

CNWRA *A center of excellence in earth sciences and engineering*

A Division of Southwest Research Institute™
6220 Culebra Road • San Antonio, Texas, U.S.A. 78228-5166
(210) 522-5160 • Fax (210) 522-5155

June 20, 2003
Contract No. NRC-02-02-012
Account No. 06002.01.031

U.S. Nuclear Regulatory Commission
ATTN: Mrs. Barbara D. Meehan, Contracting Officer
Division of Contracts
TWFN Mail Stop 7-12
Washington, D.C. 20555

Subject: Transmittal of FY2003 CNWRA QA Audit 2003-01
Letter Report/Intermediate Milestone 06002.01.031.320

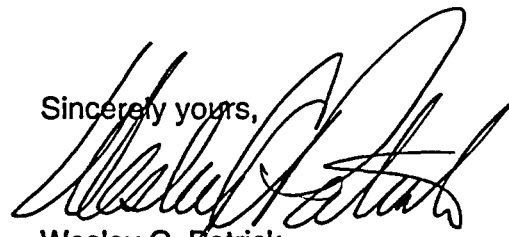
Dear Mrs. Meehan:

This letter transmits a copy of the Center for Nuclear Waste Regulatory Analyses (CNWRA) Audit 2003-1 Report, as specified in the CNWRA Operations Plans for the Repository Program.

This programmatic and technical CNWRA QA audit was planned, executed and reported in accordance with the CNWRA Quality Assurance Manual and associated Quality Assurance Procedures. We appreciated the observation of this audit by the Nuclear Regulatory Commission (NRC) representatives and believe the audit will lead to further improvements in our internal practices and procedures. This audit confirms that the CNWRA is implementing an effective quality assurance program, that adequate controls are placed on technical product development, and the integrated quality program continues to improve to better serve the NRC.

Should you have any questions regarding this QA audit, please contact Bruce Mabrito at (210) 522-5149 or Bob Brient at (210) 522-5537.

Sincerely yours,



Wesley C. Patrick
President

Enclosure

/mp

cc:	M. Leach	J. Greeves	CNWRA Directors	R. Brient, SwRI
	D. DeMarco	W. Reamer	CNWRA Element Managers	D. Dunavant, SwRI
	E. Whitt	T. Carter	P. Maldonado	T. Trbovich, SwRI
	T. Matula	R. Johnson	A. Holt, SwRI	T. Nagy, SwRI
	C. Greene	W. Smith	R. Weber, SwRI	
	J. Pearson		Record Copy B, IQS, SwRI	



Washington Office • Twinbrook Metro Plaza #210
12300 Twinbrook Parkway • Rockville, Maryland 20852-1606

QUALITY ASSURANCE AUDIT REPORT

of

**THE CENTER FOR NUCLEAR WASTE
REGULATORY ANALYSES**

CNWRA AUDIT 2003-1

San Antonio, Texas

May 20–23, 2003

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EXECUTIVE SUMMARY

The annual internal Quality Assurance (QA) audit of the Center for Nuclear Waste Regulatory Analyses (CNWRA) was conducted during May 20–23, 2003. The audit team, comprised of technical and quality assurance specialists, determined that the CNWRA QA program was being effectively implemented and provided adequate controls over technical product development. U.S. Nuclear Regulatory Commission (NRC) observers (QA, technical, and program management) participated in the audit and during the audit closeout, indicated their concurrence with the overall findings. NRC is anticipated to issue an audit observation report documenting their findings.

The CNWRA staff was operating in accordance with the CNWRA QA Manual (CQAM), Operations Plans (OPs), Technical Operating Procedures (TOPs), QA Procedures (QAPs), and applicable Administrative Procedures (APs). The technical staff was judged to be appropriately qualified through education, experience, and training. The technical work was being conducted in a satisfactory manner. The audit team identified a number of opportunities for improvement that may facilitate the CNWRA maintaining and improving its quality program and technical products.

The results of the audit were discussed with the CNWRA management and staff during daily management briefings and in a post-audit meeting held on May 23, 2002. Two minor nonconformances (addressed in Nonconformance Reports) were identified. The nature of the nonconformances pose little risk to the quality of CNWRA activities and products.

1 AUDIT SCOPE

This audit evaluated the Center for Nuclear Waste Regulatory Analyses (CNWRA) Quality Assurance (QA) program to determine whether it met the applicable requirements of 10 CFR Part 50, Appendix B and 10 CFR Part 63, Subpart G, and was being effectively implemented. The audit was performance-based and evaluated programmatic requirements in light of their application to technical activities. In addition, the corrective action process was reviewed to determine its effectiveness.

2 PROGRAMMATIC ELEMENTS AUDITED

<u>NQA-1-1986 Criteria</u>		<u>Corresponding CNWRA QA Manual (CQAM) Chapter</u>
I	Organization	1
II	QA Program	2
III	Design Control	N/A
	Scientific/Engineering Investigation & Analysis Control	3
IV	Procurement Document Control	4
V	Instructions, Drawings, and Procedures	5
VI	Document Control	6
VII	Control of Purchased Material	7
VIII	Identification and Control of Items	8
IX	Control of Special Processes	9
X	Inspection	10
XI	Test Control	11
XII	Control of Measuring and Test Equipment	12
XIII	Handling, Storage, and Shipping	13
XIV	Inspection, Test, and Operating Status	14
XV	Nonconformance Control	15
XVI	Corrective Action	16
XVII	Records Control	17
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Design-related activities were not performed by the CNWRA, so NQA-1-1986 Criterion III, Design Control, was not applicable. All CQAM sections were addressed in this audit.

3 AUDIT APPROACH

A performance-based approach to auditing was applied to evaluate the effectiveness of the QA program in ensuring and improving product quality. This was accomplished by direct evaluation of selected technical activities, assessment of products, and evaluations of technical product development processes and the contributions of these processes to product quality. The technical audits were performed by teams composed of a programmatic auditor and a technical specialist.

In preparation for the audit, technical specialists and auditors reviewed applicable operations plans, quality planning documents, and technical products. Technical checklists were prepared based on these reviews appropriate to the scopes of work. QA programmatic checklists were prepared for application during the technical audits and for QA systems (i.e., document control, records control, nonconformance and corrective actions, etc.) assessments.

The audits were conducted through discussions with element management and technical staff, reviews of objective evidence (including review packages and scientific notebooks), and when appropriate, observations of laboratory activities. Technical and programmatic findings were compiled by the audit teams for discussions and reporting.

Daily caucuses for the audit team and observers and daily meetings between the audit team leader and CNWRA management were held.

4 TECHNICAL ACTIVITIES AUDITED

A risk-informed approach was applied in selecting the technical activities to audit. Technical and programmatic risk and the time since the previous audit of an activity were considered in selecting the areas for this audit, as follows:

- Thermal Effects on Flow (TEF)
- Evolution of the Near Field Environment (ENFE)
- Repository Design and Thermal-Mechanical Effects (RDTME)
- Radionuclide Transport (RT)
- Structural Deformation and Seismicity (SDS)
- Baltimore Tunnel Fire Report (BTFR)
- Total System Performance Assessment and Integration (TSPA&I)

5 AUDIT TEAM

<u>Name</u>	<u>Role</u>	<u>Expertise/Affiliation</u>
Don Dunavant	Audit Team Leader (ATL)	Technical Advisor, Southwest Research Institute® (SwRI®)
Bob Brient	QA Auditor	Quality Systems, SwRI
Tom Trbovich	QA Auditor	Quality Systems, SwRI
Rod Weber	QA Auditor	Quality Systems, SwRI
Alex Bernardo	Technical Specialist	Mechanical Engineering, SwRI
Mary Ann Clarke	Technical Specialist	Fluid Mechanics, SwRI
Jimell Erwin	Technical Specialist	Chemical Engineering, SwRI
Jim Griffith	Technical Specialist	Fire Technology, SwRI
Diane Smith	Technical Specialist	Geosciences, Trinity University
Bill Thomann	Technical Specialist	Geosciences, University of the Incarnate Word
Charles Zinsmeyer	Technical Specialist	Computer Science, SwRI

6 APPLICABLE DOCUMENTS

The following documents formed the basis of the audit and for the checklists.

- CQAM
- CNWRA QA Procedures (QAPs)
- CNWRA Technical Operating Procedures (TOPs)
- CNWRA Administrative Procedures (APs)
- Applicable CNWRA Operations Plans (OPs)
- 10 CFR Part 63, Subpart G
- 10 CFR Part 50, Appendix B
- 10 CFR Part 72, Subpart G
- ANSI/ASME NQA-1-1986

7 U.S. NUCLEAR REGULATORY COMMISSION OBSERVERS

Ted Carter	Division of Waste Management
Deborah DeMarco	Division of Waste Management
Charles Greene	Office of Nuclear Regulatory Research
Robert Johnson	Division of Waste Management
James Pearson	Spent Fuel Projects Office
Wilkins Smith	Division of Fuel Cycle Safety and Safeguards

8 SUMMARY OF RESULTS

8.1 TEF

Audit Team

M. Clarke, B. Brient

Technical Task Description

The main objective of the TEF Key Technical Issue (KTI) was to assist the NRC in resolving issues at the staff level related to the effects of coupled thermal-hydrological processes on the performance of the proposed repository at Yucca Mountain, Nevada. This involves the collection, compilation, comparison and analysis of various data sets that best describe the geological area and physical system of Yucca Mountain and an evaluation of the movement of fluid through the system.

Scope of Audit

The focus of the audit was the deliverable Geostatistical Analysis of Pneumatic, Hydraulic, and Thermal Properties of Unsaturated Fractured Rocks at the Apache Leap Research Site, a Yucca Mountain Analog. In addition to review and discussions with key staff members, the supporting document review (QAP-002) packages and scientific notebooks were evaluated. The audit included TEF laboratory investigations where the scientific notebooks and instrument calibrations were verified.

Good Practices

- (1) Good scientific notebook control (QAP-001) included consistent cross referencing and complete descriptions of activities.
- (2) Rigorous technical review of reports (QAP-002) indicated obviously thoughtful interaction between technical staff. Reviews were fully documented for historical reference.

8.2 ENFE

Audit Team

J. Erwin, T. Trbovich
C. Zinsmeyer, B. Brient (software validation)

Technical Task Description

The ENFE KTI concerns the effects of coupled thermal-hydrological-chemical processes in the near field upon the performance of the proposed repository at Yucca Mountain, Nevada. Study and/or investigations relate to the characteristics of the near field believed to be central to determining and demonstrating the long-term safety of the repository system.

Scope of Audit

The first portion of the audit evaluated the deliverable, Effects of Salt Formation on the Chemical Environment of Drip Shields and Waste Packages at the Proposed Nuclear Waste Repository, associated planning documents, scientific notebooks, and document review packages.

Software Validation: The deliverable item Software Validation Report for MULTIFLO, Version 1.5.2, was the focus of this portion of the audit. Additional documents evaluated during the audit included Software Change Request (SCR) 406, the Software Summary Form and Software Release Notice for version 1.5.2, and the Software Requirements Description for MULTIFLO Version 2.0. Since one individual was responsible for the MULTIFLO code, version control software was not being used on this project and was not necessary. Consultant Mohan Seth had contributed to the code development, and his contribution was reviewed by the CNWRA task lead before being incorporated into the baseline.

Good Practices

- (1) Excellent scientific notebooks with detailed entries on the synthesis of uranothane and solubility experiments
- (2) Well-documented verifications of calculations per QAP-014
- (3) The software process seems to be well suited to the software development environment; the process enforces a good level of control without being too burdensome

8.3 RDTME

Audit Team

A. Bernardo, T. Trbovich
C. Zinsmeyer, B. Brient (software validation)

Technical Task Description

The CNWRA staff conducted activities under the RDTME KTI that focus on four subissues, two of which were considered closed. The staff

- Assessed the U.S. Department of Energy (DOE) efforts to establish the appropriate design basis loads associated with discrete rockfall and drift collapse in collaboration with the SDS KTI
- Supported NRC in modeling the thermal-mechanical-hydrological aspects of the drift-scale test conducted at Yucca Mountain
- Reviewed DOE reports about the identification of credible hazards to the proposed surface facility in collaboration with the SDS KTI
- Developed the preclosure safety analysis tool
- Assessed the implementation of the DOE approach for identifying structures, systems, and components important to safety and the completeness and reasonableness for the structures, systems, and components identified as important to safety
- Reviewed the design and analysis of the surface facility structures
- Developed test plans for and performed validation tests on the preclosure safety analysis tool along with the other computer codes that are incorporated in this tool

Scope of Audit

The auditors reviewed two documents:

- MECHFAIL: A Total-System Performance Assessment Code Module for Evaluating Engineered Barrier Performance Under Mechanical Loading Condition
- DECOVALEX III Task 2c: Thermal-Mechanical Modeling of the Drift-Scale Heater Test at Yucca Mountain

These documents were evaluated as measures of performance of efforts in the RDTME KTI to determine how effectively the quality program had been applied. Scientific notebooks were reviewed for in-process entries illustrating the train of logic leading up to development of code under the two efforts. Professional Personnel Qualification and Training Records were provided proving that key personnel were indoctrinated into the QA program. Documentation of the technical review of the above two references were also provided.

Software Development and Validation: The only deliverable for this task at the time of the audit was a progress report. This audit focused on the ongoing software development processes. The Pre-Closure Safety Analysis (PCSA) Version 2.0 Software Requirements Description, Software Development Folder, Software Release Notice, and Software Summary Form were reviewed along with several Software Change Reports.

Good Practices

- (1) The use of spreadsheets to organize and to document software acceptance testing appeared to be an effective approach.
- (2) Detailed descriptions of software design and the graphical user interface (GUI) layout were provided in scientific notebooks.
- (3) Excellent scientific notebooks that included the use of flowcharts to depict software structure.
- (4) Good understanding by RDTME staff of the data qualification process.

8.4 RT

Audit Team

B. Thomann, B. Brient

Technical Task Description

The principal objectives to this KTI are to assist in resolving, at the staff level, the subissues and agreement items related to the effects of RT on repository performance under geochemical and hydrologic conditions relevant to Yucca Mountain, and the flow path downgradient from Yucca Mountain.

Scope of Audit

Two deliverables (Intermediate Milestones) were due for completion on June 27, 2003 (Assessing the Impact from Colloids on Transport through Alluvium), and July 25, 2003 (Analyses of Cutting from Early Warning Drilling Project Wells in Fortymile Wash). According to the principal investigator, personnel were working on completion of these deliverables, and were on schedule. The audit team visited the geochemical laboratory at Building 57 and interviewed personnel involved in the KTI, examined several Scientific Notebooks, petrographic, X-ray diffraction, and geochemical data from Core Labs, from Coastal Science Laboratories, and from Washington State University, and Sample Custody records. Science Notebooks (controlled copies) 037, 318, and 556 were examined for records on EQ3/6 modeling, colloid modeling experiments and groundwater sampling.

Good Practices

- (1) Purchase documents for analytical services (obtained from sources not on the Approved Supplier List) included clear criteria for acceptance of the results.

- (2) Good documentation in Scientific Notebooks 037, 318, and 556.
- (3) Well-defined roles and assignments of work for the personnel involved in RT.

Opportunity for Improvement

- (1) Core Labs and Washington State University should be contacted to provide descriptions of the methods of analysis, types of analytical equipment, internal standards, accuracy and precision, and statistical analysis of results.

8.5 BTFR

Audit Team

J. Griffin, T. Trbovich

Technical Task Description

The objective of this task was to review and analyze the information obtained on the Baltimore Tunnel accident and the resulting fire to estimate the flame temperature and duration of exposure.

Scope of Audit

To begin the review, the fire test engineer provided an overview presentation that had been recently given at a NRC public meeting. The report, Analysis of Rail Car Components Exposed To A Tunnel Fire Environment, was reviewed. Samples had been collected from the fire site and a new brake valve cover and bolts were received from the manufacturer (Webtec) for use in the various tests.

Steel samples were analyzed using standard metallurgical methods to determine oxide layer thickness and the amount of metal lost as result of elevated temperature exposure. Aluminum alloy assemblies, which melted as a result of the fire, were analyzed using a heat transfer model.

CNWRA and SwRI staffs performing the analysis were well qualified. Scientific notebooks and technical review packages met the quality procedure requirements. Samples were examined and were stored in the metallurgical laboratory.

Some discussion occurred that more testing and additional information should have been provided in the report. However, the scope of the report was exactly as requested by the NRC, as indicated in the approved OPs.

Good Practices

- (1) Well qualified personnel involved
- (2) Well documented scientific and engineering methods

Opportunity for Improvement

- (1) Voice recordings for the sample collection should be transcribed into a scientific notebook or the tape should be archived as a QA record.

8.6 SDS

Audit Team

D. Smith, T. Trbovich

Technical Task Description:

The objective of this activity was to resolve issues relating to the probability of significant structural deformation and seismicity and to assess the consequences of faulting and structural effects on repository performance.

Scope of Audit

The audit focused on the development of the Intermediate Milestone, Evaluation of Faulting as it Relates to Postclosure Performance of the Proposed High-Level Waste Repository at Yucca Mountain, Nevada. In addition to review and discussion of the subject report, the audit consisted of discussions with key participants in the activity and evaluations of QAP-002 review packages and relevant scientific notebooks.

Good Practices

- (1) High quality of personnel involved
- (2) Use of electronically maintained scientific notebooks
- (3) Scientific notebooks organized and archived around milestones

Opportunity for Improvement

- (1) The Quality Requirements Application Matrix (QRAM) for SDS should be revised to clarify or delete the note to perform surveillance of instruments and equipment prior to travel. The affected instruments did not require calibration and no surveillance had been performed.

8.7 TSPA&I

Audit Team

C. Zinsmeyer, B. Brient

Technical Task Description

This task involved code modifications and software validation of the Total-system Performance Assessment (TPA) code, Version 5.0. At the time of the audit, the Software Validation Test Plan

had been issued, validation tasks had been identified and teams had been assigned, but validation tests had not been conducted.

Scope of Audit

The deliverable item, Software Validation Test Plan Version 5.0, was the focus of this audit. The software processes used to support this deliverable were audited as result. The TPA Software Requirements Description, Software Development Folders, Software Release Notices, and Software Summary Forms were reviewed along with numerous Software Change Reports.

Good Practices

- (1) Use of Software Change Reports to assign software development tasks identified in the Software Requirements Document. The Software Change Reports also provided for acceptance testing of the individual changes.
- (2) Independent testers were used for acceptance testing and are being planned to be used for validation testing.
- (3) Well documented and comprehensive testing for Software Change Reports.

Opportunity for Improvement

- (1) The TPA Software Development Plan should describe the use of Software Change Reports for assigning software development tasks and for addressing acceptance testing.

8.8 General Observations

Good Practices

- (1) TOP-018, Development and Control of Scientific and Engineering Software, implementation for software development and validation appeared to be effective.
- (2) Scientific notebook content was uniformly improved over prior years.
- (3) Verification of calculations per QAP-014 was observed to be well done. The root cause analysis of past problems related to QAP-014 appeared to be thorough and the actions taken appeared to be effective.
- (4) Records retrieval was timely and accurate.

Opportunities for Improvement

- (1) Some reports and scientific notebooks should have additional explanatory comments to be more easily understood by persons not involved with the projects.
- (2) QAP-016, Procurement, should be clarified in regard to paragraph 4.3.2, Procurement of CNWRA-Developed Software. Software development by consultants and subcontractors in accordance with TOP-018 should not be considered procured software, rather it

should be considered to be procured services, and no unique controls beyond those in TOP-018 should be necessary.

- (3) The quality planning process described in QAP-013, Quality Planning, should include the justification for decisions, particularly for applicability of existing data controls. QAP-013 does not provide clear criteria for the more complicated QA program applicability decisions.
- (4) For Software Development Activities—A standard subroutine header should be developed to be included in the source code. The header should include at a minimum: (i) name, (ii) purpose, (iii) inputs, and (iv) outputs. It may also include a list of common variables.
- (5) For Software Development Activities—The CNWRA staff should consider using code walk-through and semi-formal reviews to provide checks during design and coding. A “buddy” system might be developed whereby a fellow developer reviews the code or development activities and prepares a review comment form similar to the currently used document review forms.
- (6) Documentation of the acceptance inspection/test for purchased items or services should be traceable to the procurement documents. Specifically, the procurement package should refer to the scientific notebook entry describing the acceptance of analytical results or copies of the acceptance documentation should be included with the procurement package (reference QAP-016, Section 7.3.2).
- (7) QAP-005 should be updated to recognize the use of the intranet for notification and acknowledgment of training.
- (8) QAP-009 should be revised to reflect current practice regarding nonconformance due date reminders, reporting trend analysis, and the correct version of form QAP-9.
- (9) QAP-010 should be revised to reflect current practices regarding trend reporting and to remove “typically” from paragraph 4.7.
- (10) Scientific notebooks (or equivalent supporting documentation) for NRC contributors to CNWRA products should be available to technical reviewers and should be archived as CNWRA QA records.
- (11) The CNWRA should consider revising QAP-002 to allow releasing documents prior to completion of the review process under special circumstances. Two such instances had occurred in the past year.
- (12) CNWRA staff should be reminded that obsolete hard-copy documents should be disposed of since documents have been distributed online.
- (13) The CNWRA should consider password protection of archived CD-ROMs for increased security.

- (14) The intent and value of the QAP-012 requirement for annual validation of in-process records should be reviewed.
- (15) The unsatisfactory findings portion of the surveillance report should be clarified. Some reports included items corrected during the surveillance and recommendations as well as nonconformances.

9 NONCONFORMANCES

Corrected During the Audit

- (1) RT—The acceptance of analytical services obtained from sources (Core Lab and Washington State University) not on the Approved Supplier List was not documented (reference QAP-016, Section 7.3.2). Scientific Notebook (#556) entries were made during the audit indicating the basis for accepting the analytical results.
- (2) BTFR—No evidence of sample receipt of brake valve housing covers. Sample receipt documentation was obtained during the audit.

Minor Nonconformances

- NCR 2003-10, Sample Control (QAP-012), was not consistently exercised
 - RT well cutting sample control documents were not updated when samples were sent out for analysis.
 - ENFE and BTFR sample control documents were not updated when samples were moved from their initial storage location or when subsamples were taken.
 - Rock Sample (#2) was not stored where indicated in sample control documents.
- NCR 2003-11 (QAP-11), Training Needs Forms (QAP-11-1), did not identify training required for several personnel that had performed tasks or were anticipated to perform tasks controlled by procedures. Examples included Silliman, Whang (no training required for TOP-018); Fedors, Tillis, Jain (no training required for QAP-012).

Copies of the Nonconformance Reports are attached.

10 QUALITY ASSURANCE PROGRAM EFFECTIVENESS


The QA program applied by the CNWRA was being effectively implemented. The nature of the nonconformances identified in the audit did not appear to have a significant potential to adversely affect products or the overall effectiveness of the program.

11 PERSONS CONTACTED

	Attended Pre-Audit Meeting	Contacted During Audit	Attended Post-Audit Meeting
<u>CNWRA Staff</u>			
G. Adams			X
R. Benke		X	X
P. Bertetti		X	X
J. Brown			X
I. Chichkov			X
A. Chowdhury	X	X	X
B. Dasgupta	X	X	X
C. Dinwiddie		X	X
J. Donato		X	
D. Dunn	X	X	X
R. Fedors	X	X	X
N. Franklin			X
A. Galloway			X
S. Garcia		X	
A. Ghosh			X
D. Gute		X	X
L. Howard		X	X
S. Hsiung		X	
V. Jain	X	X	
R. Janetzke	X	X	X
B. Mabrito	X	X	X
P. Mackin	X	X	X
P. Maldonado	X		
L. McKague	X	X	X
J.M. Menchaca			X
S. Mohanty	X	X	X
G. Ofoegbu	X		X
R. Pabalan		X	X
S. Painter		X	X
M. Padilla	X	X	X
W. Patrick	X	X	X
E. Percy	X	X	X
O. Pensado			X
D. Pickett		X	X
J. Prikryl		X	

	Attended Pre-Audit Meeting	Contacted During Audit	Attended Post-Audit Meeting
J. Russell	X		
B. Sagar	X	X	X
J. Stamatakos		X	X
D. Waiting		X	
G. Walter			X
B. Werling		X	X
G. Wittmeyer	X	X	
L. Yang		X	X
<u>NRC Staff</u>			
T. Carter	X	X	X
D. DeMarco	X	X	X
C. Greene	X	X	X
R. Johnson	X	X	X
J. Pearson	X	X	
W. Smith	X	X	X
Y. Kim			X
<u>Others</u>			
M. Ehnstrom (30)	X	X	X
R. Folck (Consultant)	X	X	
A. Garabedian (01)		X	
A. Holt (30)	X		X


APPROVALS

for 
Don Dunavant, Audit Team Leader

6/9/03
Date

for 
Tom Trbovich, Auditor

6/9/03
Date

for 
Rod Weber, Auditor

6/9/03
Date

Bob Brient
Bob Brient, Auditor

6/9/03
Date

Diane Smith
for Diane Smith, Technical Specialist

6/9/03
Date

Jimell Erwin
Jimell Erwin, Technical Specialist

Date

Charles Zinsmeyer
Charles Zinsmeyer, Technical Specialist

6/9/03
Date

Alex Bernardo
Alex Bernardo, Technical Specialist

6/9/03
Date

William Thomann
for William Thomann, Technical Specialist

6/9/03
Date

Mary Ann Clarke
Mary Ann Clarke, Technical Specialist

6/9/03
Date

Jim Griffith
Jim Griffith, Technical Specialist

6/9/03
Date

Bruce Mabrito
Bruce Mabrito, CNWRA Director of Quality Assurance

6/10/2003
Date

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES NONCONFORMANCE REPORT

Project No. CNWRA Audit 2003-1NCR No. 2003--10**PART 1: DESCRIPTION OF NONCONFORMANCE**

Lack of control, receipt and location of sample. Continued on page 2.

Initiated by: Don Dunavant *DD*

Date: May 23, 2003

Action Required by:

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTIONResponse Due Date: June 23, 2003 ^{9 REC 5/27/03}Response Person: B. MABRITO

Disposition:

Basis of Disposition:

Action to Correct Nonconformance:

Target date for completion: _____

Proposed by:

Date:

PART 3: APPROVAL

Element Manager: _____ Date: _____

Director of QA: _____ Date: _____

Comments/Instructions:

PART 4: CLOSE OUT

Comments:

Distribution:

Original-CNWRA QA DIRECTOR/QA Records

ORIGINATOR

PRINCIPAL INVESTIGATOR(S)

ELEMENT MANAGERS

B. Sagar, and P. Mackin

Verified by:

Date:

Nonconformances

NCR 2003-10: Sample control was not consistently exercised. Examples noted were RT well cutting sample logs were not updated when samples were sent for analysis, Form TOP-004 was not updated as samples were moved from initial storage location or subsamples identified for ENFE or BTFR, no evidence of receipt of brake valve housing covers for BTFR(corrected during audit), rock sample #2 not where indicated.

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

NONCONFORMANCE REPORT

Project No. CNWRA Audit 2003-1NCR No. 2003--11**PART 1: DESCRIPTION OF NONCONFORMANCE**

Personnel have been performing activities or are anticipated to perform to procedures not indicated on their Form QAP-11-1. Continued on page 2.

Initiated by: Don Dunavant *DD*

Date: May 23, 2003

Action Required by:

*9/25/03***PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION**Response Due Date: June 23, 2003Response Person: B. MADRITO *BM*

Disposition:

Basis of Disposition:

Action to Correct Nonconformance:

Target date for completion: _____

Proposed by:

Date:

PART 3: APPROVAL

Element Manager: _____ Date: _____

Director of QA: _____ Date: _____

Comments/Instructions:

PART 4: CLOSE OUT

Comments:

Distribution:

Original-CNWRA QA DIRECTOR/QA Records
 ORIGINATOR
 PRINCIPAL INVESTIGATOR(S)
 ELEMENT MANAGERS
 B. Sagar, and P. Mackin

Verified by:

Date:

NCR 2003-11: personnel were performing tasks or anticipated to perform tasks in accordance with procedures for which their QAP-11-1 form had not indicated training was required. Examples were Silliman (TOP-018), Fedors, Tillis, and Jain (QAP-012), and Whang (TOP-018).