



Department of Energy
 Yucca Mountain Site Characterization
 Project Office
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WBS 1.2.9.3
 QA

DEC 23 1991

Carl P. Gertz, Project Manager, YMP, NV

EVALUATION OF RESPONSES TO CORRECTIVE ACTION REQUESTS (CARs) YM-92-012 AND YM-92-013 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION (YMQAD) AUDIT YMP-91-I-01 OF YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE

The YMQAD staff has evaluated the responses to CARs YM-92-012 and YM-92-013. The responses have been determined to be satisfactory. Verification of completion of the corrective actions will be performed after the effective dates provided. Any extension to these dates must be requested in writing with appropriate justification prior to that date. Please send a copy of extension requests to Nita Brogan, Science Applications International Corporation, Las Vegas, Nevada.

If you have any questions, please contact either Robert B. Constable at 794-7945 or Richard L. Maudlin at 794-7290.

R. E. Spence

Richard E. Spence, Director
 Yucca Mountain Quality Assurance Division

YMQAD:RBC-1393

Enclosures:

1. CAR YM-92-012
2. CAR YM-92-013

cc w/encls:

- K. R. Hooks, NRC, Washington, DC
- S. W. Zimmerman, NWPO, Carson City, NV
- J. W. Estella, SAIC, Las Vegas, NV

cc w/o encls:

- J. W. Gilray, NRC, Las Vegas, NV
- N. J. Brogan, SAIC, Las Vegas, NV
- S. R. Dippner, SAIC, Las Vegas, NV
- R. L. Maudlin, MACTEC, Las Vegas, NV
- S. D. Johnson, PSDO/RECO, Las Vegas, NV
- W. A. Wilson, YMP, Mercury, NV, M/S 717
- M. B. Blanchard, YMP, NV
- W. R. Dixon, YMP, NV
- J. R. Dyer, YMP, NV
- V. F. Iorii, YMP, NV
- E. H. Petrie, YMP, NV

Add: Ken Hooker Lt. Col

*NH03
 102.7
 WM-1*

**OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
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 AP-6.2Q, Revision 0		2 Related Report No. Audit YMP-91-I-01	
3 Responsible Organization YMP0		4 Discussed With J. Peck, C. Lewis	
10 Response Due 20 days from issuance	11 Responsibility for Corrective Action C. P. Gertz	12 Stop Work Order Y or N 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, "Sampling, 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 <i>R. L. Maudlin</i> , ATC Date: <u>11/12/91</u> <i>R. L. Maudlin</i>		9 Severity Level - <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3	13 Approved By: <i>James Blayford for RES</i> Date: <u>11/19/91</u>
15 Verification of Corrective Action:			
16 Corrective Action Completed and Accepted: OAR _____ Date _____		17 Closure Approved By: OQA _____	

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CORRECTIVE ACTION REQUEST
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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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CORRECTIVE ACTION REQUEST (Continuation Page)

CORRECTIVE ACTION RESPONSE:

1. CORRECTIVE ACTION FOR DEFICIENT CONDITION

- A. Extent of Deficiency: Only one neutron access borehole has been completed to date. Thus, the extent of this deficiency is limited to this one borehole.
- B. Root Cause: The root cause of this deficiency has been determined to be the inadequacy of AP-6.2Q to specify how the Sample Overview Committee (SOC) is to document that an alternative handling method is required. It was not clear that the SOC directed the alternative handling method to be used.
- C. Remedial Action: The following remedial action will be taken to address this deficiency:
- (1) Revise BTP-SMF-013, through means of an ICN, to specify that the procedure defines the alternative handling requirements for the neutron access borehole samples and specimens. Chris Lewis will be responsible for this action which will be completed by January 3, 1992.
- D. Corrective Action to Prevent Recurrence: In addition to the remedial action discussed previously, the following actions will be taken to prevent recurrence::
- (1) Modify the SOC Specimen Removal Request Form, through means of an Interim Change Notice (ICN), to indicate whether special handling procedures are required that will supersede requirements of BTP-SMF-008. Chris Lewis is responsible for this action which will be completed by January 3, 1992.
 - (2) Modify AP-6.2Q, through means of an ICN, to indicate that the SOC Specimen Removal Request Form will be the means of documenting that special handling procedures are required that will supercede BTP-SMF-008. Chris Lewis is responsible for this action which will be completed by January 3, 1992.
 - (3) Modify BTP-SMF-008, through means of an ICN, to indicate that the procedure is not applicable if special handling requirements have been directed by the SOC on the Specimen Removal Request Form. Chris Lewis is responsible for this action which will be completed by January 3, 1992.

Note: AP-6.2 is currently under consideration for possible deletion.

Response Approved: _____

Chris Lewis
Responsible Manager

12/16/91
Date

file dtd 12/17/91 - YMP:RUB-1323

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DATE: 12/18/91
PAGE: OF
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CORRECTIVE ACTION REQUEST (Continuation Page)

Response Accepted: *Richard Marshall* 12-18-91
QAR Date

Response Accepted: *R. E. Spence* 12/20/91
OQA Date

YMP-063-R0
10/15/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE COMPLIANCE DOCUMENTATION FORM

I have read, and understood and complied with Document QAPP 16.1, Rev 3 ICN# N/A
in accomplishing my responsibilities in this procedure.

Signature  Name (Printed) RICHARD L. MAULDIN

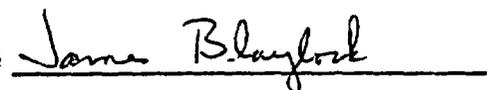
Title COORDINATOR ACTION REQUESTS Date 11-12-91

I have read, and understood and complied with Document QAPP 16.1, Rev 3⁺ ICN# NA
in accomplishing my responsibilities in this procedure. regarding CAR YM-92-012.
*QAPP 16.1 Rev 4 effective 11/12/91 was not used to process this CAR. The CAR was started using
REV 3.

Signature  Name (Printed) R. E. POWE

Title QA Engr III, AUDIT TEAM LEADER Date 11/12/91

I have read, and understood and complied with Document QAPP 16.1, Rev 3 ICN# _____
in accomplishing my responsibilities in this procedure.

Signature  Name (Printed) JAMES BLAYLOCK

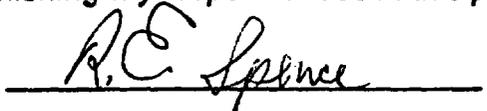
Title GEN ENG Date 11/14/91

I have read, and understood and complied with Document QAPP 16.1, Rev 4 ICN# _____
in accomplishing my responsibilities in this procedure.

Signature  Name (Printed) RICHARD L MAULDIN

Title QA SPECIALIST Date 12-18-91

I have read, and understood and complied with Document QAPP 16.1, Rev 4 ICN# N/A
in accomplishing my responsibilities in this procedure.

Signature  Name (Printed) Richard E. Spence

Title Director YMQAD Date 12/20/91

I have read, and understood and complied with Document _____, Rev _____ ICN# _____
in accomplishing my responsibilities in this procedure.

Signature _____ Name (Printed) _____

Title _____ Date _____

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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 BTP-SMF-013, Revision 0, QAAP 16.1, Revision 3	2 Related Report No. Audit YMP-91-I-01
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3 Responsible Organization YMP0 (SMF)	4 Discussed With J. Peck/C. Lewis
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10 Response Due 20 days from issuance	11 Responsibility for Corrective Action C. P. Gertz	12 Stop Work Order Y or N No
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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 occurred.

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 <u>R. L. Maudlin</u> , <u>ATL</u> Date: <u>11/12/91</u> <u>R. L. Maudlin</u>	9 Severity Level - 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>	13 Approved By: <u>James Blayford</u> Date: <u>11/14/92</u> OQA <u>James Blayford</u> <u>RES</u>
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15 Verification of Corrective Action:

16 Corrective Action Completed and Accepted: QAR _____ Date _____	17 Closure Approved By: OQA _____
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CORRECTIVE ACTION REQUEST
(continuation sheet)

7 Recommended Action(s) (continued)

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

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8 CAR NO.: YM-92-013
DATE: 12/6/91
SHEET: 1 OF 1
QA

CORRECTIVE ACTION REQUEST (Continuation Page)

1. CORRECTIVE ACTION RESPONSE FOR CAR #YM-92-013

A. Remedial Action: The following remedial action has been taken to address this deficiency:

- (1) A camera checklist was posted at the field trailer. The checklist provides the sequence of steps to follow to successfully complete videotaping. Chris Scroggins was responsible for this action which was completed on November 1, 1991.

Discussion: Videotaping of core runs 1 and 58 are no longer feasible. The core is packaged in lexan and tin specimen cans to preserve moisture content, and the original condition of the core cannot be recovered. Videotaping the packaged core now would serve no useful purpose as the videotaping is meant to provide an interim record of the core until it is transferred to the SMF or to the PI from the field. Core from runs 1 and 58 was duly logged into the SMF so there is no longer a need for an interim record for these runs. The absence of videotaping of runs 1 and 58 would affect quality only if the core had been lost or damaged in transit to the SMF, and the videotape was needed to show the original orientation and condition of the core. Removing core from the lexan and tin can packaging to videotape the runs at this time would adversely affect quality because it would expose the core to drying and interfere with the analysis being conducted by the PI.

B. Investigative Action: A review of all core run videotapes was conducted to investigate the extent of the adverse condition. The condition was found to exist for core runs 1 and 58.

C. Root Cause Determination: The absence of a videotape for these runs was due to the fact that the video camera had unknowingly been turned off. The root cause for this deficiency, however, was determined to be twofold: (1) a video camera operations checklist or a means to verify that the camera was recording was not available, and (2) field personnel were not familiar with the requirements of QAAP 16.1.

D. Corrective Action to Preclude Recurrence: In addition to the remedial action discussed previously, the following actions have or will be taken to prevent recurrence:

- (1) A TV monitor was installed which allows information being recorded by the video camera to be seen as it is recorded. No recurrence of the condition has been found since the installation of the monitor. John Doyle was responsible for this action which was completed prior to the audit on October 22, 1991.
- (2) To reinforce the requirements and responsibilities of personnel to identify and report, through means of a CAR, any apparent deficiency, John Peck has scheduled two training sessions for field personnel on QAAP 16.1, Rev. 4. Field personnel will be baselined on this procedure and have completed their training to QAAP 16.1, Rev. 4 by December 20, 1991.

Response Approved


Responsible Manager

12/16/91
Date

Str dtd 12/17/91 - YMP:RUB-1323

ENCLOSURE 2

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CORRECTIVE ACTION REQUEST (Continuation Page)

Response Accepted: *Richard P. Marchi* 12-18-91
QAR Date

Response Accepted: *R.C. Spruce* 12/20/91
OQA Date

YMP-063-R0
10/15/91

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT PROCEDURE COMPLIANCE DOCUMENTATION FORM

I have read, and understood and complied with Document QAP 16.1, Rev 3 ICN# N/A
in accomplishing my responsibilities in this procedure.

Signature *Richard L Mandlin* Name (Printed) RICHARD L. MANDLIN

Title CORRECTIVE ACTION REQUEST Date 11-12-91

I have read, and understood and complied with Document QAAP 16.1, Rev 3* ICN# NA
in accomplishing my responsibilities in this procedure, regarding CAR YM-92-013.
* QAAP 16.1 Rev 4 effective 11/12/91 was not used. CAR was started using Rev 3.

Signature *R.E. Powe* Name (Printed) R.E. POWE

Title QA Eng III, ^{REP 11/12/91} AD ^{REP 11/12/91} AUDIT TEAM LEADER Date 11-12-91

I have read, and understood and complied with Document QAAP 16.1, Rev 3 ICN# _____
in accomplishing my responsibilities in this procedure.

Signature *James Blaylock* Name (Printed) JAMES BLAYLOCK

Title GEN ENG Date 11/14/91

I have read, and understood and complied with Document QAP 16.1, Rev 4 ICN# _____
in accomplishing my responsibilities in this procedure.

Signature *Richard L Mandlin* Name (Printed) RICHARD L. MANDLIN

Title QA SPECIALIST Date 12-18-91

I have read, and understood and complied with Document QAAP 16.1, Rev 4 ICN# N/A
in accomplishing my responsibilities in this procedure.

Signature *R.E. Spence* Name (Printed) RICHARD E. SPENCE

Title Director YMQAD Date 12/20/91

I have read, and understood and complied with Document _____, Rev _____ ICN# _____
in accomplishing my responsibilities in this procedure.

Signature _____ Name (Printed) _____

Title _____ Date _____