initiated as a result of Audit A-00-05, have been transmitted to Hanford under separate cover. A brief description of each CAR is provided below.

6.1.2.1 CAO CAR 00-012

The following issues, which are related to the corrective actions taken to qualify pre-existing data, were identified during the audit.

- CARs (TRU-SPO-99 CAR-080, 081, 082, and 083) for characterization data generated prior to the effective date of the HWFP were closed before the corrective actions were completed.
- The CARs TRU-SPO-99 CAR-081 and 082 require the following actions:
 - Evaluate the HWFP requirements for headspace gas sampling activities and compare them to those in place prior to the effective date of the permit.
 - Based on the comparison, evaluate the usability of the headspace gas sampling data obtained prior to the effective date of the HWFP.

- The conclusion derived from the actions to correct the deficiencies was that the headspace gas sampling method used prior to the effective date of the HWFP was adequate to support headspace gas characterization for disposal at the WIPP. This conclusion does not satisfy the condition that Hanford must implement the applicable requirements of the HWFP's WAP before Hanford TRU waste can be disposed of in the WIPP.
- Qualification of existing data for headspace gas, NDE, and VE has not been completed. Generation level reviews of the supplementary data have not been performed, and the project level data verification and validation process has not been completed.
- The corrective action plans for CARs TRU-SPO-99 CAR-080, 081, 082, and 083 did not address the identified concerns, nor did they require training of the individuals performing the reviews to the requirements of the HWFP. Further, the corrective action plans did not address generation level reviews or project level data verification and validation activities.

6.1.2.2 CAO CAR 00-013

Issues related to the NDA process that were identified during the audit included:

- The WAC (rev. 7) and Hanford Waste Certification Plan require that energy, resolution, and efficiency be plotted on control charts, compared to limits, and reported as part of the testing batch data. This is being performed for efficiency but not for energy and resolution.
- The AK process includes data confirmation/reconciliation, but insufficient information is available to assess the effectiveness of this process. This information is part of the process to assess whether newly derived NDA isotopic information corresponds to AK isotopics.
- The process for validation of calibration has not been proceduralized to include the daily quality control (QC) checks that are used to support the required annual verification/validation of calibration.
- Plutonium isotopic distribution information is provided only from AK documentation. The AK documentation comes from plutonium finishing plant (PFP) operations. No confirmation of Pu isotopic distribution is made, and no documentation is available other than the AK information.
- There is no documented comment resolution between the independent technical reviewer and the NDA analyst for the spreadsheet calculations. The procedure only

allows the independent technical reviewer to initiate a nonconformance report (NCR) if there is incorrect information. The actual practice suggests that the reviewer and the analyst resolve comments made during the independent technical review.

6.1.2.3 CAO CAR 00-014

Procedure LA-523-410, para. 11.2.5 states in part that, "Only TICs with a concentration equal or higher than the PRQL of the non-polar target compounds (10 ppmv) are reported." The HWFP does not include a lower cut-off level after solid identification of TICs. The laboratory procedures do not address how to add a target compound to the analyte list after being identified in 25 percent of samples.

6.1.2.4 CAO CAR 00-015

Comment resolution has not been documented on the Procedure Review and Approval Form for laboratory analysis procedures.

6.1.2.5 CAO CAR 00-016

Training files for inspection and test personnel revealed that individuals acting in this capacity have been certified by Fluor Daniel (Hanford Site management). However, TRU program management has not evaluated the Fluor Daniel certification of inspection and test personnel for equivalency with Hanford WIPP Procedure WMH-400, section 1.2.2.

6.2 Deficiencies Corrected During the Audit

Five deficiencies, requiring remedial action only, were identified during the audit. All were corrected before the completion of the audit. These are identified on the completed audit checklists and documented on the "Corrected During the Audit Forms," which are maintained as QA records.

6.3 Observations

Observations are issues that could result in compliance concerns if action is not taken. The following nine Observations were identified during the audit:

1. Hanford has not completed an assessment of the BII, Inc. software quality assurance program for the software procured for the IPAN system to assure compliance with the requirements of NQA-2.7.
2. NCRs have not been closed promptly. Eleven of 25 NCRs initiated in 1999 remain open.

3. The Hanford independent assessment program schedule does not cover all areas of the program. Hanford should assure that assessments are performed to verify that the entire program has been satisfactorily implemented and is effective. The assessment schedule should be revised to include all applicable areas, and assessments should be performed as scheduled.
4. The AK Summary Document needs additional justification to establish the waste stream designation. The justification should include the total number of PFP drums, the total number of TRU mixed/nonmixed drums (e.g., 1,850 nonmixed), how the first "900" nonmixed TRU PFP drums were determined (i.e., performance agreements; dates), why this number was reduced to 750, etc. The AK Summary Document should include a concise justification regarding why individual waste matrix codes (down to the lowest level) cannot be assigned; include information, as appropriate, from references 33220-GCT-066, 33220-99-GCT-068, 33220-99-GCT-022, and 33220-99-GCT-052.
5. The AK Summary Report includes brief discussions about NDA-derived AK radioassay data from PFP, but does not completely summarize the type of information obtained. Specifically, the data from PFP are identified as being NDA information (i.e., NaI detectors or SGS), but isotopic information included on the Solid Waste Disposal Form was obtained through destructive analysis processes (i.e., mass spectrometry). The AK Summary Report (i.e., HNF-5481 and 5482) should be revised to more thoroughly describe the origin (e.g., calculation) of radionuclide information presented on the Solid Waste Storage/Disposal Record. The AK Summary Report should include a flow diagram illustrating how AK-derived information was obtained at the PFP and aligning this process with the use of AK information by current NDA analytes.
6. The nonhazardous waste determination for the waste stream identified in the AK Summary Document should be backed up with additional information on the use of carbon tetrachloride in the process.
7. WRP1-OP-0908 requires that prohibited items identified in a waste container be documented on the Waste Container Management Traveler (WCMT). This serves as the identification/segregation mechanism for their NCR process. Prohibited items discovered in batch 2000-1, drums 9401060 and RHZ-212-A-22906 were not documented in the WCMT until 18 days after their discovery. This information should be documented upon discovery.
8. Data packages WR-TB-1999-02, WR-TB-1999-04, WR-TB-1999-08, and WR-TB-1999-96 included an unusually large number of changes to the data without any explanation/justification. This should have been noticed and addressed during generation level and project level verification and validation.

9. A previous revision of a form was used in a sampling area to record drum age criteria. The correct form was inserted, but not filled out completely. Hanford issued an internal CAR and the effect is being investigated.

6.4 Recommendations

The following 17 Recommendations are presented for Hanford management's consideration:

1. Hanford should revise procedure WRP1-OP-0729 to clarify that if liquid is detected in a nontransparent container, it is to be assumed that the container is full and to be treated as a prohibited item. Other procedures do list this item as prohibited.
2. A note should be added to WMH-350, section 2.2, after paragraph 16 to specify which of the list of 10 isotopes Hanford measures and which they determine by AK.
3. Hanford should perform additional measurements to better determine the magnitude of specific error terms used in total measurement uncertainty calculations.
4. Due to the "around-the-corner" configuration of the VE expert and VE technician positions, it is recommended that the VE expert also be provided the capability to supplement the narration of the VE tape rather than constantly traversing between the positions.
5. Numerous changes are being made to batch data reports during the review process. Hanford should explain the changes in the form of a note to prevent confusion as to why the changes were made.
6. Hanford should include spectraform sample and a library entry to aid in the identification review of tentatively identified and target compounds.
7. Hanford should obtain a new standard that contains only the required analytes for the initial calibration for quantitation for volatile organic compounds.
8. Hanford should revise the initial standard form to include retention-time window values, actual retention-time, and initial standard high/lower limits for each analysis performed.
9. Hanford should measure isotopic ratios with the GEA instrument for direct use in assay calculations and/or verification of AK-supplied isotopics.

10. The documents HNF-5481, HNF-5482, and HNF-3461 are provided with the Waste Stream Profile Form (WSPF) to CAO, which together constitute several hundred pages of documentation. While this approach is acceptable, other sites provide more concise waste stream summary information. Hanford should consider including more information in the designated boxes on Attachment 6 of WMH-400 section 7.1.9 and using this information as the attachment to the WSPF.
11. The WSPF often references attached documentation for specific information, but does not always cite the specific section of the referenced document that includes the information. More specific references should be included on the WSPF.
12. The documents HNF-5481 and HNF-5482 are referred to as attachments, but these documents themselves also include attachments (i.e. attachments to attachments). Hanford should consider calling one set of attachments appendices (or a similar designation) to prevent confusion.
13. The AK Summary Documents HNF-5481 and HNF-5482 should be revised to address the following:
 - Check references in section 3 of HNF-5481 to ensure that referenced documents address the issue in the text. Revise the text to include more supporting references (i.e., Solid Waste Storage/Disposal Record) and update text to include tables or other summary statements regarding these records (i.e., explain what they are, that every single drum has one, etc.).
 - Add tables with average waste material parameter weights or volumes based on the Solid Waste Storage/Disposal Records; also add tables with generalized isotopic distribution information derived from the Solid Waste Storage/Disposal Records.
 - When updating HNF-5481 and HNF-5482 as new information is obtained (i.e., reconciliation information), indicate explicitly those data added as a result of the reconciliation process so that the progressive updating of the document, for various reasons, can be easily tracked.
14. WMH-400, section 7.1.9, para. 4.7, does not include information presented in the WAP regarding RTR/VE reconciliation, although this information is included in attachments. Hanford should revise the procedure to ensure that attachments with required information are adequately referenced.

15. The QAPjP often includes more detailed directions regarding the AK process than WMH-400 does. Section 7.1.9 of WMH-400 should be revised to either better reference the QAPjP in specific sections where detail is lacking, or to include the detailed information from the QAPjP.
16. Due to recent changes in the convention for assigning waste matrix code groups and waste stream descriptions, confusion was noted during the RTR and VE verifications of these parameters. It is recommended that the AK documentation and the RTR and VE processes be standardized to reflect a consistent nomenclature.
17. Hanford should modify the Waste Material Parameter Weight Comparison Report to require that all waste parameter weights listed on the RTR and VE forms be included in the comparison report, including the listings under 0.5 kg, which are not always included in the reports reviewed during the audit. The audit team also recommends that the nonwaste parameters (drum weight and liner weight) not be included.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Table of Procedures Audited

PERSONNEL CONTACTED DURING THE AUDIT

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Anderson, Aaron	NDE Technician		X	
Aichele, Mike	Operations Manager	X		
Ailes, Sid	WRAP/SAIC		X	
Aromi, Ed	FH/WMP/Vice President	X		
Barnettlor, R	Solid Waste Treatment Project Manager	X		
Bartz, Joan K.	Washington State Dept. of Ecology	X	X	X
Beaver, Valerie	QA Records Specialist		X	
Bilson, Beth	DOE-RL	X		
Birkland, Vicky L.	FH/WMP/Procedures	X		
Bisping, Russ	FD/Team Lead			X
Blackford, L.	FHI/WMP/Manager TRU Project	X	X	X
Bockley, James, Jr.	FH/Manager Waste Services	X		
Bogart, Don	QA Records Management		X	
Boress, Greg	WMTS/Traffic Specialist		X	
Callaway, Tim	WRAP Operations		X	
Campbell, Jim	Transportation Specialist			X
Cantalour, Michael	FD/NDA/Engineer		X	
Chapman, Vince	Radiation Control		X	

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Clinton, Richard	AK Data Collector	X	X	X
Conner, Eva	Document Control Manager		X	
Connolly, Rhonda	FH-WMP/Technical Operations	X		
Cooper, Audrey	FDH Acquisition Manager		X	
Crane, Paul J.	TRU Site Project Manager	X	X	X
Davis, Albert	WMTS/Engineer		X	
Dougherty, Leslie A.	TRU Records Specialist	X	X	X
Drazon, George	Washington State Patrol	X	X	
Dudley, J.B.	WMH/Operations Lead		X	
Elliot, Scott	Treatment Facility Operations Manager	X		X
Erickson, Todd	WRAP/Procedure Writer		X	
Estes, Mike	WMP Procurement/Purchasing Manager		X	
Fagendin, C.	WMH/Radiation Control		X	
Fillion, Yvan	WRAP Operator		X	
Fitzgerald, Scott	WSCF Project Support	X		
French, Mark	TRU Program Manager DOE-RL	X	X	X
Fuller, Tami	FH/WMP/Procedure Writer		X	
Galbreath, Evan	QA Records Management		X	

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Geary, Jim	WRAP Operations Manager	X		X
Geenough, Keith	FDH-WSCF/Project Support Lead	X	X	
Gillespie, Bruce	Canberra, Scientist		X	
Greager, Tim	TRU Program/Alternate Site Project Manager		X	X
Guercia, Rudy	DOE-RL/Acting Director Waste Management	X		X
Hey, B.	FH/Scientist		X	
Higgins, Ron	DOE-RL/WRAP Facility Representative		X	
Hill, Barbara	FH/WMH/Vice President Performance Assurance			X
Hladek, K.	FH/WMP/Strategic Planning	X		X
Hope, Kevin	WRAP Operator		X	
Hopkins, Blaine	NDE/Inspector		X	
Huggins, Stewart	TRU QA/QC Engineer	X	X	X
Humphreys, K.	WRAP NDE Cognizant Engineer		X	
Jasen, William G.	Waste Certification Official	X	X	X
Kerns, Robert	Scientist		X	
Keve, John	Independent Technical Reviewer		X	
Kidder, Bryan	WMH/External Affairs	X		X

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
King, Scott	Headspace Gas Operations		X	
Kooiker, Susan	WMH/Operations Supervisor		X	
Kover, K.	WMH, Waste Certification Official Alternate	X		X
Lampman, Louis	WRAP Operations		X	
Lane, Michael	WRAP Computer Engineer		X	
Lee, L.	Operations		X	
Leonard, K.	Transportation Certification Official	X	X	X
Lockard, L.	Sampling WSCF		X	
Maupin, Jim	Site Quality Assurance Officer	X	X	
Maxwell, John	WMTS/Traffic Specialist		X	
McCall, Dennis	WMTS/Alternate Transportation Certification Official	X	X	
McCollum, C.R.	WM/Operations		X	X
McCoy, John	WMNS/Observer	X	X	
McGuffy, J.C.	WMH/Visual Examination Expert	X	X	
McKenney, D.E.	FH/Strategic Planning	X		X
Meier, Kirsten	Facility Quality Assurance Officer/WSCF	X	X	X

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Moffite, Jack	Treatment Facility Supervisor		X	
Mooney, Trent	WRAP/RadiationControl		X	
Moore, Terry	WMH/Director Project Support	X		
Mortensen, Stuart A.	Treatment Facility Team Lead	X	X	
Nance, Sheri	Site Project Office Records	X	X	X
Oldfield, Seana	CWC Supervisor	X		
Olsen, R.C.	WRAP Operations		X	
Palmer, Mark	WRAP Principal Scientist		X	
Perkins, Lerry	WMH/WSCF Manager	X		X
Pingle, L	Headspace Gas Operations		X	
Plush, Tom	Procurement Manager		X	
Polotto, Cathy	FH/WRAP/Operator		X	
Purcell, M.A.	FH/Principal Scientist		X	
Ramos, E.	WRAP Observer		X	
Richards, Curtis	Radiation Control Lead		X	
Roberts, Lee W.	WRAP Project Manager	X		X
Romano, Tina	Training Administrator		X	X
Sautmen, Mark	DNFSB/Site Representative			X

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Scott, Carol	FH/WMP/Procedure Writer		X	
Sequin, Nicole	Contract Support		X	
Shaw, Janis	FH/WMP/Procedure Writer		X	
Shoemake, Nancy M.	FD/Field Supervisor		X	
Stauffer, Markus	COGEMA/Analyst		X	X
Street, J.J.	WRAP Operations		X	
Svoboda, Ken	FH/TRU Projects	X		X
Synoground, Todd	WRAP Supervisor		X	
Thackaberry, W.R.	WRAP/Facility Quality Assurance Officer	X	X	
Triner, Glen	Manager Waste Services			X
Valante, Gayle	WWIS Data Entry	X	X	
Van Slyke, Jan	FH/WMP/Procedure Writer	X	X	X
Visnanath, R.	FH/Team Lead		X	X
Vondruska, George	QA Records Management		X	
Watson, Mike	AK Data Collector		X	
Weider, John R.	WRAP Manager		X	
Welsh, Terri L.	Statistics		X	
Wilde, Dick	Waste Management Project	X		
Will, Craig E.	WRAP/Principal Engineer		X	

HANFORD PERSONNEL CONTACTED				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST AUDIT MEETING
Wise, Will	WRAP OPs/Operator		X	

HANFORD PROCEDURES AUDITED

NUMBER	PROCEDURE NUMBER	TITLE
1.	WMH-400, section 1.1.2	TRU Graded Approach
2.	WMH-400, section 1.2.1	TRU Training and Qualification Plan
3.	WMH-400, section 1.2.2	Qualification and Certification of Inspection and Test Personnel
4.	WMH-400, section 1.2.3	Qualification and Certification of Audit Personnel
5.	WMH-400, section 1.3.1	TRU Corrective Action Management
6.	WMH-400, section 1.3.2	TRU Nonconforming Item Reporting and Control System
7.	WMH-400, section 1.3.3	TRU Corrective Action Reporting and Control
8.	WMH-400, section 1.4.1	TRU Document Control
9.	WMH-400, section 1.5.1	TRU Records Management
10.	WMH-400, section 2.1.1	TRU Process Control
11.	WMH-400, section 2.1.2	TRU Operating Procedure Preparation and Approval
12.	WMH-400, section 2.1.3	TRU Administrative Procedure Preparation and Approval
13.	WMH-400, section 2.1.5	TRU Transportation Logistics
14.	WMH-400, section 2.1.6	TRU Analytical Procedure Process
15.	WMH-400, section 2.3.1	TRU Procurement Planning
16.	WMH-400, section 2.3.2	TRU Procurement Document Control
17.	WMH-400, section 2.3.3	TRU Control of Purchased Items and Services
18.	WMH-400, section 2.4.4	TRU Control of Measuring, Test, and Data Collecting Equipment
19.	WMH-400, section 2.4.5	TRU Identification and Control of Items
20.	WMH-400, section 3.1.1	TRU Management Assessment
21.	WMH-400, section 3.1.2	Quality Assurance Reports to Management
22.	WMH-400, section 3.2.1	TRU Independent Assessments
23.	WMH-400, section 3.2.2	TRU Surveillance Program
24.	WMH-400, section 6.1.1	TRU Software Quality Assurance
25.	WMH-400, section 7.1.1	TRU Waste DQOs Reconciliation and Reporting
26.	WMH-400, section 7.1.3	Transuranic Waste Repackaging, Visual Examination, and Sampling
27.	WMH-400, section 7.1.4	Sampling Design and Data Analysis for RCRA Characterization and Visual Examination of Retrievably Stored Waste
28.	WMH-400, section 7.1.5	WWIS Data Reporting and Entry
29.	WMH-400, section 7.1.6	TRU Waste Project Level Data Validation and Verification
30.	WMH-400, section 7.1.7	TRU Waste Sample and Waste Container Management Activities
31.	WMH-400, section 7.1.8	Transuranic Waste Transportation and Disposal Certification
32.	WMH-400, section 7.1.9	Acceptable Knowledge Documentation Management
33.	WMH-400, section 8.1.1	Logkeeping Practices for WIPP Activities in Special Analytical Support
34.	WMH-400, section 8.1.8	Data Management for Headspace Gas Results
35.	WMH-350, section 2.2	Calculation of Assay Results
36.	WMH-350, section 2.3	Data Management of NDE/NDA Results
37.	WMH-350, section 2.4	QAOs for NDA Results
38.	WMH-350, section 2.5	GEA Energy and Efficiency Setup and Baseline Establishment
39.	WRP1-OP-0503	Move Drums Throughout WRAP
40.	WRP1-OP-0521	Receive and Load TRUPACT Containers
41.	WRP1-OP-0522	Assemble and Stretch Wrap TRUPACT Payload
42.	WRP1-OP-0524	Helium Leak Detector Operation
43.	WRP1-OP-1225	Radiological Support of TRUPACT-II Shipping and Receiving
44.	WRP1-OP-0726	Glovebox Loadout
45.	WRP1-OP-0729	Visual Examination
46.	WRP1-OP-0905	Imaging PAN Assay Operations
47.	WRP1-OP-0906	Gamma Energy Assay Operations
48.	WRP1-OP-0908	Operation of Drum NDE System
49.	WRP1-OP-0911	Storage and Use of Special Nuclear Material (for PDP work only)
50.	DO-080-009	Obtain Headspace Gas Samples of TRU Waste Containers
51.	LA-523-410	Determination of VOCs in TRU/Mixed Waste Container Headspace

HANFORD PROCEDURES AUDITED

NUMBER	PROCEDURE NUMBER	TITLE
52.	LA-523-426	Determination of Permanent Gases in Waste Container Headspace
53.	LO-080-407	Cleaning SUMMA Canisters
54.	LO-090-450	TRU Project Sample Chain-of-Custody, Acceptance, and Disposal
55.	DOE/CAO-94-1045	Performance Demonstration Program Plan for Nondestructive Assay for the TRU Waste Characterization Program
56.	DOE/CAO-94-1076	Performance Demonstration Program Plan for Analysis of Simulated Headspace Gases