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Department of Energy

memorandum

Carlsbad Area Office
Carlsbad, New Mexico 88221

DATE: April 13, 1999

REPLY TO ATTN OF: CAO:QA:MAI:99-0598:UFC 2300.00

SUBJECT: CAO Audit Report A-99-07, Rocky Flats Environmental Technology Site (RFETS) TRU Waste Characterization, Certification and Transportation Program

TO: J. A. Legare, RFFO

The Carlsbad Area Office (CAO) conducted an audit of your Quality Assurance (QA) Program for TRU Waste Characterization, Transportation, and Certification at Rocky Flats Environmental Technology Site (RFETS), near Golden, Colorado on March 1-5, 1999. The software quality assurance (SQA) activities of Canberra, who is performing characterization work for RFETS, was audited separately (CAO Audit A-99-13) on March 24-25, 1999. The audit team concluded that, except for the deficiencies noted in the associated Corrective Action Reports (CARs), the RFETS technical and QA Programs were adequate in accordance with the QAPD, QAPP, WAC, and TRAMPAC. The audit team also concluded that the defined QA Program was being satisfactorily implemented and that, for the technical areas evaluated, the RFETS program was effective.

As a result of this audit, six CARs were issued, and five Observations, four Recommendations, and four exemplary practices were identified. The CARs have been transmitted to RFETS under separate letter. No response is required concerning the observations.

If you have any questions or comments concerning this report, please contact Mary E. Bennington, NTP Certification Manager, at (505) 234-7482.

Marc A. Italiano
Quality Assurance Manager

Attachment

cc:
L. Xuan, RFFO
K. Klein, CAO
M. Bennington, CAO
M. Italiano, CAO
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U.S. DEPARTMENT OF ENERGY
CARLSBAD AREA OFFICE

AUDIT REPORT

OF THE

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

GOLDEN, COLORADO

AUDIT NUMBER A-99-07

MARCH 1- 5, 1999

RECERTIFICATION AUDIT FOR
TRU WASTE CHARACTERIZATION AND CERTIFICATION

Prepared By: Marc Italiano for Mary E. Bennington **Date:** 4/14/99
Audit Team Leader and
Waste Certification Manager

Approved By: Marc Italiano **Date:** 4/14/99
Marc Italiano
CAO QA Manager

1.0 EXECUTIVE SUMMARY

Rocky Flats Environmental Technology Site (RFETS) was originally certified on March 26, 1998 to characterize, certify, and transport retrievably stored transuranic (TRU) debris waste to the WIPP. Carlsbad Area Office (CAO) Audit A-99-07 was conducted to evaluate the continued adequacy, implementation, and effectiveness of the RFETS TRU waste characterization, certification, load packaging, and transportation activities.

The audit was conducted at RFETS facilities near Golden, Colorado during the period of March 1-5, 1999. The CAO audit team was accompanied by the EPA audit team conducting an annual maintenance audit of the RFETS TRU waste quality assurance program in accordance with 40CFR 194.22(a). One observer from the Environmental Evaluation Group and three observers from the Hanford Site in Washington State also were in attendance during the audit.

The audit team issued six Corrective Action Reports (CARs) that require RFETS corrective action in the areas of acceptable knowledge, document control, headspace gas, cause analysis, chain-of- custody, and personnel training. Twenty-three isolated deficiencies required only remedial corrective actions and were corrected during the audit (CDA). Five Observations were identified. Four Recommendations are being offered for RFETS management consideration. One area (software quality assurance associated with the Canberra instrumentation) was removed from the scope of the audit because the necessary documentation was not immediately available. This area was audited by CAO audit report A-99-13. Four areas of Exemplary Practice were identified during the audit.

Audits of the waste generator sites are conducted to verify that the audited activities meet the Waste Isolation Pilot Plant requirements for characterization, certification, and transportation of defense-related TRU waste. Audits are performed on a sample of the total activities being performed.

The overall conclusion of the audit is that the RFETS Quality Assurance (QA) program is adequate, satisfactorily implemented, and effective in achieving the desired results. The technical elements that were evaluated were found to be effective in producing a satisfactory product. Document control was found to be marginally implemented and marginally effective.

2.0 SCOPE

The audit team evaluated the adequacy, implementation, and effectiveness of technical and quality assurance processes related to the RFETS TRU waste characterization, certification, load packaging and transportation activities. During the audit, the

Canberra software quality assurance area was removed from the audit scope due to unavailability of programmatic documents. This was audited the week of March 22, 1999. The results of that audit will be distributed in a separate report.

The following QA elements were evaluated in accordance with the CAO Quality Assurance Program Document (QAPD):

Organization
QA Program Implementation
Personnel Qualification and Training
Corrective Action
Quality Improvement
Documents and Records
Work Processes
Procurement
Measuring and Test Equipment
Assessments
Sample Control
Data Documentation, Control, and Validation
Software Requirements (RFETS only)
QA Grading

The following CAO waste characterization technical elements were evaluated in accordance with the CAO Quality Assurance Program Plan (QAPP):

Acceptable Knowledge
Nondestructive Assay
Sampling Analysis Plan
Sampling - Head Space Gas
Testing – Nondestructive Assay (NDA), Real-Time Radiography (RTR)
Visual Examination
Analysis - Head Space Gas
Data Validation, Usability, and Reporting
Performance Demonstration Program (PDP)

The following CAO Transportation technical activities were evaluated in accordance with the TRAMPAC:

Inspection of Packaging
Visual Examination
Preparation and Loading
Leak Check

Shipping
Package Maintenance
Documentation and Records
Payload and Drum Certification
TRANSCOM

The following technical and quality assurance elements were not included in this audit because no work is planned in these areas in the near future. These areas will be evaluated in subsequent audits:

RCRA Solids for Performance Demonstration Program
Semi-volatile organic compounds (SVOC) sampling and analysis
Solid coring and analysis

Evaluation of RFETS TRU Waste Characterization Program (TWCP) documents was based on current revisions of the following documents:

Quality Assurance Program Document (QAPD), CAO-94-1012

Transuranic Waste Characterization Quality Assurance Program Plan (QAPP), CAO-94-1010

Rocky Flats Environmental Technology Site TRU Waste Characterization Program Quality Assurance Project Plan (QAPjP), 95-QAPjP-0050

Transuranic Waste Certification and Quality Assurance Plan (WCP), B-A20/97.03

Waste Acceptance Criteria for the Waste Isolation Pilot Plant, DOE/WIPP-069

Related RFETS technical and quality assurance implementing procedures

3.0 AUDIT TEAM AND OBSERVERS

CAO AUDITORS/TECHNICAL SPECIALISTS

Mary E. Bennington	Audit Team Leader, CAO
Samuel Vega	CAO Observer
Norman Frank	Lead Auditor, CTAC
Amy Arceo	Auditor, CTAC
Earl Bradford	Auditor, CTAC
Steve Hans	Auditor, CTAC
Charlie Riggs	Auditor, CTAC
Pete Rodriguez	Auditor, CTAC
L. Dee Scott	Auditor, CTAC
Jack Walsh	Auditor, CTAC

Mark Doherty	Technical Specialist, CTAC
Al Williams	Technical Specialist, CTAC
Kerry Watson	Technical Specialist, CTAC
BJ Verret	Technical Specialist, CTAC
Ken Coop	Technical Specialist, CTAC
Clint Kelley	Technical Specialist, WID
Bill Weston	Technical Specialist, WID

EPA AUDITORS

Mike Eagle	Audit Team Leader, EPA
John Goode	Auditor, EPA/Techlaw Inc.
Patrick Kelley	Auditor, EPA/Sanford, Cohen & Associates
Ivy Propotage	Auditor, EPA/Techlaw Inc.
Bill Volke	Auditor, EPA/Techlaw Inc.
Gary Walvatne	Auditor, EPA /Techlaw Inc.
Ray Wood	Auditor, EPA/Trinity Engineering Associates

OBSERVERS

Ben Walker	Observer, EEG
Mark French	Observer, DOE-RL
Paul Crane	Observer, Waste Management Hanford
Bill Jasen	Observer, Waste Management Hanford

4.0 AUDIT PARTICIPANTS

RFETS individuals contacted during the audit are identified in Attachment 1. A preaudit meeting was held in Building 460 on March 1, 1999. A daily meeting was held with RFETS management and staff to discuss issues and potential deficiencies. The audit was concluded with a postaudit meeting held in Building 460 on March 5, 1999.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

5.1.1 Audit results are summarized in Sections 5.2 and 5.3 below. A summary table of audit results is provided as Attachment 2. Details of audit activities, including specific objective evidence reviewed, are contained within the audit checklists. The checklists are maintained by CAO as QA records.

5.1.2 A list of procedures evaluated during the audit is provided as Attachment 3.

5.2 QA Program Activities

5.2.1 The RFETS procedures evaluated during this audit have incorporated the appropriate upper-tier requirements. The audit team concluded that the RFETS technical and quality assurance procedures were adequate relative to the requirements of the CAO Quality Assurance Program Document (QAPD) and the CAO Quality Assurance Program Plan (QAPP).

5.2.2 The audit team concluded that RFETS procedures were implemented as described in program documents and effective in achieving acceptable results, with the exception of document control, which was determined to be marginally implemented and marginally effective due to a lack of objective evidence of reviews and approvals, differences between issued documentation and QA record documentation, and numerous typographic errors that rendered the procedures unclear. All identified deficiencies were corrected during the audit. The subsequent CAR (CAO CAR 99-035) directed RFETS to complete a Corrective Action Plan (CAP) to ensure that actions to preclude recurrence were taken to address the document control system.

5.3 Technical Activities

The RFETS technical processes evaluated by the audit team were determined to be effective in achieving acceptable results. Results of evaluated RFETS technical activities are summarized below.

5.3.1 Acceptable Knowledge

The collection, review, and documentation of Acceptable Knowledge (AK) is implemented in accordance with RFETS procedure WIPP-003. Overall, these activities and procedures are adequate, implemented, and effective. RFETS has collected adequate information to characterize waste by AK and has assembled it into an auditable record. Although all conditions adverse to quality were corrected during the audit, one CAR was written (CAR-034, see Section 6.0) covering the AK process.

A summary report (RMRS-WIPP-98-100) has been issued that describes six of the waste streams, as required by CAO-94-1010. One discrepancy was found regarding values for graphite different from those in RF RMRS-97-018, Rev 3. This was corrected during the audit. Although the document does not contain process flow diagrams, the diagrams are available in the Waste Stream and Residue Identification and Characterization "building books" and other RFETS documents.

The first Acceptable Knowledge Accuracy Report was issued in February 1999. This report will be issued quarterly. Three discrepancies were identified in the review. A letter was not written for identifying an unresolved discrepancy, all references in published documents were not evaluated, and information was not categorized and prioritized as required by CAO-94-1010. Each of these discrepancies was corrected during the audit. An Observation (Obs. #4) was also written to capture the audit team's concern with using normal correspondence for resolving discrepancies. The Observation suggests using a Waste Non-Conformance Report (WNCR).

The RFETS QA Project Plan (95-QAPP-0050) was completely revised in 1998. It was discovered that a reference was omitted for identifying a procedure for assigning EPA hazardous waste numbers to the waste stream. This was corrected by page change during the audit.

Changes in sub-populations of drums for light metal, plastic, filter media, activated charcoal, combustibles and ful-flo filters from AK confirmatory analyses (e.g., head space gas, RTR, mass spec, isotopic) were examined and found to be consistent. A summary of the changes for 1998 is found in the Acceptable Knowledge Accuracy Report. With the revisions to the QAPjP, procedure 1-C81-HWRM-23 was cancelled and applicable requirements incorporated into 4-H19-WSRIC-001.

5.3.2 Nondestructive Assay

The audit team examined the Canberra IQ3 isotopic gamma scanner, passive neutron (PN), and segmented gamma scanner (SGS) instrument procedures and documents used at the RFETS for adequacy, implementation, and effectiveness. The IQ3 and PN instruments had been previously approved to perform assays on RFETS debris waste, while the SGS is only approved to make isotopic abundance measurements. In the most recent PDP NDA cycle (5a), the IQ3 and PN instruments passed all tests for the combustible-matrix drum but failed the test for sludge drums. However, Canberra is still qualified to measure debris waste. During the audit, Canberra made several changes to their total measurement uncertainty (TMU) documentation to more precisely describe how those instruments are currently being used at RFETS. They also wrote a Canberra NCR and a corrective action plan regarding a timeliness problem with their performance of annual verification of calibration measurements. The audit team concurred that this was a satisfactory resolution and that there had been no negative impact on data quality. The audit team also made two Recommendations (Rec. #1 and #2); one regarding a data review checklist and the other a determination of possible isotopic inhomogeneity effects on the TMU. The audit team concluded that the Canberra Industries NDA measurement program at the RFETS continues to be effective.

5.3.3 Real-Time Radiography

Real-Time Radiography (RTR) operations in Building 569 were observed and records from Buildings 569 and 664 were reviewed. All operations continue to be excellent. RTR characterization activities are adequate and effective.

5.3.4 Visual Examination

Visual examination (VE) at RFETS had been completed earlier in the year. VE activities were evaluated through the use of batch reports and video tapes of the operations. Some areas for improvement were noted (Obs. #3) and implemented by RFETS during the audit. Visual examination activities are adequate and effective.

5.3.5 Head Space Gas

The activities performed by RFETS in support of headspace gas sampling and analysis were evaluated for compliance with applicable procedures. The audit team's evaluation of the analytical laboratory's data packages, records, practices, methods, and analytical instrumentation identified sufficient supporting evidence for determining that the reviewed processes and activities are adequate, satisfactorily implemented, and effective.

5.3.5.1 Headspace Gas Sampling

Container headspace gas sample collection was observed and determined to be satisfactory. Associated forms and records were completed per procedural requirements. Inspection of the drum staging and sampling areas and reviews of the WIPP sample drum logs and travelers resulted in a determination that container venting was performed and equilibration time limits are met prior to sample collection. Headspace gas samples were collected through the vent filters as required. All personnel observed and interviewed demonstrated a thorough understanding of procedural requirements. Container headspace gas sample collection was determined to be adequate, satisfactorily implemented, and effective.

5.3.5.2 Headspace Gas Sample Chain-of-Custody

The Chain-of-Custody (COC) process for WIPP TWCP Headspace Gas Sample Canisters, the Sample Canister Information Document (SCID), and the Performance Demonstration Program Delivery/Chain-of-Custody Record (D/COC) were evaluated by the audit team. Sample transfer and storage were performed in accordance with applicable requirements. The COC, SCID, and D/COC were completed as required.

Three concerns were identified in this area during the audit. 1) Final sample disposition along with the signature of the individual removing the sample from custody were not recorded on the COC of D/COC forms, per WIPP requirements. This was included in CAR 99-038. 2) The SCID for dilution samples was not placed in the data package. This was corrected during the audit by placing the forms in the data packages. 3) The Validated Time of Sample Receipt (VTSR) for PDP samples was not recognized by RFETS as the date recorded on the shipper's delivery receipt. Because of this, the D/COC for Cycle 13 of the headspace gas process control plan (PCP) was not initiated immediately upon receipt at RFETS. This was included in CAR 99-038.

The audit team determined that the RFETS sample COC process is adequate, satisfactorily implemented, and effective.

5.3.5.3 Hydrogen and Methane Analysis

RFETS continues to satisfactorily perform hydrogen and methane analysis. Batch reports reviewed were correct and complete, the analyses being run during the audit were satisfactory, the laboratory spaces were well kept, and personnel are knowledgeable. One CAR was initiated to address the need (or the appropriateness) of the requirement to evaluate sensitivity with the use of consecutive measurements and the need to inscribe every data form with the matrix parameter category (CAR 99-036). Characterization activities in this area are adequate and effective.

In response to a request from CAO, hydrogen and methane analysis results for data packages that exceeded the Program hold times were evaluated. The Site Project Office rejected the original analysis results during the Level 2 review because the initial calibration verification and continuing calibration verification criteria failed. The analysis equipment was repaired and the samples were re-analyzed. The results of the field reference samples demonstrate that the sample integrity was different. The results of the filed reference samples demonstrate that the sample integrity was maintained over that period of time and supports RFETS decision to quality the data for use.

5.3.5.4 Volatile Organic Compound Analysis

Analytical batch reports and the observation of analyses demonstrated the ability of the RFETS organic laboratory personnel to characterize gas samples for the TRU waste program. The batch reports were complete and correct, the laboratory spaces were adequate, and the personnel are well prepared to conduct the analyses. The portion of the corrective action that requires the matrix parameter category to be inscribed on all forms (discussed above) applies to this area. Characterization activities in this area are adequate and effective.

5.3.6 Sampling Design

The RCRA characterization of all category S5000 waste is made on the basis of acceptable knowledge. Headspace gas samples are collected for each waste container and analyzed for volatile organic compounds (VOCs). A spreadsheet was used to determine the required sample size for visual examination. An estimated miscertification rate of 2% was used for the percent miscertified and 14% was used as the upper confidence limit for percent miscertified. The spreadsheet calculates the appropriate sample size for a given population of containers. The S-Plus statistical computer package was used to generate random numbers. A Recommendation (Rec. #4) was written for language to be added to the Statistical Visual Examination Sample Selection Reports disclosing that the "seed" is generated by the software package or that it is input by the statistician. This action was completed during the audit. Sample design was determined to be adequate, satisfactorily implemented, and effective.

5.3.7 Traveler Process

The activities performed by RFETS in support of the traveler process were evaluated by the audit team for compliance with the applicable procedures. Via a step-through of the traveler process using a combination of drum/building inspections, interviews, and document reviews, it was determined by the audit team that the traveler process was adequate, satisfactorily implemented, and effective.

5.3.8 Data Validation, Usability, and Reporting

Level 2 Data Validation, Waste stream Profile Form Preparation, and Waste Certification

Several batch reports from each characterization area were reviewed and found to be complete and correct. The calculation of the RTR miscertification rate was correct. Two recent waste stream profile forms were reviewed and found to be complete and correct. Waste certification documentation for two drums was reviewed and the operations necessary to collect the certification information was demonstrated. These activities continue to be adequate and effective.

5.3.9 Waste Stream and Residue Identification and Characterization (WSRIC)

The RFETS WSRIC Building Books reviewed during the audit were well developed and process changes were effectively captured. The process diagrams and documentation recorded in the WSRIC Building Books reviewed supported the final characterization of the waste. The WSRIC Building Book process was determined to be adequate, satisfactorily implemented, and effective.

5.3.10 Performance Demonstration Program (PDP)

The PDP was assessed by reviewing the RFETS analysis for Cycle 12 and 13 of headspace gases and Cycle 5a for NDA. The results from the RFETS analyses were acceptable, with the exception of the PDP NDA sludge drum. This process was determined to be adequate, satisfactorily implemented, and effective. Canberra remains qualified to measure debris waste (in addition, see Paragraph 5.3.2).

PDP NDA Test drum and test source handling was reviewed. To demonstrate compliance with procedure *Preparation of Nondestructive Assay Performance Demonstration Program Samples* (4-PRO-108-PREP-01, Revision 0, 1/28/99), the audit team evaluated two sample-drum documentation reports for Cycles 4 and 5 (bar-code numbers 96321 and 96322) and reviewed one scoring report for Cycle 4 (bar-code number 72836). It was determined that the sample configuration forms reviewed in these reports were properly prepared, in accordance with the procedure. Overall, this activity was determined to be adequate, satisfactorily implemented, and effective in maintaining the integrity of the test drums.

CAO CAR 99-038 (see Section 6.0) was written against the Chain-of-Custody executed during the headspace gas PDP sample analysis to address three deficiencies noted in the HSG PDP sample tracking process. With the exception noted in CAR 99-038, the PDP process for analysis of headspace gases was determined to be adequate, satisfactorily implemented, and effective.

5.3.11 Transportation (including Load Packaging and TRANSCOM)

The audit team observed and evaluated the RFETS TRUPACT-II payload preparation and loading procedure in Building 664. The audit team determined the operations were implemented in accordance with the approved and adequate procedure and that the process was effective. The audit team also evaluated the RFETS TRUPACT-II payload control, applicable training records, transportation activities related to the shipment of TRU Waste, and the use of TRANSCOM. The control and interface processes for these systems and software were found to be adequate, satisfactorily implemented, and effective.

6.0 EXEMPLARY PRACTICES, CORRECTIVE ACTION REPORTS, OBSERVATIONS, AND RECOMMENDATIONS

The audit team issued six Corrective Action Reports (CARs) that require RFETS corrective action in the areas of acceptable knowledge, document control, headspace gas, cause analysis, chain-of-custody, and personnel training. Five Observations were

identified. Four Recommendations are being offered for RFETS management consideration. Four areas of Exemplary Practice were identified during the audit.

The audit team also recognizes that many of the conditions adverse to quality had remedial action completed during the audit. This represents an outstanding response from the RFETS team and demonstrates their commitment to their program.

6.1 Exemplary Practices

6.1.1 CAO recognizes that the use of the records process instruction table at the end of each procedure that documents in detail which records are generated and how they are maintained is exemplary and should be an example to other sites.

6.1.2 The "I-specifications" - developed and controlled by "Site Material Engineering" were found to be very helpful in assisting and benefiting the procurement and receipt acceptance groups. Each I-Spec. contains detailed descriptions of the items, engineering, dimensional specifications, and/or drawings, as applicable, as well as the specific procurement level. In addition, quality and technical requirements (developed and described in the Parts Equipment Management System) are also included in each I-Spec., which adds to improving the confidence level in procuring the correct product, and in receipt acceptance.

6.1.3 The software controls for maintenance and configuration management of the Waste and Environmental Management System (WEMS) are outstanding and could be recommended as a pattern for controlling maintenance and configuration of software to other DOE/WIPP contractors.

6.1.4 Case narratives prepared for the analytical batch reports provide a clear, concise, and descriptive treatment of the results for the batch. This allows the reviewer the ability to quickly identify items of note and provides an excellent overview of batch results.

6.2 Corrective Action Reports

6.2.1 Verification of Previously Initiated CAO CARs:

There were no CAO CARs applicable to the scope of the audit that were open at the time of the audit.

6.2.2 CARs Initiated as a Result of CAO Audit A-99-07:

The following six CARs, initiated as a result of Audit A-99-07, have been transmitted to RFETS under separate cover. A brief description of each CAR is provided below.

6.2.2.1 CAO CAR 99-034

Several aspects of the AK process were not fully implemented. This included evaluation of references in published reports, preparing discrepancy reports when discrepancies are identified, and prioritization of available AK documentation.

6.2.2.2 CAO CAR 99-035

Several aspects of the Document Preparation, Review, Approval, and Control process were not fully implemented. This included lack of initial and date in the appropriate blocks, differences between issued documentation and QA record documentation, and numerous typographical concerns.

6.2.2.3 CAO CAR 99-036

The %D sensitivity calculation between successive "sensitivity measurements" of Hydrogen and Methane analysis was not being performed. The Matrix Parameter Category was not being inscribed on all data forms associated with characterization of each waste stream.

6.2.2.4 CAO CAR 99-037

The root cause documentation in PATS Files 97-0002175 and 1998-000311 did not satisfy the applicable procedure MAN-062-CAUSEANALYSIS. The significance level was designated as "High" and there was no objective evidence that Root Cause had been performed in accordance with Section 3, "Requirements".

6.2.2.5 CAO CAR 99-038

Three deficiencies were noted in the Chain-of-Custody process. These included incorrect interpretation of the Validated Time of Sample Receipt for the Performance Demonstration Program (PDP), not immediately completing the Delivery/Chain-of-Custody form for the PDP, and not including the final disposition of samples on the Delivery/Chain-of-Custody form for the PDP.

6.2.2.6 CAO CAR 99-039

Training records for three people for "Cause Analysis" were not available during the audit. In addition, the methods of capturing records of off-site training were not documented in a written procedure.

6.3 Deficiencies Corrected During the Audit (CDA)

Twenty three deficiencies requiring remedial action only were identified during the audit. All 23 were corrected before the completion of the audit. These are identified in the completed audit checklists, which are kept as QA Records.

6.4 Observations

The following five Observations were identified during the audit.

1. The "Page Change" process for changing procedures was not intuitive and required considerable thought by both the initiator and the recipient. This process (procedures QA-05.01 and DC-06.01) needs to be evaluated with the goal of making the process more user-friendly.

2. Two deficiencies were identified by the audit team that had been previously identified by RFETS. These are being tracked by the RFETS Plant Action Tracking System (PATS).

    a) 4-J44-RC&I-6600 had not been updated to match 1-A65-ADM-15.01. This has been identified by RFETS and is being tracked on a Corrective Action Plan (CAP) Identification form under Plant Action Tracking System (PATS) Identification No. 1999-000266.
    b) The test plan for HVOC 12 does not contain a description of the test method or description of software purpose. This has been identified in CAP 1999-000264. The CAP deals with the Software Quality Assurance (SQA) test plans in the lab.

3. The following Visual Examination issues need to be addressed:

    a) The audio quality cannot be checked in the field
    b) The camera operator needs to ensure the item label is recorded on the tape
    c) The Visual Examination Expert should be identified on the tape and along with an explanation of the decision regarding not opening a bag
    d) The audio and hard copy records need to account for missing sequential item numbers in the drum.

4. All blocks on a form should be completed or marked "N/A" (not applicable). "Status Revision/Completion Forms" (1-P04-PATS-16.00, Rev. 2, appendix 4) has blocks left blank. Justifications for signatures other than the Plan or Task Manager are not being provided. Names and signatures were missing on some forms.

5. During the AK portion of the audit, the audit team found a case where a discrepancy had not been documented. It was corrected during the audit by issuing a memorandum. This memorandum is acceptable by procedure, but does not assure tracking and close out. Use of the Waste Non-Conformance Report (WNCR) system would remove some of these questions.

6.5 Recommendations

The following four Recommendations are presented for RFETS management consideration:

1. Canberra should provide a detailed checklist of acceptance/rejection criteria for use by the Technical Supervisor in his review of the assay data.

2. Canberra should consider the possibility that isotopes may not be co-located (isotopically homogeneous) in some waste drums, and they should either demonstrate that this does not exist or, if it does, include an error term in their TMU calculations to account for the effect.

3. There is no list of effective pages for the WBS. Each page has a date in the lower right corner. The lack of a list of effective pages hindered verification that new grading forms were prepared for each new line item.

4. Procedure WIPP-009, revision 0, Section 6.3, Paragraph 7 reads, "Record the random selection method, seed, and software (if applicable) for selecting containers and performing container substitutions." Statistical Visual Examination Sample Selection Reports do not include a record of the seed. It is recommended that language be added to the report disclosing that the software generates the seed or that the statistician inputs it.

Note: Random number generators generate numbers, which are based upon the "seed", which can be input by the user or automatically entered by the computers, often using the internal clock as the source of the seed. When a user sets the seed, the resulting sequence of numbers can be recalled at a later time. If the clock is used, it is difficult to recall the original sequence. From the seed the random numbers grow.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Summary Table of Audit Results
Attachment 3: Table of Procedures Audited

PERSONNEL CONTACTED DURING THE AUDIT

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Adams, Brad	SSOC/Ash Residue; Quality Engineer		X	
Ailes, Sid	RMRS; Technical Support	X	X	X
Anderson, Scott	KH/Waste Ops; Program Manager	X	X	X
Arnold, Pat	RMRS; Manager WGS	X	X	X
Ater, Ed	SAIC/RMRS; TRU Technical Specialist	X	X	X
Ballenger, Roger	SSOC/WIPP Resource Compliance; Manager	X	X	X
Bennett, John	RMRS QA; QA Manager	X	X	
Benslow, J. A.	NDT-RTR NDT Tech.		X	
Booth, Lee	Canberra; Project Manager	X	X	X
Bradford, J. D.	KH	X		X
Caccamise, Donna	K-H Training Oversight		X	
Caimi, Carlo	RMRS Central Engineering; Manager		X	
Cannon, Bill	KH/LANL		X	
Cannon, Cynthia	KH Quality Programs; PATS Lead		X	
Cariker, Linda	RFCSS Proc; Director		X	
Carson, Pete	RMRS/LATA TRU Waste; Engineer	X	X	X
Caselis, Frank A.	KH; Division Manager		X	X

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Castagneri, Mark	RMRS QA; TWCP QAO	X	X	X
Christian, Carol	RMRS Central Engineering		X	
Church, Alan	RMRS; Manager Custodian Services		X	
Cirelli, Joe	KH Procurement; Procurement Manager		X	
Collins, Miller	RFCSS/QA; QA Engineer		X	
Compton, Barbara	Day and Zimmermann; Assistant to General Manager	X	X	
Cox, Carl	SSOC	X		X
Crandall, Karin	Rad Labs; LPQAO	X	X	
Crapser, Duane	RMRS	X		
Crowe, Steve	K-H; Division Manager	X		X
D'Amico, Eric	RMRS TRU Waste Projects; TRU Waste Project Manager	X	X	X
Dahl, Dave	SAOC/SSOC NDA		X	X
Davidson, Dorothy	Canberra/NDA; Technical Director	X	X	
Davis, Bob	K-H CPE&I; Special Projects	X	X	X
Demorest, Jan	K-H Site Ops	X		
DuPre, Charles	RMRS Central Engineering; Sr. Principal Mechanical Engineer		X	
Dustin, Don	SSOC		X	
Earley, Rob	GTS-SWO Comp; Compliance Specialist		X	

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Edrich, Pam	RMRS/Waste Systems; Manager		X	
Elsishans, Carl	Canberra Industries; Director of QA		X	
Eshima, Gaye	KH/ISO; Sr. Principal Engineer		X	
Etchart, Patrick	DOE/RFFO; Communications	X		
Ferguson, Jim	GTS/RMRS TRU/TRM Waste Project; Technical Specialist	X	X	X
Ferrera, Carol	Horne Engineering/ Waste Certification & Oversight; TRU Waste Certification Official	X	X	X
Fischer, Sharon	SSOC/ROL; WIPP Record Custodian		X	
Fischer, Sherrie	SSOC ROL; ALWPFC		X	
Fisher, A. J.	SSOC/QA; QA Manager	X	X	X
Fox, Mary	ROL Tech.		X	
Gatliffe, Tom R.	Statistical Applications Group; Staff Statician		X	
Gilmartin, Tom	KH/Nuclear Operations	X		
Goade, Dan	TRU/Projects; Project Engineer		X	X
Grady, Frank	RMRS/TRU Waste Projects; Project Engineer	X	X	X
Greene, K.	Rad Labs; LPQAO		X	
Greever, R.	K-H; Technician		X	
Grove, Kristy	SSOC/ROL; LPQAO		X	

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Hadacek, M.W.	KH Quality Program; Principal Engineer	X	X	X
Hains, Peggy	K-H TFE Records; TSR Manager		X	
Harris, Kent	CSS Logistics	X		
Harrison, Jeff	RMRS/WASTREN; Engineer		X	X
Hernandez, Juan	RMRS/QA; RMRS QA Manager	X	X	X
Herrey, Dan	RMRS/Waste System; Environmental Engineer		X	
Hughes, Fred	RMRS; Sr. V.P. Closure	X		
Hunter, Duane	SSOC Labs; Lab Manager	X	X	X
Ito, Fran	KH Trans & Traffic	X		
Jasen, William G.	Waste Management Hanford Co.	X		
Jeffries, James A.	DOE/RFFO; Division Director	X	X	X
Jennings, John	QA/ROL RFETS; Analyst		X	
Kercher, Ann C.	RMRS; Environmental Scientist	X	X	
Kershner, Ron	DOE/RFFO/QA	X		
Kirby, Bill	Safe-Sites Product Qualification	X		
Kirschenmann, Harley	MACTEC/RMRS; TRU Technical Specialist	X	X	X
Klanecky, Michael	SSOC/QA Lead Assessor	X		
Kobrich, Patricia	RMRS; Sr. Indexes		X	

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Kuhns, Karen	RMRS-CSO (Stoller); Engineer		X	
Legare, Joe	RFFO; Assistant Manager	X		X
Lelfer, John	RMRS/TRU Waste Projects	X		X
Lewis, Leslie	RMRS TRU Waste PJTS		X	
Long, J. W.	KH CPE&I; Senior Specialist	X	X	X
Lopez, Armando	DOE/AME; Lead Engineer	X	X	X
Luoma, Chris	Dyncorp/IR; Project Lead		X	
Martin, Jennifer M.	Metrology; Technical Support		X	
McGavin, Andrew	Source One; Manager	X	X	X
McKinney, Ruth	Source One; Executive Vice President/Acting Program Manager	X	X	X
McLaughlin, James A.	Event Investigation & Reporting; Sr. Compliance Specialist		X	
McLellan, Jeana	SOM; Records Liaison II		X	
Melick, G.	NDR-RTR NDT Tech.		X	
Miranda, Sue	Gas Sample Lab; Record Coordinator/Data Recorder		X	
Mitchell, Robert W.	RMRS Procurement; SCA		X	
Morse, Joan	RMRS Waste Systems; Sep Analyst		X	
Myers, Carla G.	SSOC Labs; Admin Tech		X	
O'Connor, Brian	Rad Labs; LPQAO	X	X	X

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
O'Leary, Jerry	RMRS TWCP TRU Projects; Manager TRU/TRM Projects	X	X	X
Onderco, Kate	SSOC Training; WIPP Training Lead		X	X
Parker, Alan	K-H/V.P. Closure Projects	X		X
Patterson, Jim	RFCSS/QA; QA Manager	X	X	X
Pigeon, Paul	RMRS; TWCP Training Officer	X		X
Plappert, Bob	KH/ISO; Manager IV		X	
Plummer, J. T.	KH/QP	X		X
Prochnow, David	SOM/ICM; TCM Manager		X	
Prohazka, Mic	RMRS QA; CAPOC		X	
Raulvton, John	K-H Industrial Safety Oversight; Senior Technical Advisor		X	
Reinke, W. L.	ROL RRT		X	
Reynolds, Joe	SSOC/LATA; LPQAO	X	X	X
Robledo; Ron	TRU/Projects; Environmental Engineer	X	X	X
Rodgers, A. D.	KH	X		
Santestevan, Veronica	RMRS; Analyst		X	
Saunders, Harold	KH Engineering; Engineer		X	
Schafer, Steve	RMRS/WASTREN; BWR/NRWOL Program Lead		X	

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Schoen, Jim	RMRS; Environmental Scientist; WSRIC Program Lead		X	
Sendelweck, Vivian S.	SSOC; Environmental Scientist		X	X
Shainholtz, J.	Gas Sampling Lab; Supervisor		X	
Shaws, Peggy	K-H/TFE/Records; Manager		X	
Simmons, Bill	ROL; Scientist/Chemist		X	
Smart, Kim	K-H/IRM; Manager	X	X	X
Smith, L.C.	KH; Quality Program Manager	X	X	X
Smith, Steven W.	RMRS Central Engineering Material Engineering; Material Engineer		X	
Stevens, J.R.	RF/CSS Logistics; Engineer	X	X	
Stoddard, Ann	Source One; Document Management Lead		X	
Swenson, Barbara	KH/Site Ops	X		X
Tallman, Steve	NDT/RTR NDT Manager		X	
Taylor, L. P.	Metrology; Manager		X	
Thomas, Mary Ellen	ATA SVCS/RMRS; Records		X	
Tomlinson, Phillip	Informatics/SSOC/ Product Quality; Data V&V Lead	X	X	
Torczon, Dave	K. H. Procurement Quality		X	
Transue, Martin	Rad Labs; LPQAO	X	X	X

RFETS PERSONNEL CONTACTED				
NAME	**ORG/TITLE**	**PREAUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST AUDIT MEETING**
Tressell, John C.	RMRS/QA; Alternate QA Officer		X	X
Tuck, Cleave	Rad Control			
Turner, Charles	Radiological Organic Lab (ROL); Lab Manager		X	X
Tyler, Laura	RMRS Records; Manager	X	X	X
Umbaugh, Larry	Canberra/TRU Waste; Project Manager	X	X	
Vacca, P. Karen	RMRS Training; Manager		X	
Vetack, Tom	RMRS Procurement Manager		X	
Villani, Tom	K-H/IRM; Manager		X	
Villespie, Doyle	K-H/Quality Program; Sr. Principal Quality Engineer		X	X
Wader, Dave	CSS Logistics	X		
Willey, J. R.	ROL SSOC; Chemist		X	
Williams, Linda	RMRS/TRU Waste; PDCO	X	X	X
Wilson, Jeff	RMRS/Waste System; WEMS Admin		X	
Xuan, Lam	DOE/RFFO/EO; General Engineer/WIPP Liaison	X	X	X
Yoshida, Tracy	RMRS Waste Disposal; Principal Compliance Specialist		X	
Zimmerman, Christine	RMRS Industrial Safety Review; Lead Assessor		X	

CAO Audit A-99-07 Detail Summary

Requirements Documents		Concern Classification				QA Evaluation		Technical
		CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
QAPjP								
1.8	QA Grading		2			A	S	E
2.1	Organization					A	S	E
2.2	Document Control	CAR-99-035		Obs. 1		A	M	M
2.3	Training	CAR-99-039				A	S	E
2.4	QA Records		2			A	S	E
2.5	Procurement					A	S	E
2.7	Software QA			Obs. 2		A	S	E
2.8.1	Audits		2			A	S	E
2.8.2	Management Assessments		2		Rec. 3	A	S	E
2.8.3	PDP					A	S	E
2.9	Corrective Action	CAR-99-037	2	Obs. 2 Obs. 4		A	S	E
3.0	Data Validation		3			A	S	E
4.0	Acceptable Knowledge	CAR-99-034	1	Obs. 5		A	S	E
5.0	Sampling Design				Rec. 4	A	S	E
5.4.2	Visual Examination		2	Obs. 3		A	S	E
6.0	Chain of Custody	CAR-99-038	1			A	S	E
7.0	Headspace Gas		1			A	S	E
9.0	NDA		2		Rec. 1 Rec. 2	A	S	E
10.0	RTR					A	S	E
11.0	H_2 and Methane	CAR-99-036	1			A	S	E
12.0	VOCs		1			A	S	E
13.0	Total VOCs					A	S	E
	Measuring & Test Equipment					A	S	E
	WSRIC					A	S	E
	NDA Contractor Integration					A	S	E
	Transportation		1			A	S	E
Overall Rating						**A**	**S**	**E**
TOTALS		**6**	**23**	**6**	**4**			

RFETS Procedures Audited			
No.	PROCEDURE NUMBER	REVISION	TITLE
1.	1-15320-HSP-2.08	0	Lockout/Tagout
2.	1-A65-ADM-15.01	3 CHG-1	Control of Nonconforming Items
3.	1-C80-WO-1102-WRT	1 97-DMR-001527 98-RMRS-DCF-036 98-RMRS-DCF-067 98-RMRS-DCF-102 99-RMRS-DDCF-207	Waste/Residue Traveler Instructions
4.	1-C81-HWRM-23	0	Backlog Waste Reassessment
5.	1-E93-ADM-16.18	1	Data Analysis and Trending for Performance Improvement
6.	1-I34-WO-1103-NRWOL	1	Non-Routine Waste Origination Log Instructions
7.	1-I97-ADM-12.01	0	Control of Measuring and Test Equipment
8.	1-J55-ADM-08.10	0 DCF-CHG-01	Subcontractor Quality Evaluations
9.	1-M12-WO-4034	1	Solid Radioactive Waste Packaging Requirements
10.	1-MAN-004-CSMM	0 99-RMRS-DCF-229 99-RMRS-DCF-196	Computer Software Management Manual
11.	1-MAN-008-WM-001	1 99-RMRS-DCF-228	Transuranic (TRU) Waste Management Manual
12.	1-MAN-012-SCARM	1 CHG-1	Site Corrective Action Requirements
13.	1-MAN-013-SIOM	1	Site Integrated Oversight Manual
14.	1-MAN-017-LLGI-RM	0	Site Lessons Learned/Generic Implications Requirements Manual
15.	1-N92-ADM-02.03	1 97-CMR-001789 DFC-CHG-01	Training, Qualification, and Certification of Independent Auditors and Assessors
16.	1-P04-PATS-16.00	2 CHG-2	Plant Action Tracking System
17.	1-PRO-007-WIPP-005	1	Management of WIPP Information Prior to Transmittal to NQA-1, Waste Records Center, in Building 441
18.	1-PRO-072-001	0	Inspection and Acceptance Test Process
19.	1-PRO-077-WIPP-005	1	Management of WIPP Information Prior to Transmittal to WIPP Project Records
20.	1-PRO-079-WGI-001	0	Waste Characterization, Generation, and Packaging
21.	1-PRO-110-WP-1212	0	WWIS Data Entry
22.	1-PRO-Q11-WO-1221	2	Controls for Updating Waste Package Information in WEMS
23.	1-PRO-X05-WC-4018	0	Transuranic Waste Certification
24.	1-Q11-WO-1221	0	Controls for Movement of Waste Containers
25.	1-S49-T&Q-EX-001	2	Exception from Training
26.	1-T13-Traffic-306	2 DCF-99-CSS-DCF-0008	Labeling and Marking TRUPACT Packages
27.	1-V41-RM-001	0 DCF-CHG-01 through DCF-CHG-06	Records Management Guidance for Records Sources

RFETS Procedures Audited			
No.	PROCEDURE NUMBER	REVISION	TITLE
28.	1-W36-APR-111	0 CH 7	Acquisition Procedure for Requisitioning commodities and Services
29.	1-W37-IA-002	2 DFC-CHG-01	Integrated Planning and Scheduling of Independent Assessment Activities
30.	2-U76-WC-4030	0 CHG-1	Control of Waste Nonconformances
31.	3-21000-ALQAP	B	Analytical Services On-Site Laboratories Quality Assurance Plan
32.	3-W24-MA-002	1	Kaiser-Hill Management Assessment Program
33.	3-X31-CAP-001	1	Corrective Actions Process
34.	4-D15-BBPE-001	1	WSRIC Building book Preparation and Editing
35.	4-D99-WO-1100	1	Solid Radioactive Waste Packaging
36.	4-F72-WEM-WP-1205	3	WEMS Software QA Compliance
37.	4-G83-WEM-WP-1209	0	WEMS Waste Package Verification and Certification
38.	4-H19-WSRIC-001	2	WSRIC Characterization and Reverification
39.	4-H39-TPO-WO-5033	1 DCF-99-RMRS-DCF-200	Vessel Inspection, Checking the Spacer Assemblies, and Loading/Unloading the TRUPACT-II Vessel in Building 664
40.	4-H80-776-ASRF-007	1	Visual Examination for the TRU Waste Characterization Program
41.	4-H81-TPO-WO-5034	1 DCF-99-RMRS-DCF-201	Lid Replacement on the TRUPACT-II Vessel in Building 664
42.	4-I19-NDT-00569	2	Real Time Radiograph Testing of Transuranic and Low-Level Waste in Building 569
43.	4-J02-TPO-WO-5030	1 DCF-99-RMRS-DCF-198	TRUPACT-II Vessel Preparation in building 664
44.	4-J44-RC&I-6600	3 DCF-CHG-01 CSS-99-DCF-0017	Nonweapons-Procured Item Acceptance & Certification
45.	4-K14-TPO-WO-5032	1	Preparing the TRUPACT-II Drum and Standard Waste Box Load in Building 664
46.	4-K47-WEM-WP-1210	1	WEMS Offsite Shipping Module
47.	4-M63-WI-4013	2 DCF-99-RMRS-DCF-215, DCF-98-RMRS-DCF-057 DMR-97-DMR-001533 DMR-97-DMR-001522	Final and Loading Inspections for Packages
48.	4-PRO-108-PREP-01	0 DCF-99-RMRS-DCF-210	Preparation of Nondestructive Assay Performance Demonstration Program Samples
49.	4-S57-WP-4701	2	Waste Characterization Gas Sampling
50.	4-S72-QA-10.01	1 DCF-CHg-01	Quality Assurance Audit Program
51.	4-T20-Traffic-505	0 DCF-99-CSS-DCF-0010 DCF-98-DCI-DCF-0031 DCF-98-DCI-DCF-008	Certifying Authorized Payloads for TRUPACT-II
52.	4-T470-TRU-002	0	WIPP Program Video Equipment Operations
53.	4-W30-NDT-00664	1	Real Time Radiograph Testing of Transuranic and Low-Level Waste in Building 664

RFETS Procedures Audited			
No.	PROCEDURE NUMBER	REVISION	TITLE
54.	5-NDT-TC-1A	0	Training, Qualification and Certification of Metrology/Nondestructive Testing Personnel
55.	5-NDT-TC-1A	0 97-DMR-05-02	Training, Qualification and Certification of Metrology/Nondestructive Testing Personnel
56.	96-RF/T&Q-0005	0	Training and Qualification Program
57.	CAO-96-1055	0	TRU Waste Materials Transportation Guide
58.	DOE/CAO-94-1045	1	Performance Demonstration Program Plan for Nondestructive Assay for the TRU Waste Characterization Program
59.	DOE/CAO-95-1076	0	PDP Plan for Analysis of Simulated Headspace Gases
60.	DOE/WIPP 93-1001	1	TRUPACT-II Operating and Maintenance Instructions
61.	L-1000	P	Requirements for Radiological Laboratories L-Procedures
62.	L-1006	B	Maintenance Records for Analytical Instrumentation
63.	L-2421	E	Precision Gas Mass Spectrometry Operations and Analysis (VG-30-38)
64.	L-4006	E	Chain-of-Custody for WIPP TWCP Headspace Sample Canisters
65.	L-4024	F	Sample Administration for WIPP TWXP Headspace Sample
66.	L-4026	G	Records Handling, Storage and Retrieval for the WIPP Project File
67.	L4031	D	Software Quality Assurance Plan for the Radiological Laboratories
68.	L-4111	M	GC/MS Determination of Volatile Organics Waste Characteristics
69.	L-4138	E	Summa Passivated Stainless Steel Canister Cleaning and Certification
70.	L-4146	E	Headspace Gas Sampling of Waste Containers
71.	L-4148	H	Preparation of Samples and Calibration Standards for Determination of Gases in Sample Canisters
72.	L-5016	I	Data Review and Validation of Inorganic Gas Analysis for WIPP-TRU Waste Characterization Program (TWCP) - Data Generation Level
73.	L-5017	I	Data Review and Validation of Organic Compound Analysis for WIPP-TRU Waste Characterization Program (TWCP) - Data Generation Level
74.	MAN-001-SDRM	2	Site Document Requirements Manual
75.	MAN-062-CAUSEANALYSIS	1 CHG-1	Cause Analysis Requirements Manual
76.	MAN-063-DC	1 DCF-CHG-1 DCF-CHG-02	Document control Program Manual
77.	OPS-INSTR-017	0	Building 664 Waste Handling and Storage Operations
78.	PLN-97-007	4	TRU Waste Characterization Program Training implementation Plan
79.	PRO-291-TPO/WO/5035	0 DCF-99-RMRS-DCF-202	TRUPACT-II Verification Leak Test, building 664
80.	PRO-N-01-RES-030-001	2	Gas Test Canister Operations

RFETS Procedures Audited			
No.	PROCEDURE NUMBER	REVISION	TITLE
81.	RF/RMRS-97-018	3	RFETS TRU Waste Acceptable Knowledge Supplemental Information
82.	RMRS-DC-06.01	0	Document Control Program
83.	RMRS-QA-05.01	0	Preparation and Control of RMRS Documents
84.	RMRS-QA-09.01	2	Management Assessments
85.	RMRS-QA-10.02	1	Conduct of Surveillances
86.	RMRS-WIPP-98-100	1	Acceptable Knowledge TRU/TRM Waste Stream Summaries
87.	SQM-007	1/28/99	IQ3 Waste Assay Trailer Operating Procedure - Operating and Calibrating the Canberra IQ3 Gamma Scanner
88.	SQM-008	1/28/99	Operating & Calibrating the Canberra Passive Neutron Counter
89.	SQM-009	1/28/99	Operating & Calibrating the Canberra Segmented Gamma Scanner
90.	SQM-010	1/28/99	Review, Validation, & Reporting Nondestructive Assay (NDA) Data & Results
91.	SQM-011	3 2/10/98	Canberra Nuclear NDA Implementation Plan for RFETS Transuranic Waste Characterization Program
92.	WIPP-001	0	WIPP Project Office Records
93.	WIPP-003	3	Collection, Review, and Confirmation of Acceptable Knowledge Documentation
94.	WIPP-006	3	TRU Waste Characterization Project QA Grading
95.	WIPP-007	0	TRU Waste Characterization Project Conditions Adverse to Quality Trending and Analysis
96.	WIPP-008	0	Completion of Waste Stream Profile Form for Waste to be Disposed of at WIPP
97.	WIPP-009	0	RCRA Characterization of TRU Waste to be Disposed of at WIPP
98.	WIPP-010	3	WIPP TRU Waste Characterization Project Level Data Review and Reporting

Notes:

1. The following RFETS procedures were not selected to be in the sample of procedures to be audited.

1-K71-HSP-12.02, Hoisting and Rigging
1-MAN-039-WEM-WP-1200, Waste and Environment Management System (WEMS) Program Management Manual
4-H62-WI-4011, In-Process Waste Inspection
4-I82-WI-4012, Dock Inspection (Pre and Post Counter)
L-4028, Sample Administration for Radiological Laboratory
SQM-012, Tracking Work Process
SQM-013, Transmittal of Documents and Data
SQM-014, Non Conformance Reporting Procedure
SQM-017, Selection of Personnel
SQM-018, Personnel Training
SQM-019, Stop Work Procedure
SQM-020, Personnel Orientation
SQM-021, Mobile NDA Document Control

SQM-022, Required Reading List
*SQM-120, Mobile Software Configuration Management
*SQM-121, Mobile Software Configuration Verification

*These were subsequently included in CAO Audit A-99-13, which was performed March 24-25, 1999.

2. Procedure OPS-INSTR-017, Building 664 Waste Handling and Storage Operations, was audited but was not included in the RFETS recertification letter because it is not an implementing procedure.

3. Portions of four CAO-issued documents were included in the audit but were not included in the RFETS recertification letter because they are not RFETS implementing documents. These were:

CAO-96-1055, TRU Waste Materials Transportation Guide
DOE/CAO-94-1045, Performance Demonstration Program Plan for Nondestructive Assay for the TRU Waste Characterization Program
DOE/CAO-95-1076, PDP Plan for Analysis of Simulated Headspace Gases
DOE/WIPP 93-1001, TRUPACT-II Operating and Maintenance Instructions