U.S. DEPARTMENT OF ENERGY

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

OFFICE OF QUALITY ASSURANCE

AUDIT REPORT

FOR AUDIT OF

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

LAS VEGAS, NEVADA

AUDIT NO. YMP-91-I-01

OCTOBER 28 THROUGH NOVEMBER 1, 1991

PRIMARY ACTIVITIES EVALUATED:

1.0 Organization
2.0 Quality Assurance Program
3.0 Design Control
4.0 Procurement Document Control
5.0 Plans, Procedures, Instructions and Drawings
6.0 Document Control
7.0 Control of Purchased Items and Services
8.0 Identification and Control of Materials, Parts, Components, and Samples
12.0 Control of Measuring and Test Equipment
13.0 Handling, Storage, and Shipping
15.0 Control of Nonconforming Items
16.0 Corrective Action
17.0 Quality Assurance Records
20.0 Scientific Investigation

Prepared by: R E Powe Date: 12/6/91

Richard E. Powe
Audit Team Leader
Yucca Mountain Quality Assurance Division

Approved by: R. E. Spence For Date: 12/9/91

Donald G. Horton
Director
Office of Quality Assurance

ENCLOSURE

EXECUTIVE SUMMARY

This report contains the results of the the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Audit YMP-91-I-01 of the Yucca Mountain Site Characterization Project Office (YMPO) that was conducted in Las Vegas, Nevada, on October 28 through November 1, 1991. This internal audit were conducted by a team of auditors from the Yucca Mountain Quality Assurance Division (YMQAD) of the Office of Quality Assurance (OQA), evaluated the YMPO implementation of the OCRWM Quality Assurance (QA) Program to determine whether it meets the requirements and commitments imposed by the OCRWM. This was done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

Fourteen of the 20 QA Program elements described in the OCRWM Quality Assurance Program Description (QAPD), DOE/RW-0215, Revision 3, including Interim Change Notice (ICN) No. 3.1, were applicable to YMPO activities at the time of this audit.

Overall, the DOE OCRWM QA Program at the YMPO is adequate and is being effectively implemented in accordance with the OCRWM QAPD and implementing procedures except for QA Program elements 4.0, "Procurement Document Control," 7.0, "Control of Purchased Items and Services," and 15.0, "Control of Nonconforming Items."

The procurement process that deals with the use of existing non-YMPO government contracts was not adequately described in implementing procedures. This significant condition adverse to quality was documented in Corrective Action Request (CAR) No. 007. As a result of this CAR, QA Program element 4.0, "Procurement Document Control" is considered to be inadequate.

QA Program elements 7.0, "Control of Purchased Items and Services" and 15.0, "Control of Nonconforming Items" are considered indeterminate due to lack of implementation.

Except for the deficiencies identified in Section 6 of this report the other 11 QA Program elements audited are being effectively implemented. Six implementing procedures were considered indeterminate due to lack of implementation. The procedures considered indeterminate are identified by an asterisk within Enclosure 4.

The audit team identified 13 deficiencies during the audit and all but seven were resolved prior to the post-audit conference. The seven unresolved deficiencies dealt with procurement document control, test planning packages, assessment team controlled lists, verbatim procedural compliance, procedural adequacy, and core sample control; and, are documented in CAR Nos. YM-92-007 through -013. See Section 6 of the Audit Report for a synopsis of deficiencies and Enclosure 5 of the Audit Report for CAR details.

One of several areas/activities within the YMPO that the Audit Team considered a strength worthy of note is the process used during the audit to track areas where improvement was needed. Implementation of this process resulted in timely and effective remedial action to correct potential deficiencies and resulted in an improved QA program in areas that were not considered deficient.

During the audit several areas were identified within the YMPO organization where there were opportunities for improvements. These areas were Readiness Review, Interface Control, CAR processing, and QA Record retrieval. See Section 7 of the Audit Report for details.

1.0 INTRODUCTION

This report contains the results of the the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) Audit No. YMP-91-I-01 of the Yucca Mountain Site Characterization Project Office (YMPO) conducted in Las Vegas, Nevada on October 28 through November 1, 1991. This audit was performed in accordance with the approved Audit Plan (Reference: Letter, Horton to Gertz, dated September 23, 1991).

2.0 AUDIT SCOPE

This internal audit, by a team of auditors from the Yucca Mountain Quality Assurance Division (YMQAD) of the Office of Quality Assurance (OQA), evaluated the YMPO implementation of the OCRWM Quality Assurance (QA) Program to determine whether it meets the requirements and commitments imposed by the OCRWM. This was done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

In addition to follow-up on open Standard Deficiency Reports and Corrective Action Requests (CARs), a representative sample of discrepancies identified during previous QA audits and surveillances of YMPO was included in the scope of this audit to determine the effectiveness of YMPO corrective actions.

YMPO activities associated with the following QA Program elements were audited:

Program Elements

1.0 Organization
2.0 Quality Assurance Program
3.0 Design Control
4.0 Procurement Document Control
5.0 Plans, Procedures, Instructions, and Drawings
6.0 Document Control
7.0 Control of Purchased Items and Services
8.0 Identification and Control of Materials, Parts, Components, and Samples
12.0 Control of Measuring and Test Equipment
13.0 Handling, Storage, and Shipping
15.0 Control of Nonconforming Items
16.0 Corrective Action
17.0 Quality Assurance Records
20.0 Scientific Investigation Control

The following QA Program elements were not audited since the YMPO has no activities to which these elements apply:

9.0 Control of Processes
10.0 Inspection
11.0 Test Control
14.0 Inspection, Test, and Operating Status
18.0 Audits

No YMQAD activities nor technical activities were audited. YMQAD activities are covered by a separate OQA internal audit and technical activities are covered by OQA audits of Participants and other affected organizations.

3.0 AUDIT TEAM AND OBSERVERS

The list of audit team members and observers can be found in Enclosure 1.

4.0 AUDIT MEETINGS AND PERSONNEL CONTACTED

The pre-audit conference was held at YMPO facilities in Las Vegas, Nevada, on October 28, 1991. Daily coordination meetings were held with YMPO management and staff, and daily Audit Team/Observer meetings were held to discuss issues and potential deficiencies. The audit was concluded with a post-audit conference held at YMPO facilities in Las Vegas, Nevada, on November 1, 1991. A list of auditors, observers, and personnel contacted during the audit is included in Enclosure 2. The list includes an indication of those who attended the pre- and post-audit conferences.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Effectiveness

Fourteen of the 20 QA Program elements described in the OCRWM Quality Assurance Program Description (QAPD), DOE/RW-0215, Revision 3, including Interim Change Notice (ICN) No. 3.1 were applicable to YMPO activities at the time of this audit.

Overall, the OCRWM Quality Assurance Program at the YMPO is adequate and is being effectively implemented in accordance with the OCRWM QAPD and implementing procedures except for QA Program elements 4.0, "Procurement Document Control," 7.0, "Control of Purchased Items and Services," and 15.0, "Control of Nonconforming Items."

The procurement process that deals with the use of existing non-YMPO government contracts was not adequately described in implementing procedures. This significant condition adverse to quality was documented in CAR No. YM-92-007. As a result of this CAR, QA Program element 4.0 "Procurement Document Control" is considered to be inadequate.

QA Program elements 7.0, "Control of Purchased Items and Services" and 15.0, "Control of Nonconforming Items" are considered indeterminate due to lack of implementation.

Except for the deficiencies identified in Section 6 of this report, the other 11 QA Program elements audited are being effectively implemented. Six implementing procedures were considered indeterminate due to lack of implementation. The procedures considered indeterminate are identified by an asterisk within Enclosure 4.

During the audit there were several areas/activities identified within the YMPO that the Audit Team considered strengths worthy of note:

1. The cooperativeness of the entire YMPO staff had a positive impact on the conduct of the audit and enhanced the overall effectiveness of the audit.

2. During the audit the YMPO implemented a process to track areas where improvement was needed. Implementation of this process resulted in timely and effective remedial action to correct potential deficiencies and resulted in an improved QA program in areas that were not considered deficient.

3. The job performance of the Quality Review Board Administrative Assistant was commendable.

4. The methods used by the Training organization to control baseline training and subsequent updating are excellent.

5. The Training organization is to be commended for working overtime during the audit to assure that anomalies found in their training computer log did not result in someone being deficient in baseline training.

6. Considering the massive amount of work being accomplished in the area, the performance of the Plans and Procedures Division is excellent.

7. The Sample Management personnel were very knowledgeable of the process they were performing.

8. The YMPO Records Management Supervisor demonstrated complete cognizance of procedural requirements and supplied information needed in a timely fashion. All Local Records Center (LRC) staff interviewed were extremely cooperative and helpful, and they displayed a positive attitude and a desire to improve the system.

5.2 Programmatic Audit Activities

Details of programmatic audit activities can be found in Enclosure 3.

5.3 Summary of Deficiencies

The audit team identified 13 deficiencies during the audit and all but seven were resolved prior to the post-audit conference. The seven unresolved deficiencies dealt with procurement document control, test planning packages, assessment team controlled lists, verbatim procedural compliance, procedural adequacy, and core sample control. A synopsis of the CARs and the six deficiencies corrected during the audit are presented in Section 6.0 of this report.

6.0 SYNOPSIS OF DEFICIENCIES

6.1 Corrective Action Requests (CARs)

As a result of the audit, the following CARs were generated:

YM-92-007 No approved quality procedure to describe the procurement process when using existing non-YMPO government contracts.

YM-92-008 Test Planning Packages do not address prerequisites.

YM-92-009 The Assessment Team (AT) Controlled List does not include the most current available version of the Work Breakdown Structure (WBS) Dictionary.

YM-92-010 There has been a lack of verbatim compliance with procedures.

YM-92-011 Quality Management Procedure QMP-06-04, Revision 4, "Project Office Document, Development, Review, Approval, and Revision Process" does not include the requirement for QA review.

YM-92-012 The Sample Management Facility (SMF) Branch Technical Procedure (BTP) for taking neutron access borehole core samples, BTP-SMF-013, Revision 0, is not consistent with Administrative Procedure--Quality AP-6.2Q regarding logging and marking of core samples and there is a lack of objective evidence that the Sample Overview Committee directed this alternative method of handling samples.

YM-92-013 Neutron access borehole core sample run No. 58 was not videotaped and this program deficiency was not documented on a CAR.

6.2 Deficiencies Corrected During the Audit

Deficiencies which are considered isolated in nature and only require remedial corrective action can be corrected during the audit. The following deficiencies were identified and corrected during the audit:

1. QMP-02-01, Revision 4, Paragraph 5.0, Step 6 requires the Training Manager to maintain a training requirements tracking system for affected employees. A review of this training matrix against the baseline requirements established by the employee's supervisor revealed that the matrix was inconsistent with the baseline for 3 out of the 15 employees checked. During the audit the Training Department reviewed all baseline matrixes and found three additional inconsistencies. All inconsistencies were corrected and the impact on quality affecting work was evaluated. There was no impact on quality affecting work. The auditor verified that the inconsistencies were corrected and concurred with the evaluation.

2. OCRWM QAPD, Section 2.0, Paragraph 2.1.9(a) "Job Evaluation" requires that minimum personnel qualification standards (including minimum education and experience requirements) be established. DOE Position Descriptions reviewed during the audit did not contain nor reference the required qualification standards. Because of laws and regulations associated with hiring government employees the DOE qualification standards are held in the DOE Personnel Department files. A review of a representative sample of the qualification standards revealed that appropriate minimum education and experience requirements are established. During the audit a note was added to each DOE Position Description to explain that the qualification standards could be located at the Personnel Department.

3. AP-5.13Q, Revision 2, requires that the Readiness Review Chairperson complete, sign, and date the Readiness Review Board Selection Record. This record was not dated for the Readiness

Review performed for Midway Valley Trenching. This deficiency was corrected during the audit and corrected record was submitted to the LRC.

4. AP-5.13Q, Revision 2, requires that Readiness Review Team Members and Team Secretary be trained to the current revision of AP-5.13Q. The training record for the Team Secretary for the Midway Valley Trenching Readiness Review did not indicate the revision of AP-5.13Q to which training was accomplished. This deficiency was corrected prior to completion of the audit and the corrected record was submitted to the LRC.

5. OCRWM QAPD, Appendix A, Paragraph 20.4.1, "Technical Review," specifically requires that technical reviews be performed by reviewers who do not direct or perform the work being reviewed. This independent review requirement was not addressed in BTP-RSE-001, Revision 0, "Evaluation of Ongoing Activities," Paragraph 5.0, Step 2. The procedure was corrected during the audit by ICN No. 2.

6. Two SMF Core Processing Checklists did not identify the "Permanent Location" of sample containers as required by BTP-SMF-002, Revision 2, Step 35(h). Examples: Core Processing Checklist for Neutron Access Boreholes 64 and 65 dated October 21, 1991. Prior to completion of the audit, all Core Processing Checklists for samples acquired from the Neutron Access Boreholes had been corrected to reflect the "Permanent Location" of the samples.

7.0 REQUIRED ACTIONS AND RECOMMENDATIONS

A response to the CARs (described in Section 6.0) is due within the time frame stated in block 10 of the CAR, as detailed in the CAR transmittal letter. Upon receipt of an acceptable response and satisfactory verification of all corrective actions, the CAR will be closed and YMPO will be notified (by letter) of the closure.

During the audit several areas were identified within the YMPO organization where there were opportunities for improvements. The following recommendations are offered for YMPO management consideration:

1. The Readiness Review procedure, AP-5.13Q, should require evaluation of qualifications of team members as well as evaluation of qualification of Readiness Review Board members.

2. AP-5.19Q "Interface Control" should provide more detail as to the purpose and use of the "TRACK IDENT." block of Interface Memorandums of Understanding (IMOUs). This should help avoid confusion by explaining how different versions or drafts of IMOUs are designated.

3. The audit revealed that YMPO responses to some CARS were late; however, more recent responses have been on time, therefore the condition did not warrant issuance of a CAR. The audit also revealed that YMPO management was using the YMQAD CAR status log and the YMPO Action Item Tracking System, AP-1.9, to assure timely CAR responses. This methodology seems to be working; however, attrition or absenteeism of key employees may cause delays in responding. YMPO management should consider developing a work instruction or guideline to establish the method and responsibility for processing, control and resolution of CARs to ensure that no interruption is encountered in the process due to attrition or absenteeism of employees in charge of the tracking system.

4. Although all documents were retrieved, there was a concern regarding assignment of titles to documents by record sources for input into the Records Information System. Development of unique identifying title codes for use in records generated by record sources could greatly increase retrieval time. Resources should be set aside to develop an indexing system utilizing such codes and a target date for implementation should be established in order to avoid monumental retrieval problems in the future.

5. BTP-SMF-013, Revision 0, Section 5, Step 27, requires that temporary storage of borehole samples, specimens, and records be in an access restricted facility, and be protected from inclement weather. During the audit it was noted that the core samples were being kept in the logging trailer that has electricity and heat supplied by a generator. This meets the BTP requirement; however, during the weekends, the generator which supplies power to the logging trailer is shut down. Consequently, there is no heat provided to the logging trailer unless someone is working. Since core samples could be temporarily stored in the logging trailer over the weekend, YMPO management should make certain that precautions are taken to assure core samples are not degraded if temperatures drop below freezing over the weekend.

6. It was noted that the original videotape of core samples is used to make copies which are in turn sent to the SMF for storage and are considered the QA Record. The original tape is maintained as a working copy. BTP-SMF-013 does not address making a copy of the original tape and using this tape as the record copy. While copies of tapes are acceptable as QA Records, the resolution and clarity of original tapes are generally better than copies. YMPO management should consider establishing a method for verifying that the quality of the tape copy is acceptable prior to destroying the original tape.

8.0 LIST OF ENCLOSURES

Enclosure 1: Audit Team Members and Observers
Enclosure 2: Personnel Contacted During the Audit
Enclosure 3: Audit Details
Enclosure 4: Objective Evidence Reviewed During the Audit
Enclosure 5: *Information* Copies of CARs

AUDIT TEAM AND OBSERVERS

AUDIT TEAM

Name	QA Program Element/Area Assignment
Richard E. Powe, Audit Team Leader	
Amelia I. Arceo	15, 16, 17
Sandra D. Bates (Auditor-in-Training)	15, 16, 17
Neil D. Cox	2 (QA grading), 3, 20 (See Supplemental Assignment Notes)
John S. Martin	1, 2 (except QA grading & Readiness Review)
Richard L. Maudlin	4, 7, 8, 13
Kenneth T. McFall	5, 6, 8, 12
Charles C. Warren	2 (Readiness Review), 3, 20 (See Supplemental Assignment Notes)

Supplemental Assignment Notes

Neil D. Cox

1. Review of Study Plans, AP-1.10Q
2. Technical Assessment Review, QMP-02-08
3. Peer Review, QMP-03-01
4. Field Work Activation, AP-5.21Q, Job Package 91-9
5. Test Planning, AP-5.32Q

Charles C. Warren

1. Change Control Process, AP-3.3Q and QMP-03-09
2. Field Change Control Process, AP-3.5Q
3. Interface Control, AP-5.19Q
4. Hold Control, AP-5.20Q

OBSERVERS

James T. Conway	U.S. Nuclear Regulatory Commission (NRC)
John Buckley	NRC
Robert D. Brient	NRC, Southwest Research Institute
John W. Gilray	NRC
Englebrecht von Tiesenhausen	Clark County, Nevada
Frank E. Nash	TRW Environmental Safety Systems--Management and Operations
Wayne E. Booth	DOE Headquarters, Roy F. Weston, Inc.

ENCLOSURE 2

OCRWM AUDIT NO. 91-I-01
PERSONNEL CONTACTED

Name	Organization	Title	Contacted Pre-Audit	Contacted During Audit	Contacted Post-Audit
Arceo, Amelia I.	SAIC/YMP	Lead Auditor	X		X
Badredine, Terri L.	SAIC/T&MSS	Record Training Spec.		X	
Barton, Robert V.	DOE/YMP	Asst. Deputy Manager	X	X	X
Bates, Sandra D.	SAIC/YMQAD	Auditor-in-Training	X		X
Beall, G. Kenton	SAIC/T&MSS	APM FTS	X		X
Bean, Elaine	W/T&MSS	Doc. Ctrl. Supervisor		X	
Bjerstedt, Thomas W.	DOE/YMP	Geologist			X
Blanchard, Maxwell B.	DOE/YMP	Deputy Project Manager	X	X	X
Blaylock, James	DOE/YMP	QA Engineer	X		
Boak, Jeremy M.	DOE/YMP	TAB Actg. Br. Chief		X	
Booth, Wayne	Weston	QA Manager	X		
Brient, Robert	SWRI/NRC	Observer	X		
Brodsky, Mitchell G.	DOE/YMP	General Engineer			X
Buckley, John T.	NRC	Observer	X		
Carpenter, C. Lee	DOE/YMP	Records Manager		X	X
Chadwick, Paul A.	SAIC/T&MSS	Training Div. Director		X	
Chandler, Douglas K.	SAIC/T&MSS	Associate Proj. Manager	X		X
Clark, James E.	SAIC/T&MSS	PPD Acting Manager	X	X	
Cloninger, Michael O.	DOE/YMP	FEB Branch Chief	X		X
Conway, James T.	NRC/HLWM	Lead Observer	X		X
Cooper, Jeanne L.	DOE/YMPO	Physical Scientist	X	X	X
Cox, Neil D.	SAIC/YMQAD	Lead Auditor	X		X
Crawley, Richard A.	DOE/YMP	Physical Scientist	X	X	X
Davis, John H.	SAIC/T&MSS	Shift Supervisor		X	
Dixon, Wendy R.	DOE/YMP	POCD Divison Director	X	X	X
Doyle, John R.	Harza/T&MSS	Shift Supervisor		X	
Dyer, J. Russell	DOE/YMP	RSED, Actg. Div. Dir.	X	X	X
Dymmel, George D.	DOE/YMP	EED Branch Chief	X	X	X
Ebner, Hans	SAIC/T&MSS	Mgr. Doc. & Rec. Ctrl		X	
Elder, H. Kenneth	DOE/YMP	Engineer	X		X
Estella, John W.	SAIC/T&MSS	Staff Advisor	X	X	X
Fehr, Gregory P.	SAIC/T&MSS	Senior Engineer		X	
Ford, Ansel V.	SAIC/T&MSS	CRF Manager			X
Ford, Victor A.	SAIC/T&MSS	CRF Acting Manager		X	
Gandi, John G.	DOE/YMP	IRM Manager	X	X	
Gardiner, James T.	DOE/YMP	Engineer			X
Gertz, Carl P.	DOE/YMP	Project Manager	X	X	
Gilray, John	NRC	Observer	X		
Girdley, W. Arch	DOE/YMP	Physical Scientist	X	X	X
Grassmeier, Kathleen F.	DOE/YMP	OCB Branch Chief	X		X

OCRWM AUDIT NO. 91-I-01
PERSONNEL CONTACTED

Name	Organization	Title	Contacted Pre-Audit	Contacted During Audit	Contacted Post-Audit
Hale, H. Jackson	DOE/OCRWM	OSC Division Director			
Harbert, Kevin R.	SAIC/T&MSS	CCD Manager	X	X	X
Harper, James B.	SAIC/T&MSS	QA Manager	X		X
Harrison-Giesler, D.J.	DOE/YMP	Engineer			X
Hartley, John A.	SAIC/T&MSS	Shift Supervisor		X	
Helms, Ronald G.	SAIC/T&MSS	Sr. Project Analyst	X		X
Horton, Donald G.	DOE/OCRWM	OQA Director	X		
Hutchinson, Bruce D.	DOE/YMP	General Engineer	X		
Iorii, Vincent F.	DOE/YMP	Dir. Project Control	X	X	X
Jacobson, Joanne P.	SAIC/T&MSS	CRF Supervisor		X	
Karas, Nadine R.	SAIC/Golden	QA Specialist		X	X
Kozai, Wayne N.	DOE/YMPO	Project Analyst			X
LaMonica, Larry B.	SAIC/T&MSS	AT Team Leader		X	
Lee, Dianne D.	SAIC/T&MSS	Documentation Specialist	X		
Lee, Lynda J.	W/T&MSS	CRF Supervisor		X	
Lewis, Chris	SAIC/T&MSS	Curator, SMF		X	
Limon, Kristina L.	REECo/YMP	IMD Manager	X		X
Linder, Fred J.	SAIC/T&MSS	ICWG Secretary		X	
Long, Roy C.	DOE/YMP	General Engineer			X
Lugo, Miguel	SAIC/T&MSS	APM, RI&T	X		X
Mansur, Gary A.	SAIC/T&MSS	Training Div. Manager			X
Martin, John S.	SAIC/YMQAD	Lead Auditor	X		X
Matthews, Sam C.	SAIC/T&MSS	CMD Manager	X	X	X
Mattson, Steven R.	SAIC/T&MSS	Senior Staff Geologist		X	
Maudlin, Richard L.	MACTEC/YMQAD	Lead Auditor			X
McAlister, Diane	SAIC/T&MSS	Config. Mngmt Specialist	X	X	
McCarthy, Regina A.	SAIC/T&MSS	Training Manager	X	X	X
McFall, Kenneth T.	SAIC/YMQAD	Lead Auditor	X		X
Moyer, James L.	W/T&MSS	Shift Supervisor		X	
Mudra, Paul F.	SAIC/T&MSS	Staff Advisor	X		
Mukherjee, Jay	DOE/YMP	General Engineer			X
Murthy, Ram B.	DOE/OCRWM	Former QRB Chairman		X	X
Nash, Frank C.	M&O/Duke	QA Audit Manager	X		X
Nelson, John H.	SAIC/T&MSS	Technical Project Mgr.			X
Newbury, Claudia M.	DOE/YMP	Physical Scientist		X	X
Peck, John H.	SAIC/T&MSS	Senior Integrator		X	
Pendleton, Martha W.	SAIC/T&MSS	Senior Staff Geologist		X	
Petrie, Edgar H.	DOE/YMP	E&DD Actg. Div. Dir.		X	X
Phillips, Garth	DOE/YMP	Contracting Officer	X	X	X
Pokorny, Beth B.	SAIC/T&MSS	Doc. Review Coordinator		X	
Potee, Brenda L.	REECo/YMP	YMP LRC Chief Clerk		X	
Rehkop, E. Carol	DOE/YMP	Administrative Officer	X	X	X

OCRWM AUDIT NO. 91-I-01
PERSONNEL CONTACTED

Name	Organization	Title	Contacted Pre-Audit	Contacted During Audit	Contacted Post-Audit
Reilly, Beatrice	SAIC/T&MSS	OIEA Manager	X		
Roberson, Gary D.	DOE/YMP	RSED, Actg. Dep. Dir.	X		X
Roberts, Pamela A.	SAIC/T&MSS	Administrative Asst.		X	X
Replogle, James M.	DOE/YMP	EWG/Gen			X
Royer, Dennis C.	DOE/YMP	Engineer		X	X
Schlick, David L.	DOE/YMP	Operations Control Br.	X		
Schneider, Ralph R.	SAIC/T&MSS	Field Operations Support		X	
Smith, William C.	REECo/YMP	YMP LRC Mgr/Archivist	X	X	X
Spangler, Elaine L.	SAIC/T&MSS	Technical Coordinator		X	
Spence, Richard E.	DOE/YMQAD	Division Director	X		X
Sullivan, J. Timothy	DOE/YMP	Physical Scientist			X
Tacelli, Arlene D.	SAIC/T&MSS	DRC Field Supervisor		X	
Therien, John E.	SAIC/YMQAD	Staff Advisor	X		X
Thomure, Dawn A.	REECo/YMP	YMP LRC Rec. Mgnt. Spr.	X	X	
Tiesenhausen, E. V.	Clark Co, NV	Observer	X		X
Voegele, Michael D.	SAIC/T&MSS	Deputy Project Manager	X		
Waddell, John D.	SAIC/T&MSS	Chief Engineer	X	X	
Warner, Peggy	SAIC/T&MSS	Records Manager			X
Warren, Charles C.	MACTEC/YMQAD	Lead Auditor	X		X
White, Harry C.	DOE/YMP	Management Analyst	X		X
Williams, Al C.	DOE/YMQAD	General Engineer	X		
Williams, Dennis R.	DOE/YMP	Physical Scientist			X
Wilson, Winfred A.	DOE/YMP	Site Manager	X	X	X

ENCLOSURE 3

AUDIT DETAILS

The following is a summary of programmatic activity covered during the audit. A list of objective evidence reviewed during this audit is shown in Enclosure 4. The full document identification number, revision status, and title for documents referenced below can be found in Enclosure 4.

1. 1.0, "Organization"

The evaluation of the Quality Assurance (QA) Program element "Organization" was conducted to determine compliance to Section 1 of the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance Program Description (QAPD), DOE/RW-0215, and Yucca Mountain Site Characterization Project Office (YMPO) Quality Management Procedure (QMP) QMP-01-01. The evaluation included questioning key U.S. Department of Energy (DOE) personnel assigned to the YMPO to determine their degree of understanding of the organizational structure, lines of communication, authority, duties, and responsibilities. It was found that personnel had a clear understanding of both the requirements for the DOE YMPO organization and how those requirements are being implemented. The following DOE personnel were interviewed:

Associate Director, Office of Geologic Disposal/YMPO Project Manager
Deputy Project Manager
Two Division Directors
Two Branch Chiefs

In addition, a review was performed of quality-affecting Administrative Procedures (APs) and other QMPs to verify that positions and titles were consistent with those utilized in Section 1 of the QAPD and QMP-01-01. The results of this review provided evidence of compliance. The following procedures were reviewed:

APs: 5.1Q; 5.2Q; 5.9Q; 5.16Q; 5.19Q; 5.20Q; 5.21Q; 5.24Q; 5.26Q; and,

QMPs: 01-01; 02-01; 03-01; 03-09; 04-02; 06-04; 07-04; and 15-01.

Evaluation of QMP for "Stop Work", QMP-01-02, was also included within QA Program element 1.0. There have been no Stop Work Orders (SWOs) issued since the last audit of the YMPO; however, personnel interviewed were cognizant of procedural requirements.

A detailed description of the attributes checked are included in the following QMP-01-01 paragraphs: 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 4.5.1, 4.5.3, 4.6, 4.6.1, 4.6.2, 4.6.7, 4.7, 4.7.1, 4.7.2, 4.11, 4.11.1, 4.11.2, 4.11.3.

2. 2.0, "Quality Assurance Program"

Readiness Review: During the audit, YMPO personnel indicated that only one Readiness Review (Midway Valley Trenching) had been performed. The Final Record Memorandum for this review, dated January 24, 1991, was evaluated to assure that Readiness Review planning, notification, board member selection and review of qualifications, checklist preparation, checklist completion, and checklist comment resolution were accomplished in accordance with the requirements of AP-5.13Q. With the exception of two isolated deficiencies for omitting a date on the Readiness Review Board Selection Record and a revision number on a training record for a Readiness Review Team Member, all activities were found to be in compliance with AP 5.13Q. The two deficiencies were corrected during the audit. (See Section 6 of the audit report for details). Because of this limited implementation, effectiveness of the readiness review process was considered indeterminent.

Graded Quality Assurance: Evaluation of Classification and Graded Quality Assurance included assessing implementation of AP-6.17Q and AP-5.28Q.

The activities of the Assessment Team under the requirements of AP-6.17Q, "Determination of the Importance of Items and Activities," were found to conform with those requirements with one exception. The exception was that the Assessment Team Controlled List was not current with the latest Work Breakdown Structure (WBS) Dictionary as required. (See CAR **YM-92-009** for details).

The activities of the Quality Review Board (QRB) under the requirements of AP-5.28Q were found to be in compliance. There were 258 separate Quality Grading Reports listed on the QRB Log. The activities of the QRB Administrative Assistant were performed very well.

Personnel Selection, Indoctrination, Training, and Qualification: Evaluation of indoctrination and training, and qualification of personnel was performed by review of personnel records and training lesson plans to verify compliance with QMP-02-01 and QMP-02-09.

Compliance with the YMPO Indoctrination and Qualification procedure, QMP-02-01, was verified by checking various aspects of procedural implementation, (i.e., position descriptions, qualification evaluations, education and experience verification, baseline tracking, training accomplished as required, past due evaluations and notifications of terminations if applicable). The following is a listing of personnel files reviewed:

Elaine Bean	John Estella	Rebecca Rhea
Marilyn Borich	Susan Jones	Alma Romero
Robert Cameron	Roy Long	Jerry Szymanski
Wendy Dixon	Samuel Mathews	Michale Valentine
George Dymmel	Garth Phillips	Robert White

In addition, a review of training files was accomplished for individual training needs identified by the Audit Team during the course of the audit. This review was performed to verify that appropriate training had been completed for the procedures listed below:

QMP-06-04

S. Jones	V. Iorii
H. Adkins	J. Rusk
W. Williams	M. Blanchard
G. Bruan	F. Linder
W. Wilson	D. Sinks
J. Estella	U. Clanton
R. Kettell	G. Heaney

QMP-17-01, Rev. 3

P. Roberts	R. Barton
N. Karas	W. Smith
R. Murthy	L. Carpenter
G. Phillips	C. Rehkop
E. Spangler	J. Gandhi
D. Thomure	

AP-5.28Q and AP-6.17Q (Baseline)

P. Roberts	P. Standish
E. Dudley	P. Cloke
J. Caldwell	M. Foley
M. Harris	D. Hulbert
S. Klein	K. Kersch
J. Thies	R. Lowder
S. Smith	J. Nelson
H. Atkins	U-Sun Park
G. Braun	T. Pysto
C. Herrington	M. Voegle
E. McCunn	C. Warren
R. Constable	J. Waddell
P. Karnoski	L. LaMonica

A detailed description of the attributes checked are included in the following QMP-02-01, paragraphs: 3.4, 3.6, 5.0 (steps: 5, 6, 7, 8, 12, 15, 21, 27, 30, 31, 32, 39), and 8.0.

Evaluation of the Development and Conduct of Training procedure, QMP-02-09, was verified by checking various aspects of procedural implementation, i.e., instructor qualification, instruction objectives, approved lesson plans, and examinations as required.

Proper instructor qualification was verified for the following personnel:

T. Badredine S. Dana R. Powe C. Wise

Reviewed Lesson Plan: "Train the Trainer"

A detailed description of the attributes checked are included in the following QMP-02-09 paragraphs: 5.0 (steps:12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 26)

Management Assessment: QMP-02-03, Revision 0, "Management Assessment" became effective on July 12, 1989. On February 3, 1990, Standard Deficiency Report (SDR) 481 was generated to document the lack of implementation. On October 19, 1990, QMP-02-03 was revised. On February 11, 1991, SDR 481 was voided by referring to OCRWM Deficiency Report (DR) 90-021 which covered the same subject. Responsibility for performing Management Assessments has been assigned to the OCRWM Director and is now

described in Quality Assurance Administrative Procedure (QAAP) 2.7. QMP-02-03 was withdrawn on June 7, 1991; therefore, Management Assessment was not evaluated during this audit.

3. 3.0, "Design Control"

Evaluation of this QA Program element was accomplished by auditing the following activities: Technical Assessment Review, Peer Review, Field Work Activation, Project Change Control, Field Change Control, Interface Control, and Hold Control. QA Grading and Readiness Review activities are covered in QA Program element 2.0; and, Test Planning and Implementation activities are covered in QA Program element 20.0.

Technical Assessment Review: One Technical Assessment, "Geologic and Geophysical Evidence Pertaining to Structural Geology," Revision 0, was audited to the requirements of the Technical Assessment Review procedure, QMP-02-08. This review was conducted in reasonable compliance with the procedure. There were two minor anomalies dealing with the lack of a title for one reviewer and a missing checkmark indicating acceptance for another reviewer. Since this information could be determined by review of other documents within the same record segment, no attempt was made to get the missing information added to the records. A CAR was issued to address the lack of verbatim compliance with procedures; however, the above described anomolies were not included as examples within the CAR. (See CAR **YM-92-010** for details).

Peer Review: One Peer Review was audited to the requirements of QMP-03-01, "Peer Reviews." The title of the resulting document is "Unsaturated Zone Hydrology Peer Review Record Memorandum," June 24, 1991. This review was conducted in compliance with the procedure.

Field Work Activation: Two Job Packages (JPs), out of six listed in the Master Controlled Document Report dated October 21, 1991, were audited to the requirements of AP-5.21Q, "Field Work Activation." These were JP 91-6, Auger Holes at the Hydrologic Research Area, Revision 0, and JP 91-9, Neutron Access Boreholes, Revision 0. Both job packages were found to conform to the governing procedure.

Project Change Control: Seven Change Request (CR) packages and two Document Change Proposal (DCP) packages were selected for review during the audit. This review included an evaluation for required documentation, analysis, evaluation, approval, submittal to the Document Control Center, and status tracking of CRs and DCPs. The review also verified fulfillment of designated responsibilities by the Change Control Board (CCB), the CCB Chairperson, and the CCB Secretary. All activities reviewed were found to be in compliance with the requirements of AP-3.3Q and QMP-03-09.

Field Change Control: Six of the 10 Field Change Request (FCR) packages issued on the Yucca Mountain Site Characterization Project (YMP) were reviewed to evaluate compliance to the requirements of AP-3.5Q. FCR identification, evaluation, instructions for implementation, approval, and status tracking were evaluated. In addition, fulfillment of designated responsibilities by the Field Change Control Board (FCCB), the FCCB Chairperson, and the FCCB Secretary were evaluated. All activities evaluated were found to be in compliance with procedural requirements.

Interface Control: During the audit, five Interface Memorandum of Understanding (IMOU) packages were reviewed to determine compliance to the requirements of AP-5.19Q. The review included an evaluation of IMOU initiation, evaluation, distribution, acceptance, and tracking. With the exception of distribution of IMOUs to the Local Records Center (LRC) at designated times during processing, activities were found to be in compliance with procedural requirements. Required records transmittal for IMOUs was accomplished prior to completion of the audit by the Interface Control Processor. Although this deficiency was corrected during the audit, it was included as an example of a generic deficiency regarding lack of verbatim compliance to procedures. (See **CAR YM-92-010** for details.)

Hold Control: Five Hold Packages were selected for review from Monthly Hold Status Reports to verify compliance to the requirements of AP-5.20Q. The review included an evaluation of information included on Hold Description Forms, hold identification, approval for hold release and status tracking. All activities were found to comply with procedural requirements.

Program Requirements Flowdown: To assure proper flowdown of upper-tier program requirements, Revision 1 to the Waste Management Systems Requirements (WMSR), Volume IV, was tracked through the Configuration Change Control system that is described in AP-3.3Q, AP-3.6Q and QMP-03-09. The directed copy of Revision 1 to the WMSR, Volume IV was assigned DCP-030. In accordance with instructions, the Directors Engineering and Development Division, Project and Operations Control Division, Regulatory and Site Evaluation Division, YMQAD, The Site Manager, and Project Participants completed Affected Document Notices. All activities were found to comply with procedural requirements.

4. 4.0, "Procurement Document Control"

The process for Procurement Document Control for the YMPO is described in QMP-04-02. At the time of the audit, no procurements and/or changes to existing YMPO contracts, except for financial modifications, had occurred since the last YMPO audit.

However, two Management Agreements had been issued. One Management Agreement, dated December 1990, was issued based on an agreement between YMPO and Nevada Operations Office (NVO). The second Management Agreement dated June 1991 was issued between YMPO and San Francisco Operations Office (SAN) for use of SAN contractors Lawrence Livermore National Laboratory and Lawrence Berkeley Laboratory. Neither of these Management Agreements specified a particular scope of work or activity.

Discussion with the Contracting Officer (CO) revealed that these Management Agreements allow the use of existing Non-YMPO DOE contracts held by NVO and SAN field operations offices. One example of a Management Agreement (SAN) was selected to determine compliance against selected requirements of QMP-04-02. The results revealed that of the eight steps selected from QMP-04-02, only one step was complied with and this was not as a result of the procedure. The process, as described by the CO, started with the issuance of the Management Agreement. The Management Agreement is an administrative document that allows utilization of existing contracts held by one of the DOE field operational offices.

Subsequent to the Management Agreement, guidance/technical letters would then be issued which would define the details of the work to be performed. Examples of guidance/technical letters for work to be performed by LBL dated August 13, 1991 and two letters for work to be performed by Pacific Northwest Laboratory dated August 19, 1991 were reviewed. It was noted that none of these guidance letters had been reviewed by QA even though they specified QA Programs and/or quality-affecting activities.

When the CO was asked what procedure was used to prepare, review, approve, and issue the Management Agreements and guidance/technical letters, the response was that there was none. It should be noted that QMP-04-02, Section 2.0, "Applicability", does make reference to the use of Inter-Agency Agreements, Memorandums of Understanding, and Management Agreements; however, Section 5.0, (Procedure), does not reference the process for initiation, review, approval, and issuance of these documents.

As of this audit, there are no quality procedures which define the process for utilizing existing non-YMPO contracts held by other DOE field operational offices. This has been documented on **CAR YM-92-007**. This QA Program element is considered inadequate.

5. 5.0, "Plans, Procedures, Instructions and Drawings" and 6.0, "Document Control"

For the purposes of this audit QA elements 5 and 6 were examined simultaneously because the applicable requirements of the procedures overlapped in many areas. A total of five YMPO procedures were examined for implementation, effectiveness, and adequacy in complying with the QAPD. The procedures examined were: AP-1.5Q, AP-1.17Q, AP-3.6Q, AP-6.1Q, and QMP-06-04.

AP-1.5Q Issuance and Maintenance of Controlled Documents: A review of the logs and files in the Document and Records Center (DRC) in the Valley Bank Tower and the Field Document and Records Center (FDRC) located in Area 25 at the Nevada Test Site revealed that there have been no changes to documents without the required Interim Change Notice (ICN) or other authorized change document since the closure of CAR YM-91-066 in October of 1991. This CAR, issued in July 1991, dealt with the issuance of changes to controlled documents without proper change documentation.

The tracking system for Controlled Document Receipt Acknowledgments was examined and found to be effective and very workable. Controlled documents in the possession of the following personnel were examined: K. Harbert, M. Davenport, and G. Dymmel.

YMPO APs and QMPs were examined as well as additional documents such as the Exploratory Studies Facility Design Requirements document. All controlled documents were found to be in good order and well maintained with the exception of the AP manual in the possession of K. Harbert. These documents contained several errors in the appropriate revision level, inclusion of deleted documents, and misfilings. This condition did not warrant issuance of a CAR since the entire controlled document set issued to K. Harbert is in the process of undergoing a document verification check brought on by the very recent, October 30, 1991, transfer of the documents from another document holder. In conclusion AP-1.5Q is being adequately implemented.

AP-1.17Q Forms Control: This procedure was found to be adequate and overall effectively implemented. The Forms Manual assigned to the Plans and Procedures Division was examined. The content list found at the beginning of Volume 1 provided the required information. Both the content list and master controlled copies were arranged in alphanumeric sequence. The forms in the Forms Manual were compared to the forms contained in selected procedures. The forms selected for comparison were all the forms in the following procedures:

AP-6.4Q, Revision 0	QMP-03-09, Revision 3
QMP-15-01, Revision 2	QMP-06-04, Revision 4
QMP-02-09, Revision 1	QMP-17-01, Revision 3
QMP-03-01, Revision 1	QMP-07-04, Revision 1

All the forms in the majority of the procedures were identical to the forms in the forms manuals with the exception of the forms in AP-6.4Q and QMP-07-04. One form from AP-6.4Q, Specimen Removal Request, was slightly different in the Forms Manual and the forms for QMP-07-04 that were in the Forms Manual were identical to the approved forms found in the QMP except they did not have the required numerical identifiers. Both of these situations were addressed during the course of the audit and sufficient progress was made in rectifying the problems to negate the need for issuance of a CAR. AP-1.17Q is being effectively implemented.

AP-3.6Q Configuration Management: Two Project Baseline Documents, YMP/CM-0007, Revision 5, "Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing," and YMP/CM-0006, Revision 2, "Exploratory Shaft Facility Subsystems Design Requirements Document (ESF-SDRD)," were choosen to verify implementation of Configuration Management activities. The requirements for To Be Determined (TBD) data to be listed in the TBD Log were met through a somewhat round-about method of combining TBD items in the front of the documents and the Responsibility Matrix in the back of the documents.

The required information could be found in one of the two areas. The TBD data was recorded and remained in the documents until either the data was determined and included in the text of the document or provided prior to the start of work. The TBD listings have been tracked and evolve as the document changes with some TBD items disappearing and others being added.

The Configuration Management Office monthly status reports of Change Requests (CRs) were examined and found to be incomplete. Monthly Reports from May through October 1991 were found to be missing the category of "Configuration Items affected by the proposed change". This could not be corrected since the reports had already been completed and distributed. Reference **CAR YM-92-010**. Configuration Audits are required by this procedure to be performed at intervals not to exceed 12 months. The Configuration Audit performed in 1990 was in March and the Audit performed in 1991 was not conducted until June, a time span of 15 months. This could also not be corrected and is detailed in **CAR YM-92-010**. The required Configuration Audit Plans and Audit Reports were reviewed and found to contain the requisite information. The implementation of this procedure is considered effective with the exception of the areas detailed in **CAR YM-92-010**. The deficiencies were combined into a single CAR and the appropriate corrective actions were well under way prior to the end of the audit.

AP-6.1Q Project Office Document Development, Review, Approval, Control, and Revision; and QMP-06-04 Project Office Development, Review, Approval, and Revision Process: The adequacy and implementation examination of these two procedures were combined since they are very similar. A total of seven procedures were tracked through the requirements of these implementing procedures. Five of the seven were examined for issuance and two were examined for cancellation. The following procedures were reviewed:

Reviewed for issuance

AP-1.5Q,	Revision 5	QMP-06-04,	Revision 4
AP-5.19Q,	Revision 2	BTP-SMF-013,	Revision 0
AP-5.21Q,	Revision 3		

Reviewed for cancellation

BTP-SMF-003, Revision 0 BTP-SMF-004, Revision 0

All the required process steps outlined in QMP-06-04 and AP-6.1Q were followed to the letter and no deficiencies were noted. The two procedures are being effectively implemented. The only deficiency encountered was found in the area of adequacy in implementing the requirements of the QAPD in QMP-06-04, Revison 4. The specific omission was the failure to carry down the requirement that the QA organization be required to perform a QA review of appropriate documents that include quality-affecting work of the products. This deficiency is documented in **CAR YM-92-011**. It should be pointed out that this deficiency was identified somewhat late in the audit process but the corrective action was well under way prior to the audit closing.

7. 7.0, "Control of Purchased Items and Services"

The Control of Items and Services is covered by QMP-07-04. Due to the lack of implementation, there was no objective evidence to review for compliance. Subsequently, implementation of this QA Program element is considered indeterminate.

8. 8.0, "Identification and Control of Materials, Parts, Components, and Samples"

The identification and control of samples is controlled by the following procedures: AP-6.2Q, AP-6.3Q, AP-6.4Q, BTP-SMF-001, BTP-SMF-002, BTP-SMF-005, BTP-SMF-006, BTP-SMF-007, BTP-SMF-008, BTP-SMF-010, and BTP-SMF-013.

Implementation of all of the above procedures was evaluated, except BTP-SMF-010, which had no activity. The focus of implementation was placed on the current work being performed in extracting samples from the Neutron Access Borehole USW-UZN-55. A total of 66 runs have been extracted as of the date of the audit. No drilling was being performed at the time of the audit because of problems associated with broken parts jammed in the borehole. Since no work was being performed, Sample Management Facility (SMF) personnel were asked to explain the process at the bore hole and logging trailer. While at the logging trailer, controls regarding locked doors and heating for cold weather were evaluated. Compliance was satisfactory; however, there were two opportunities for improvement that were identified and they are described in Section 7 of this report.

At the SMF, three Neutron Access Borehole samples were selected to verify identification and control. The runs selected were 64, 65, and 66. Documentation was reviewed which reflected receipt by the SMF. All samples were identified in their containers as required. The samples were being stored in a warehouse adjacent to the SMF. The warehouse was clean and had environmental controls for heating and cooling.

The identification and storage of the video tapes of the extracted core samples were reviewed for procedural compliance. During this exercise, it was found that the video tape of one run was missing. This had been documented in the Daily Activity Log (DAL) but was not documented on any corrective action document. **CAR YM-92-013** was generated as a result of this problem.

Also, it was found during the course of the audit that some of the requirements from AP 6.2Q had not been passed down into BTP-SMF-013. AP-6.2Q, Section 2.0 (Applicability) does state that the Sample Overview Committee (SOC) may provide alternative handling methods; however, no evidence could be provided to link SOC meeting minutes with exceptions to AP 6.2Q. This was documented on **CAR YM-92-012**.

Except for the noted conditions identified in this area, implementation in general was considered to be effective.

9. 12.0, "Control of Measuring and Test Equipment"

There are currently no measuring and test equipment (M&TE) being used at the Sample Management Facility (SMF). Procedures will be in place to control M&TE prior to their use at the SMF. This QA Program element is considered to be indeterminate.

10. 13.0, "Handling, Storage, and Shipping"

The requirements for handling, shipping, and storage as they apply to samples were evaluated. The controls being applied for the handling and storage of samples was satisfactory. This QA Program element was considered to be effective.

11. 15.0, "Control of Nonconforming Items"

The evaluation of Criterion 15 was indeterminate since there was no implementation of QMP-15-01, "Control of Nonconformances," and AP-5.27Q, "Control of Nonconforming Items."

12. 16.0, "Corrective Action"

The following open CARs were reviewed to verify that corrective action response due dates were met: YM-91-017, -045, -046, -065, -083, -085, -086 and -088. The response due dates and completion of corrective action due dates were after the audit interview date for the following CARs: YM-91-083, -085, -086 and -088.

CAR-YM-91-017 response due date was December 21, 1990. A request for extension dated December 21, 1990 was written; however, the CAR Coordinator did not receive the request until February 4, 1991. The CAR Coordinator was not on the distribution; hence, she did not get the response until after she requested that she be given a copy. Subsequent responses now have the CAR Coordinator on the distribution list. A response due date of April 12, 1991 was imposed by QA on a letter dated April 10, 1991. A response was written on April 12, 1991 and received by QA on April 19, 1991. QA accepted the requested date of May 1, 1993 as the estimated completion date for corrective action completion.

CAR-YM-91-045 response due date was June 6, 1991. A response was written June 5, 1991; however, QA did not receive the response until June 10, 1991. An amended response was written on June 20, 1991 which was received by QA on June 24, 1990. Several requests for extension of corrective action completion dates were issued and granted. The corrective action completion date for the CAR was October 31, 1991. All corrective actions were satisfactorily verified by the responsible Quality Assurance Representative (QAR) before the audit ended and the CAR was considered closed on November 1, 1991.

CAR-YM-91-046 was listed on the Open CARs of the CAR Coordinator's Log dated October 28, 1991 with a corrective action completion date of October 16, 1991. The responsible QA Representative satisfactorily verified the corrective actions on October 23, 1991, and the CAR was closed on October 25, 1991.

CAR-YM-91-065 response due date was July, 24, 1991. The response was written July 24, 1991 and received by QA on July 25, 1991. A response was accepted with a completion date of August 22, 1991 for corrective actions. An amended response and request for extension of the corrective action completion date was written on August 22, 1991 and received by QA on August 23, 1991. The new corrective action completion date was October 31, 1991. QA received an amended response dated October 28, 1991, which is under evaluation.

It was verified that the CAR Coordinator's Log is the official log being used by YMPO management to track open CARs. The Action Tracking System is also being utilized to track delinquencies and to alert management of personnel responsible for CAR corrective actions. AP-1.9, "Action Item Tracking System," Revision 0, is a management tool to track YMPO action items and open CARs although the procedure has not been classified as quality-affecting.

During the audit interview, it was established that the responsible organization was aware of the delay in the CAR responses. They have identified that one of the causes of the delay was the mail system. They have since remedied the problem by hand carrying their responses to QA. This was verified when QA received the responses and requests for extensions prior to the due dates of CARs: YM-91-065, -083 and -085.

An individual from a direct support contractor was assigned responsibility to coordinate and keep track of CARs and SDRs and to inform the Division Directors of the status through memos (verified memos dated October 1, 1991 and September 17, 1991). Recent changes in personnel prior to the audit resulted in the Deputy Director having to perform the CAR tracking activities while training is being provided for the replacement.

CAR YM-92-010 was issued to document the following: A member of the Sample Management Facility staff identified a deviation from Branch Technical Procedure BTP-SMF-013 on the daily activities log related to videotaping of a core sample. The staff member did not write a CAR as required by QAAP 16.1, Revision 3, Section 4.3 and Section 6.0.

13. 17.0, "Quality Assurance Records"

DOE System 80: The System 80 requirements established by the Privacy Act of 1974: Proposed Establishment of a New System of Records, 55 FR 32288, August 8, 1990 (DOE System 80) are not yet implemented at the YMPO. CARs YM-91-083 and YM-92-006 were issued prior to the audit to document the deficiencies.

QMP-17-01 "Records Management: Record Source Implementation" and BTP-YMP-001 "Local Records System Operation": Several YMP records were selected at random and checked for compliance with the procedure. Quality Activities Lists (QALs) were specifically requested and checked. All QA records checked contained complete information with the exception of QAL-3 and QAL-4. The Analysis/Evaluation Package Cover Sheets for both documents lacked the QRB Chairman's signature and date. Interviews with the record sources revealed that the package should not have been submitted as a completed record package but as a record package segment. Record packages with the completed Analysis/Evaluation Package Cover Sheets for QAL-3 and QAL-4 were submitted by Document Control to the Technical and Management Support Services LRC and the title or description on the transmittal form did not identify the QAL; hence, the YMPO LRC was not able to retrieve the said record package. A potential CAR was written to document this problem. A subsequent review of documents submitted by the record source [QA Grading Report Packages and remaining QAL packages (a total of five)] confirmed that this was an isolated incident confined to QAL packages. Personnel involved have been apprised of the requirement. This problem was identified in a potential CAR which became a part of a CAR regarding failure to follow procedures (See **CAR YM-92-010**).

Records reviewed were identifiable, traceable, and suitable for microfilming. Records with less than 100 percent legibility were stamped "Best Available Copy" and authenticated or determined to be readily deducible. Corrections were done in accordance with requirements and no information had been obliterated. Black ink against a white background was used for drawings. Photo reductions were verified to be legible both in hard copy and on microfilm. Timeliness of submittal and use of a Record Source Transmittal form were verified. Copies of records returned to the record source for correction were filed in the Records Rejected File with an LRC Record Rejection Form. All records checked had been corrected. There were no final technical or scientific reports.

All packages checked contained tables of contents listing WBS numbers, QA designations, page count, a list of contents matching the contents, identifying titles, and record package tracking numbers. An authentication list was available and access lists in the LRC were posted. Authentication signatures were matched to verify compliance. It was established that verification signatures were obtained on completed record packages assembled by the LRC.

There were no one-of-a-kind or special process records. Print-outs of the DOE Incoming/Outgoing Correspondence Logs were obtained. Several records were retrieved using the tracking numbers obtained from the log. Microfilm reels were inspected and spot retrieval performed to verify that records listed in the LRC Record Transmittal Forms had been microfilmed. Records were filed in sequence based on the accession numbers; microfilm reels were filed by reel numbers. Out-cards were being utilized and completed as required. All records requested during the audit were retrieved.

Dual storage of record package segments was verified. Duplicate records of record package segments are maintained by the record source and the LRC. Traceability was established by a check of record source storage facilities and included subsequent retrieval of record package segments identified at the LRC. Record package segment tracking numbers were being utilized. Two record sources interviewed were maintaining dual storage for record package segments.

Some procurement documents are being stored for indefinite periods of time in U.L. fire-rated one hour containers. Because of the lack of an adequate procedure for Procurement activities (See CAR YM-92-007) it was not clear that these documents were associated with quality-affecting work. Instead of issuing a CAR specifically to address this condition clarifying statements were added to **CAR YM-92-007** to address this situation.

Records lists submitted by Division Directors were verified to identify titles and documents from which records were generated. Revisions to the records lists were also verified.

QMP-17-01 and BTP-YMP-001 are being effectively implemented.

14. 20.0, "Scientific Investigation"

This QA Program element was evaluated by auditing the following activities: Study Plans and Test Planning Implementation as well as activities covered under QA Program element 3.0. Activities covered under QA Program element 3.0 included Technical Assessment Review, Peer Review, Field Work Activation, Project Change Control, Field Change Control, Interface Control, and Hold Control.

Study Plans: The review and approval process for five study plans was audited to the requirements of AP-1.10Q, "Preparation, Review, and Approval of Site Characterization Plan (SCP) Study Plans." Two of the Study Plans were approved; the other three were in process. Two of the in-process Study Plans were revisions of the approved Study Plans mentioned here. (See Enclosure 4 of this report for SCP identification and titles). All documents examined conformed reasonably well with the requirements.

Test Planning Implementation: Two Test Planning Packages, out of three approved to date, were audited to the requirements of AP-5.32Q, "Test Planning and Implementation Requirements." The two Test Planning Packages reviewed wer TPP 91-32, Test Pits (Characterization of Volcanic Features-SP 8.3.1.8.5.1), and TPP 91-34, Neutron Access Boreholes. With one exception, the preparation of these documents conformed to the requirements. The exception was that neither document addressed "prerequisites" that may have been provided by the DDs/TPOs. (See **CAR YM-92-008** for details).

15. Corrective Action Request Follow-Up

Open CARs that were statused during the audit are listed below by CAR number, description of CAR condition and the follow-up performed during the audit:

1. CAR YM-91-017 "A portion of the Project Office backlog is being held at the Project Office Local Records Center without dual storage or one-of-a-kind storage."

   As of November 1, 1991, 77 boxes of non-QA material had been sorted. A total of 214 boxes, 10 percent of which are estimated to be QA related, will ultimately be sorted, and it is anticipated that the process will be finished on May 3, 1993, as scheduled. A cross check with the Records Information System (RIS) is being performed to avoid duplication. Potential QA records are being grouped by functional categories that correspond to the DOE functional organization. This will facilitate the Technical Review and the processing of retainable

records into the RIS when required. The Subject Matter Expert point of contact has been provided by each Division Director, who will review backlog records for suitability and inclusion in the RIS system.

The overall effort is on schedule.

2. CAR YM-91-085 "Failure to comply with AP-3.5Q, Field Change Control Process."

   This CAR regarding the Field Change Control Process was not due for response and no response had been submitted by the YMPO. The Field Change Control Board Chairperson stated that documentation of the response to this CAR was in process and would be transmitted by the due date.

3. CAR YM-91-086 "AP-3-5Q does not meet QARD requirements."

   The response to this CAR regarding the Field Change Control Process was submitted by the YMPO on October 21, 1991. It was verified through discussion with the responsible QAR that evaluation of this CAR response was in progress.

4. CAR YM-91-088 "Failure to provide date and signature were required on Affected Document Notices (refer to AP-3-3Q)."

   This CAR regarding administrative errors in compliance with the Change Control Process was not due for response and no response had been submitted by the YMPO. It was stated by the Change Conrol Board Secretary that documentation of the response to this CAR was in progress and should be transmitted on or before the due date.

ENCLOSURE 4

OBJECTIVE EVIDENCE REVIEWED DURING AUDIT
(Examples of)

General to all QA Program elements

Requirement Documents

DOE/RW-0214, Revision 4 ICN 4.1	Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance Requirements Document (QARD)
DOE/RW-0215, Revision 3 ICN 3.1	OCRWM Quality Assurance Program Description (QAPD)

1.0 Organization

Procedures

QMP-01-01, Revision 2 ICN 1	Organization
QMP-01-02, Revision 1	Stop Work

2.0 Quality Assurance Program

Procedures

AP-5.13Q, Revision 2*	Readiness Review
AP-5.28Q, Revision 2 ICN 1	Quality Assurance Grading
AP-6.17Q, Revision 0 ICNs 1 & 2	Determination of the Importance of Items and Activities
QMP-02-01, Revision 4	Project Office Indoctrination and Qualification Training
QMP-02-09, Revision 1 ICNs 1 & 2	Development and Conduct of Training
BTP-QRB-001, Revision 1	Quality Review Board

Quality Grading Documents

YMP/90-56, Revision 3	Yucca Mountain Project Quality Activities List (QAL)
YMP/90-69, Revision 14	Quality Assurance Grading Reports for Yucca Mountain Project Office

Miscellaneous

Final Record Memorandum for Readiness Review dated 1/25/91

Memorandums dated 10/15/90, 5/23/91 and 10/25/91, to the Director, OCRWM from the Project Manager documenting semiannual status of planned readiness reviews.

List of personnel: QRB Members, Alternates, Technical Advisors, Assessment Team

QRB Meeting Minutes for 3/18/91 and 5/1/91

QAG Log, 10/25/91

QRB: 2, EDD-001, Preparation of "The Technical Requirements for the Yucca Mountain Project (Midway Valley Trenching and Calcite/Silica Activities) Document

Minutes of QRB Meeting, 3/18/91

QRB: 80, RSN-GR-007, Calcite/Silica Drill Holes/Trenches (Trench 14)

QRB: 42, R90-1.2.3-0006.2, Labor and Equipment Support for the Integrated Data Acquisition System (IDAS) WBS 1.2.3.5.2.3

Minutes of QRB Meeting, 5/1/91

QAG Reports from Sandia (7)
QAG RSE-015

Letter, dtd. 1/5/91, Nelson to Gertz, appointed E. Dudley as QRB Secretary

YMP/90-44, Revision 12, AT Controlled List, 8/30/91

YMP/CC-0001, 10/9/91, WBS Dictionary

Letter appointing L. La Monica to fill two AT Team Leader positions

3.0 Design Control

Procedures

AP-3.3Q, Revision 4	Change Control Process
AP-3.5Q, Revision 0	Field Change Control Process
AP-5.19Q, Revision 2	Interface Control

AP-5.20Q, Revision 0 ICN 1	Hold Control
AP-5.21Q, Revision 3	Field Work Activation
AP-6.1Q, Revision 3	Project Office Document Development, Review, Approval and Revision Control
QMP-02-08, Revision 0 ICNs 1, 2, 3 & 4	Technical Assessment Review
QMP-03-01, Revision 1 ICNs 1, 2 & 3	Peer Reviews
QMP-03-09, Revision 3 ICN 1	Project Change Control Board Process

Technical Assessment and Peer Review

YMP/90-2, Revision 0	TAR Geologic and Geophysical Evidence Pertaining to Structural Geology ..., 1/10/90

Unsaturated Zone Hydrology, Peer Review Record Memorandum, 6/24/91

Change Request (CR) Packages

91/026	91/060	91/074
91/049	91/065	91/111
91/055		

Document Change Proposal (DCP) Packages

030
051

Field Change Request Packages

91/082	91/088	91/107
91/084	91/105	91/108

Interface Memorandums of Understandings (IMOUs)

330011	660015	660025
630019	660024	

Hold Packages

6.0T.89-001	6.0S.89-006	6.0T.90-002
6.0S.89-005	6.0T.90-001	

Job Packages

JP 91-6, Auger Holes at the Hydrologic Research Area, 10/30/90

JP 91-9, Neutron Access Boreholes, 9/91

Log Change Control Board Charter

Miscellaneous

DOE/RW-0268P, Revision 1 Waste Management Systems Requirements Document, Volume IV

YMP/CM-0007, Revision 5 Technical Requirements for the Yucca Mountain Site Characterization Project Surface-Based Testing

YMP CCB October Change Request (CR) Status Log Report

Interface Data Log

Monthly Hold Status Reports from January through June, 1991

CARs YM-91-085, -086, and -088

4.0 Procurement Document Control

Procedure

QMP-04-02, Revision 0* YMPO Procurement Actions

Procurement Documents

Management Agreement between Nevada Operations Office and YMPO dated December 1990

Management Agreement between San Francisco Operations Office and YMPO dated June 1991

Modification of Guidance to LBL for Fiscal Year 1991 Budget and Work Scope, RSED:JRD-5096 dated August 13, 1991

Guidance to PNL for Fiscal Year 1991 Budget and Work Scope (NN1-1991-1312), EDD:MOC-4291 dated August 19, 1991

Supplemental Guidance to PNL for Fiscal Year 1991 Budget and Work Scope under WBS 1.2.1.4 Performance Assessment, RSED:JRD-5246 dated August 19, 1991

EG&G Weapons Contract, DE-AC08-88NV10617, Part I, Section C, Description/Specification/Work Statement

5.0 Plans, Procedures, Instructions and Drawings and 6.0 Document Control

Procedures

AP-1.5Q,	Revision 5	Issuance and Maintenance of Controlled Documents
AP-1.17Q, ICN 1	Revision 1	Forms Control
AP-3.6Q, ICN 1	Revision 0	Configuration Management
AP-6.1Q,	Revision 3	Project Office Document Development, Review, Approval, Control, and Revision
QMP-06-04, and ICNs 1, 2 & 3	Revision 3	Project Office Development, Review, Approval, Revision Process

Project Baselined Documents

YMP/CM-0006, Revision 2	Exploratory Shaft Facility Subsystems Design Requirements Document (ESF-SDRD)
YMP/CM-0007, Revision 5	Technical Requirements for the Yucca Mountain Site Characterization Project Surface Based Testing

7.0 Control of Purchased Items and Services

QMP-07-04, Revision 1* ICNs 1, 2, & 3	Supplier Evaluation/Qualified Suppliers List

8.0 Identification and Control of Materials, Parts, Components, and Samples

Procedures

AP 6.2Q, Revision 0	Management and Operation of Sample Handling Activities at Borehole Sites

AP 6.3Q, Revision 0 ICN 1	Interaction of Participants and Outside Interests with Yucca Mountain Project Sample Management
AP 6.4Q, Revision 0 ICNs 1 & 2	Submittal, Review, and Approval of Requests for YMPO Geologic Samples
BTP-SMF-001, Revision 1	Sample Management for YMPO
BTP-SMF-002, Revision 2	Transport, Receipt, Admittance, and Processing of Borehole Samples for SMF
BTP-SMF-005, Revision 2	Examination of Samples by Participants
BTP-SMF-006, Revision 2	Removal of Whole or Other Specimens from Samples by the SMF for Shipment and Remnant Return
BTP-SMF-007, Revision 0 ICN 1	Acceptance for Curation by the SMF of Selected Samples and Documentation
BTP-SMF-008, Revision 2	Field Logging, Handling, and Documenting Borehole Samples
BTP-SMF-010, Revision 0*	Gamma-Ray Logging of Yucca Mountain Project Core
BTP-SMF-013, Revision 0	Staging, Packaging, and Documenting Neutron-Access Borehole Samples

Miscellaneous

Physical Core Samples for Neutron Access Boreholes 64 and 65.

35MM Film (Undeveloped) for still photos taken of Neutron Access Borehole Runs No. 64 and 65

SOC Specimen Removal Request dated 09/17/91

SMF Access List dated 10/24/91

Field Container Summary and Transmittal Document dated 10/17/91 and 10/24/91 (Dates are related to sample acceptance)

Sample Management Facility Core Processing Checklists dated 10/21/91

Identification labels on boxes for neutron access borehole sample runs 64 and 65

3 Video Tapes for all Neutron Access Borehole Runs, except 58.

Cutting Samples 0 through 154-6 for Neutron Access Borehole USW-UZN-55

Approximately 70 Sample Examination Agreements

Sample Examination Requests dated 10/18/89 through 08/14/91

30 Sample Collection Reports

12.0 Control of Measuring and Test Equipment

None

13.0 Handling, Storage and Shipping

None

15.0 Control of Nonconforming Items

Procedures

AP-5.27Q, Revision 0*	Control of Nonconforming Items
QMP-15-01, Revision 2* ICNs 1 & 2	Control of Nonconformances

16.0 Corrective Action

Procedure

QAAP 16.1, Revision 3, Corrective Action

CARs YM-91-017, -045, -046, -065, -083, and -085

17.0 Quality Assurance Records

Procedures

QMP-17-01, Revision 3 ICN 1	Records Management: Record Source Implementation
BTP-YMP-001, Revision 0	Local Records Center Operation

The following is a list of records verified during the audit:

RPS.0101	I-305662	NNA.900524.0201
RPS.0109	I-318223	NNA.900611.0188
RPS.0106	I-320098	NNA.900919.0209
RPS.0298		NNA.901228.0068
RPS.0300	QRB-033	NNA.901113.0041
RPS.0361	QRB-052	NNA.910107.0059
RPS.0059		NNA.910123.0203
RPS.0060	WM0.910819.0012	NNA.910318.0080
	WM0.910705.0083	NNA.910416.0040
I-85136		NNA.910521.0028
I-85611	EDD:DHG-408	
I-86078		RECORD TRANSMITTAL
I-86133	NNA.910613.0004	FORM NUMBERS 1046,
I-86178	NNA.900202.0075	1194, 1193, 0759
I-86273	NNA.900227.0031	
I-86553	NNA.900216.0017	PR NUMBER R5412145
I-86662	NNA.910327.0028	
I-86785	NNA.910516.0073	LRC RECORD REJECTION
I-86924	NNA.910423.0074	FORM, DATED 9/27/91
I-86925	NNA.910416.0021	
I-86927		REEL NUMBER 90647 -
I-87107	NNI-1991.0979	3140, 3164, 3322

20.0 Scientific Investigation

Procedures

AP-1.10Q, Revision 4	Preparation, Review, and Approval of SCP Study Plans
AP-5.32Q, Revision 1 ICNs 1 & 2	Test Planning and Implementation Requirements
BTP-RSE-001, Revision 0	Evaluation of Ongoing Activities

Study Plans

Approved Study Plans:

8.3.1.5.2.1, Revision 0	Characterization of the Yucca Mountain Quaternary Regional Hydrology
8.3.1.17.4.2, Revision 0	Location and Recency of Faulting Near Prospective Surface Facilities
8.3.1.5.2.1.5, Revision 0	Studies of Calcite and Opaline-silica Vein Deposits

Study Plans in Approval Process:

8.3.1.5.2.1, Revision 1	Characteriaztion of the Yucca Mountain Quaternary Regional Hydrology
8.3.1.17.4.2, Revision 1	Location and Recency of Faulting Near Prospective Surface Facilities
8.3.1.5.2.1.5, Revision 1	Studies of Calcite and Opaline-silica Vein Deposits
8.3.1.3.6.2, Revision 0	Diffusion

Miscellaneous

TPP 91-32, Test Pits for Study Plan 8.3.1.8.5.1, Records Package Completed 10/21/91

TPP 91-34, Neutron Access Boreholes, Initiated 8/26/91, package in process Test Planning Package Log, Oct. 29, 1991

Procedures Not Audited

The following procedures were not selected for audit at this time:

AP-1.6Q, Revision 0	Release of Unpublished Information
AP-4.1Q, Revision 0 ICNs 1, 2, & 3	Procurement
AP-5.1Q, Revision 2	Control and Transfer of Technical Data on the Yucca Mountain Project
AP-5.2Q, Revision 2	Technical Information Flow to and from the Yucca Mountain Project Technical Data Base
AP-5.3Q, Revision 1	Information Flow Into the Project Reference Information Base
AP-5.9Q, Revision 1	Qualification of Data or Data Analysis Not Developed under the Yucca Mountain Project Quality Assurance Plan
AP-5.16Q, Revision 0	Field Technical Compliance
AP-5.24Q, Revision 0	Preparation and Submittal of As-Built Drawings

AP-6.6Q, Revision 0	Field Collection, Documentation, and Specimen Removal of Exploratory Shaft and Drift Rock
QMP-05-03, Revision 1	OCRWM QA Requirements Document Matrix
BTP-EDD-002, Revision 1	BTP for the Engineering & Development Division

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* Insufficient activity, therefore implementation effectiveness is considered "Indeterminate".

ENCLOSURE 5

ORIGINAL
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14CAR NO.: YM-92-007
DATE: 10/29/91
SHEET: 1 OF 2
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
QAPD, DOE/RW-0215, Revision 3, ICN 3.1	Audit Report YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO Procurement	G. Phillips, C. Gertz

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
11/18/91	C. Gertz	No

5 Requirement:

QAPD, Revision 3, Section 4.0, Subsection 4.1 states: "Procedures are established and implemented for the control of procurement documents. The procedures define the methods and responsibilities for procurement planning and changes thereto. Procurement planning includes identifying the need for a specific service, determining the specific work to be accomplished, identifying appropriate technical and quality requirements, and identifying sources for the work."

Subsection 4.4 states in part: "Changes to procurement documents, other than minor changes...receive the same degree of control as utilized for the original documents." Section 5.0, Subsection 5.1 states in part: "Procedures are developed and implemented to ensure that methods to be used for performance of activities affecting quality are prescribed in documented plans, procedures, and instructions."

6 Adverse Condition:

Contrary to the above, neither QMP-04-02, Revision 0, ICN 1, or any other approved quality procedure adequately describes the procurement process for the preparation, review, approval and issuance of Management Agreements, Memoranda of Understanding or other similar documents such as guidance letters/technical letters which utilize existing open contracts maintained by the DOE Field Operations Offices to perform YMPO Project specific work.

The following statements are provided to support the above stated adverse condition.

A. For example, a guidance/technical letter (RSED:JRD-1991) was issued on 3/13/91 to the San Francisco Operations Office which dealt with Lawrence Berkeley Laboratory (LBL). Subsequent to that letter, on June 20, 1991, a Management Agreement was established between YMPO and the San Francisco Operations Office. The agreement was to allow assignment of YMPO quality affecting activities to San Francisco Operations Office

7 Recommended Action(s):

a. Develop an interim plan for procurement methodologies to control non-YMPO contracts, as deemed necessary, prior to issuance of a procedure that addressed the procurement issues identified in this CAR. In addition, consider the following

8 Initiator	Date:	9 Severity Level -	13 Approved By:	Date:
R. L. Maudlin R. L. Maudlin, ATL	11/7/91	1☒ 2☐ 3☐	QQA R.C. Spence	11/8/91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	QQA _____

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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

CAR NO.: YM-92-007
DATE: 10/29/91
SHEET: 2 OF 2

CORRECTIVE ACTION REQUEST
(continuation sheet)

6 Adverse Condition (continued)

contractors LLNL and LBL for which San Francisco Operations Office has an existing non-YMPO contract. Subsequent to the issuance of the Management Agreement, a guidance/technical letter (RSED:JRD-5069) was issued by YMPO to San Francisco Operations Office on August 13, 1991, which revised the specifics of the work to be performed. On 10/11/91, another guidance/technical letter (RSED:JMB-5500) was issued by YMPO directly to LBL.

The process by which the above example was accomplished is not defined in any YMPO approved quality procurement procedure.

B. The Management Agreements have not been processed to the Central Records files.

7 Recommended Action(s) (continued)

recommendations when developing the interim plan.

b. Obtain written confirmation from Headquarters as to which contracts have been transferred to YMPO control. (Refer to letter, YMP-JB-3866, dated 6/25/90).

c. Conduct an indepth investigation into all existing procurements and identify which DOE Field Operation Offices are being directed to have their contractors perform quality-affecting work and list all of the contractors who are performing this work. Also, list by Field Operations Office and subordinate contractor what specific work is being accomplished and by who. Identify the Division Directors within YMPO who have delegated work in this manner and what specific task by WBS has been assigned.

d. If quality-affecting work is being or may be performed by one of these contractors without an OCRWM approved QA program, take immediate action to suspend all quality-affecting work until their QA program has been approved.

e. Investigate to determine if any quality-affecting work has been performed without an OCRWM approved QA program. If any quality-affecting work has been performed, determine what the effect on quality was in the absence of an approved QA program.

f. Develop a comprehensive procurement procedure which addresses all aspects of procurement in any form which it may take.

g. Investigate to determine if appropriate QA records of procurement documents exist and are properly located.

h. Determine the cause of this condition and take measures to preclude recurrence.

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14CAR NO.: YM-92-008
DATE: 11/6/91
SHEET: 1 OF 1
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
AP-5.32Q, Revision 1, ICN 1	Audit YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO	J. R. Dyer

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
20 days from issuance	C. P. Gertz	No

5 Requirement:

AP-5.32Q, Revision 1, ICN 1, Section 5, Steps 10, 11, and 18e, requires that the DDs/TPOs provide documentation of prerequisites to the Project Engineer (PE), that the PE incorporate documentation of prerequisites into the test planning package, and that the PE compile the test planning package ... e. with documentation of completion of prerequisites.

6 Adverse Condition:

Test Planning Packages (TPPs) do not address prerequisites.

Discussion:

Neither TPP 91-32 nor TPP 91-34 specifically addresses prerequisites, and it is impossible to tell from the evidence whether prerequisites were incorporated or if any were received from the DDs/TPOs.

7 Recommended Action(s):

Correct the discrepancies identified; investigate to determine if similar discrepancies exist. Take action to resolve recurrence such as changing AP-5.32Q to require that prerequisites be identified specifically or a statement be made saying there were no prerequisites.

8 Initiator & Name, ATL Date:	9 Severity Level -	13 Approved By: Date:
Neil D. Cox 10/29/91 Neil D. Cox 10/29/91	1☐ 2☒ 3☐	OQA James Blaylock for RGS 11/14/91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	OQA _____

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14CAR NO.: YM-92-009
DATE: 11/6/91
SHEET: 1 OF 2
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
AP-6.17Q, Revision 0, ICNs 1 & 2, Para. 5.2.2, Item 2	Audit YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO	J. Waddell, R. Barton

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
20 days from issuance	C. P. Gertz	No

5 Requirement:

Para. 5.2.2 ...the AT Manager shall assure that all documents (including subsequent versions of the WBS Dictionary) entered on the AT (Assessment Team) Controlled List, meet the following criteria:....2. They are the most current available version.

6 Adverse Condition:

The Assessment Team (AT) Controlled List does not include the most current available version of the WBS Dictionary.

Discussion:

a. AT controlled List, YMP/90-44, Revision 12, dated 8/30/91, lists a WBS Dictionary, YMP/CC-0001, dated 7/19/91 while the document Control Center contains a WBS Dictionary dated 10/9/91. This is a recurring problem. The same deficiency was found during the Corrective Action Review I-02, June 11-15, 1990, and Internal Audit 90-I-01, October 22-26, 1990. Although these deficiencies were remedied during the respective audits, actions to prevent recurrence, if any, have been ineffective.

b. The audit team recognizes that a proposed procedure revision was being processed prior to the

7 Recommended Action(s):

1) Correct the deficiency identified, 2) determine the root cause of this deficiency, and 3) develop corrective actions to prevent its recurrence.

8 Initiator / Date:	9 Severity Level -	13 Approved By: / Date:
C Tome, ATL Neil D. Cox 10/28/91 Neil D. Cox 10/28/91	1☐ 2☒ 3☐	OQA James B Blaylock for RGS 11/14/91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	OQA _____

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WASHINGTON, D.C.

CAR NO.: YM-92-009
DATE: 11/6/91
SHEET: 2 OF 2

CORRECTIVE ACTION REQUEST
(continuation sheet)

6 Adverse Condition (continued)

audit that should clarify the intent of the procedure, and that during the audit a new notice was added to the AT Controlled List (see Attachment 1).

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14CAR NO.: YM-92-010
DATE: 11/8/91
SHEET: 1 OF 2
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
DOE/RW-0214, Rev. 3, ICN 3.1, QAPD, Sec. 5, Para. 5.1	Audit YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO	K. Harbert, R. Murthy

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
20 days from issuance	C. P. Gertz	No

5 Requirement:

DOE/RW-0214, Revision 3, ICN 3.1, OCRWM QARD, Section 5, Paragraph 5.1, "OCRWM Plans, Procedures, Instructions and Drawings" states in part: "Procedures are developed and implemented to ensure that methods to be used for performance of activities affecting quality are prescribed in documented plans, procedures, and instructions. Activities affecting quality are performed in accordance with these documents...."

6 Adverse Condition:

There has been a lack of verbatim compliance with procedures.

DISCUSSION:

Examples for the lack of verbatim compliance are:

A. YMP AP-3.6Q, Revision 0, "Configuration Management," Paragraph 5.3.2.1.e states that the monthly report of the status of Change Requests (CRs) will contain Configuration Items (CIs) affected by the proposed change.

CI(s) affected by the proposed change were not included in the monthly status report of CRs for the time period of April through September 1991.

7 Recommended Action(s):

Take action to preclude recurrence such as development of a formal training class that covers such topics as verbatim compliance, what to do to request a change to a procedure and when to initiate a CAR.

8 Initiator	Date:	9 Severity Level -	13 Approved By:	Date:
Kenneth McFall		1☐ 2☒ 3☐	OQA	
K. T. McFall	11/8/91		James Blaylock for RES	11/14/91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	OQA _____

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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

CAR NO.: YM-92-010
DATE: 11/8/91
SHEET: 2 OF 2

CORRECTIVE ACTION REQUEST
(continuation sheet)

6 Adverse Condition (continued)

B. YMP AP-3.6Q, Revision 0, Paragraph 5.4.2 states that configuration audits shall be conducted at intervals not to exceed 12 months.

A Total of 15 months elapsed between the March 1990 configuration audit and the June 1991 audit.

C. YMP AP-5.19Q, Revision 2, "Interface Control" requires interface Memoranda of Understandings (IMOUs) to be sent to the Local Records Center (LRC)

1. after being signed by evaluators (Step 10),
2. after being signed by requester for data acceptance (Step 15), and
3. after being updated and closed (Step 17).

During the audit , it was determined that none of the IMOUs had been sent to the LRC. This was corrected during the audit.

D. AP-6.17Q, ICN 1, Section 5.12.3 states: "The QRB Administrative Assistant shall transmit a copy of each approved Q-List, Quality Activities List, accompanying PR List, supporting analysis evaluation packages, and subsequent changes to the Local Records Center for filing as a Project record in accordance with approved Project procedures."

QMP-17-01, Revision 3, ICN 1 states that the Record Source shall perform the following steps: Step 11a, "Verify that documents are complete...."

The QRB Administrative Assistant transmitted the record package for QAL-3 (NNA.91.0521. 0028/Document Number I-85611) to the LRC. This record package has an Analysis Evaluation Package Cover Sheet that had a blank for the final signature and there was no explanation for the blank. This was corrected during the audit.

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14CAR NO.: YM-92-011
DATE: 11/8/91
SHEET: 1 OF 1
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
DOE/RW-0214, Revision 3, ICN 3.1, QAPD	Audit YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO	S. Matthews

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
20 days from issuance	C. P. Gertz	No

5 Requirement:

OCRWM QAPD, Revision 3, Section 6 - Document Control requires the QA organization to review and, where applicable, concur with controlled documents that contain quality assurance requirements.

This requirement must be passed down to the implementing procedures.

6 Adverse Condition:

Contrary to the above requirement, QMP-06-04, Revision 4, "Project Office Document Development, Review, Approval, and Revision Process" does not include the requirement for QA review.

Subsequent investigation revealed QA has been reviewing applicable documents.

7 Recommended Action(s):

Correct the procedure.

8 Initiator R Stowe, ATL Date:	9 Severity Level -	13 Approved By: Date:
Kenneth McFall K.T. McFall 11/8/91	1☐ 2☐ 3☒	OQA James Blaylock for RES 11/14/91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	OQA _____

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U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.

14CAR NO.: YM-92-012
DATE: 11/8/91
SHEET: 1 OF 2
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
AP-6.2Q, Revision 0	Audit YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO	J. Peck, C. Lewis

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
20 days from issuance	C. P. Gertz	No

5 Requirement:

AP-6.2Q, Revision 0, Management and Operation of Sample Handling Activities at Borehole Sites, Paragraph 2.0, Applicability states in part: "...this procedure does not apply to those samples requiring alternative handling as directed by the Sample Overview Committee (SOC)."

AP-6.2Q, Revision 0, Paragraph 5.5.1.4 states in part: "Footage marks will be written directly on the core at one-foot intervals."

AP-6.2Q, Revision 0, Paragraph 5.5.4 states in part: "Geological core logging by FO staff will occur in two distinct phases: Recording structural information and recording lithologic information."

6 Adverse Condition:

BTP-SMF-013, Revision 0, "Staging, Packaging, Documenting Neutron-Access Borehole Samples" is not consistent with AP-6.2Q requirements for marking and logging and there is a lack of objective evidence that the SOC directed this alternative method of handling samples.

DISCUSSION:

A. BTP-SMF-013, Revision 0 does not require footage marks to be physically applied to the core sample at one-foot intervals. Also, in inspecting the neutron access borehole samples for runs 64 and 65, no marks at one foot existed on the lexicon encasement.

B. BTP-SMF-013 does not require the logging of structural information and lithologic information related to cores extracted from neutron access boreholes. In addition, no objective evidence was provided to indicate this had been accomplished for neutron access

7 Recommended Action(s):

A. Either revise BTP-SMF-013 to be consistent with the requirements of AP-6.2Q or properly document the alternative approach. If BTP-SMF-013 is revised to incorporate the requirements of AP-6.2Q, identify the plan of action to be taken to bring existing

8 Initiator	Date:	9 Severity Level -	13 Approved By:	Date:
R. L. Maudlin	11/12/91	1☐ 2☒ 3☐	OQA James Blaylock for RGS	11/19/91

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	OQA _____

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6 Adverse Condition (continued)

borehole samples, runs 64 and 65.

C. Neither the meeting minutes of the SOC nor the 8/7/91 SOC Specimen Removal Request for Study Plan 8.3.1.2.2.1 provide a clear understanding that the SOC was directing an alternative handling method for Neutron-Access Borehole Samples.

7 Recommended Action(s) (continued)

borehole samples into conformance.

B. Take action to prevent recurrence.

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14CAR NO.: YM-92-013
DATE: 11/8/91
SHEET: 1 OF 2
QA
WBS No.: 1.2.9.3

CORRECTIVE ACTION REQUEST

1 Controlling Document	2 Related Report No.
BTP-SMF-013, Revision 0, QAAP 16.1, Revision 3	Audit YMP-91-I-01

3 Responsible Organization	4 Discussed With
YMPO (SMF)	J. Peck/C. Lewis

10 Response Due	11 Responsibility for Corrective Action	12 Stop Work Order Y or N
20 days from issuance	C. P. Gertz	No

5 Requirement:

BTP-SMF-013, Revision 0, Staging, Packaging, Documenting Neutron-access Borehole Samples, Step 9 states in part: "Videotape the core run with high resolution video camera."

QAAP 16.1, Revision 3, Corrective Action Requests, Section 4.3, Subsection 4.3.1 states in part: "OCRWM personnel (including direct-support personnel) are responsible for: Identifying and reporting deficiencies observed in the conduct of program activities or in the characteristics of program products."

QAAP 16.1, Revision 3, Section 6.0, subsection 6.1.1 states in part: "Upon discovering an apparent deficiency, OCRWM personnel shall initiate a CAR...."

6 Adverse Condition:

Contrary to the above, there is no documented evidence which indicates the videotaping of neutron access borehole core run No. 58 and this program deficiency was not documented on a CAR.

An entry was made in the Daily Activities Log (at the neutron access borehole) by an SMF staff person that the deficiency occured.

7 Recommended Action(s):

a. Videotape the core run 58 or provide justification for why compliance with the procedure cannot be obtained. Determine what the affect on quality is in the absence of videotaping the run.

8 Initiator R Maudlin, ATL Date:	9 Severity Level -	13 Approved By: Date:
R. L. Maudlin 11/12/91	1☐ 2☒ 3☐	OQA James Blaylock for RES 11/14/92

15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted:	17 Closure Approved By:
QAR _____ Date _____	OQA _____

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7 Recommended Action(s) (continued)

b. Investigate to determine if there are similar deficiencies and take action to preclude recurrence.