

**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 98608  
Las Vegas, NV 89193-8608

MAR 13 1995

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Deputy Technical Project Officer  
for Yucca Mountain  
Site Characterization Project  
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101 Convention Center Drive  
Las Vegas, NV 89109

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF CORRECTIVE ACTION REQUEST (CAR) YM-94-089 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION (YMQAD) AUDIT YMP-94-09 OF SANDIA NATIONAL LABORATORIES (SCPB: N/A)

The YMQAD staff has verified the corrective action to CAR YM-94-089 and determined the results to be satisfactory. As a result, the CAR is considered closed.

If you have any questions, please contact either Robert B. Constable at 794-7945 or James Blaylock at 794-7913.

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:RBC-2460

Enclosure:  
CAR YM-94-089

cc w/encl:

~~J. G. Spraul~~, NRC, Washington, DC  
S. W. Zimmerman, NWPO, Carson City, NV  
R. R. Richards, SNL, Albuquerque, NM, M/S 1333  
K. L. Boardman, AL

cc w/o encl:

W. L. Belke, NRC, Las Vegas, NV  
D. G. Sult, YMQAD/QATSS, Las Vegas, NV

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WASHINGTON, D.C.**

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**CORRECTIVE ACTION REQUEST**

1 Controlling Document QATP 02-04, Revision 1, Conducting and Documenting Analysis	2 Related Report No. YMP-94-09
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3 Responsible Organization SNL	4 Discussed With C. Brechtel/D. Kessel
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5 Requirement:  
QAGR 1.2.3.2.6.2.3, Surface Facilities Field Tests and Characterization Measurements, invoked QATP 02-04 for calculations associated with rock quality measurement.

6 Adverse Condition:  
Calculations associated with the WBS identified above, use a Monte Carlo subroutine. There is no evidence that the calculations were conducted in accordance with the requirements of QATP 02-04.

9 Does a Significant Condition Adverse to Quality exist? Yes ___ No <u>X</u> If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E	10 Does a stop work condition exist? Yes ___ No <u>X</u> ; If Yes - Attach copy of SWO If Yes, Check One: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C	13 Response Due Date: 20 Working Days From Issuance
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11 Required Actions:  Remedial  Extent of Deficiency  Preclude Recurrence  Root Cause Determination

12 Recommended Actions:

7 Initiator <u>James Blaylock</u> James Blaylock	<u>9/9/94</u>	14 Issuance Approved by: QADD <u>R. Blountable</u> for	Date <u>9-12-94</u>
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15 Response Accepted QAR <u>N/A</u> Date	16 Response Accepted QADD <u>N/A</u> Date
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17 Amended Response Accepted QAR <u>James Blaylock</u> Date <u>12/1/94</u>	18 Amended Response Accepted QADD <u>R. Blountable</u> for Date <u>12-5-94</u>
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19 Corrective Actions Verified QAR <u>James Blaylock</u> Date <u>3/8/95</u>	20 Closure Approved by: QADD <u>R. Blountable</u> for Date <u>3-10-95</u>
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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

Corrective Action Response for CAR # YM-94-089

A. Remedial Action

Information that documents that the proper performance of the monte carlo simulation has been added to the Scientific Notebook WA-0071 Rock Mass Quality Index Derived From NRG Core Data has been added. The contents of the SN were reviewed against the requirements of QAIP 2-4 and determined to be in compliance with this additional documentation.

B. Extent of the Deficiency

A review of other SNs developed under WA-0071 determined that the missing documentation was limited to one SN.

There was no adverse impact to the quality of the data obtained under this SN and with the additional documentation no conditions adverse to quality exist.


C. Root Cause Determination

The level of detail in the notebook was not sufficient. The guidance provided by the Task Leader for the level of detail required to document analyses was inadequate.

D. Corrective Action to Prevent Recurrence

Training meetings will be conducted with all personnel involved in generating scientific notebooks for W.B.S. 1.2.3.2.6.2. This training will provide guidance for the level of detail to be included in scientific notebooks. These meetings will be completed by November 30, 1994 and the issues discussed and personnel in attendance will be documented by memo to file in accordance with QAIP 2-5.

PAR 10/12/94

  
for L.E. Shephard 10/12/94

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**D. CORRECTIVE ACTION TO PRECLUDE RECURRENCE**

(1) & (2)

A review will be conducted of all areas of scientific investigation. The review will focus on the various methods used by SNL YMP staff to record their investigations in SN's, as well as the subsequent reviews of the SN's.

Management direction will be provided defining the preferred methods for documenting, verifying, maintaining, and reviewing information in SNs. If necessary, management will have an independent technical reviewer checklist developed.

Based on the investigative results, management will, if necessary, initiate comprehensive training for all SNL YMP staff using scientific notebooks.

Peter Davies and Jim Voigt are responsible for corrective actions to preclude recurrence.

All corrective actions to preclude recurrence are scheduled to be complete by February 20, 1994.

(3) None required.

  
for L.E. Shephard

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CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)

Corrective Action Response for CAR # YM-94-089

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**CORRECTIVE ACTION REQUEST (CONTINUATION PAGE)**

VERIFICATION OF CORRECTIVE ACTION FOR CAR YM-94-089

The actions in the corrective action have been completed; a description of the Monte Carlo routine was added to Section 4, pages 4-026 through 4-033.

James Blaylock  
James Blaylock, QAR

3/8/95  
Date