



Department of Energy

Washington, DC 20585

QA: L

OCT 09 1997

L. D. Foust, Technical Project Officer
for Yucca Mountain Site
Characterization Project
TRW Environmental Safety Systems, Inc.
1180 Town Center Drive, M/S 423
Las Vegas, NV 89134

VERIFICATION OF CORRECTIVE ACTION AND CLOSURE OF DEFICIENCY REPORT
(DR) YM-96-D-108 RESULTING FROM OFFICE OF QUALITY ASSURANCE (OQA)
REVIEW

The OQA staff has verified the corrective action to DR YM-96-D-108 and determined the results to be satisfactory. As a result, the DR is considered closed.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or Mary G. McDaniel at (702) 794-1468.

James Blaylock for
Donald G. Horton, Director
Office of Quality Assurance

OQA:JB-0061

Enclosure:
DR YM-96-D-108

- cc w/encl:
- T. A. Wood, DOE/HQ (RW-55) FORS
- J. O. Thoma, NRC, Washington, DC
- S. W. Zimmerman, NWPO,
Carson City, NV
- B. R. Justice, M&O, Las Vegas, NV
- R. A. Morgan, M&O, Las Vegas, NV
- L. R. Hayes, M&O, Las Vegas, NV
- J. A. Canepa, M&O/LANL, Las Vegas, NV
- T. J. Hirons, M&O/LANL, Los Alamos, NM
- M. J. Clevenger, M&O/LANL,
Los Alamos, NM
- L. E. Souza, OQA/LANL, Los Alamos, NM
- R. W. Clark, DOE/OQA, Las Vegas, NV

- cc w/o encl:
- W. L. Belke, NRC, Las Vegas, NV
- M. G. McDaniel, OQA/QATSS, Las Vegas, NV
- D. G. Sult, OQA/QATSS, Las Vegas, NV

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Recip: NMSS/PAHL



**OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON, D.C.**

THIS IS A RED STAR
Performance Report
 Deficiency Report
NO. YM-96-D-108
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PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document: Los Alamos National Laboratory (LANL) Quality Procedures (QP)-03.23, Revision 4	2 Related Report No. YM-ARP-96-014
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3 Responsible Organization: LANL	4 Discussed With: Frank Perry/Mike Clevenger
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5 Requirement/Measurement Criteria:

LANL QP-03.23, Revision 4, Attachment 4 identifies the following reviewer instructions:

1. Review the document for applicability, correctness, technical adequacy, and completeness.
2. For TIPS, data presented are suitable for the intended use as presented in this report."

6 Description of Condition:

Contrary to the above, the LANL technical review was completed for the Volcanism Synthesis Report (1996 VSR), milestone 3781, and forwarded to the project office without identifying and correcting the following problem areas:

1. Discrepancies between Chapter 2, Section IV, Pages 49 and 52, Table 2.4 and Table 2.6 for the ³He data. (The Status of Volcanism Studies for the Yucca Mountain Site Characterization Project (1995) also included these discrepancies.)
2. Chapter 2, Table 2.6, Thermoluminescence (TL) data which had been superseded by TL data reported in Milestone 4049, "Progress Report on Geochronology Studies," Attachment 3, Table 7.
3. ⁴⁰Ar/³⁹Ar data for samples SB-90-8-21BMC and RC-1 in Chapter 2, Table 2.C which were different than those reported in Milestone 4049.

7 Initiator <i>Mary G. McDaniel</i> Mary G. McDaniel Date 9/25/96	9 Is condition an isolated occurrence? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown; Must be Yes if PR
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10 Recommended Actions: (Not required for PR)

Perform detailed technical review of the 1996 VSR to identify additional data discrepancies. Correct identified problems in the 1996 VSR. Critically assess review process to determine why such errors were not identified. Take necessary action based on results of assessment.

11 QA Review: QAR <i>Mary G. McDaniel</i> Date 9/30/96	12 Response Due Date 20 working days from issuance
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13 Affected Organization QA manager Issuance Approval: (QAR for PR) Printed Name <i>Richard E. Sance</i> Signature <i>[Signature]</i> Date 10/8/96

22 Corrective Action Verified QAR <i>Mary McDaniel</i> Date 10/8/97	23 Closure Approved by: (N/A for PR) AQAM <i>James Blaylock</i> for Date 10/5/97
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ENCLOSURE P. 108

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 WASHINGTON, D.C.

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PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

LANL YMP will assign a qualified individual to review the 1996 VSR to verify that data have been accurately reported. results of the review will be documented. Any problems identified during the review, in addition to those cited in the DR, will be corrected prior to finalization of the 1996 VSR.

Completion Date: 7/30/97

A memo will be issued by the TPO to the LANL YMP technical staff. This memo will stress the importance of the documentation of data in the YMP regulatory environment and will discuss potential sources for error in reporting/publishing data that have been identified during this audit.

Completion Date: 11/30/96

15 Extent of Condition: (Not required for PR)

To be determined during the review completed per item 14.

16 Root Cause Determination: (Not required for PR)

Required Yes No

N/A

17 Action to Preclude Recurrence: (Not required for PR)

Required Yes No

N/A

18 Corrective Action Completion Due Date:

7/30/97

19 Response by:

Initial

Amended

F. Perry

Date 10/30/96 Phone 505/667-1033

20 Response Accepted

QAR

Mary M. Michael

Date 11-6-96

21 Response Accepted (N/A for PR):

(AOQAM) *Marked Change* Date 31 Oct 96 ^{MEM 11-6-96}

10/31/96 EES-13-10-96-1317

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PR/DR CONTINUATION PAGE

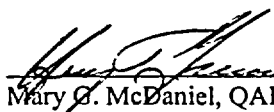
The following verification actions were taken in addition to verifying the resolution of the specific deficiencies cited in this deficiencies:

Verified that the uranium-thorium (U-Th) disequilibrium age reported in the 97 VSR pages 2-5, 2-69, and 2-86 are consistent with Figures 2.26 and 2.27.

Verified that the ^{36}Cl mean age reported in the 97 VSR and attributed to Zreda et al. (1993) was corrected to accurately reflect $76 + 10 \text{ ka}$ as reported in "Cosmogenic ^{36}Cl Dates for a Young Basaltic Eruption Complex, Lathrop Wells, Nevada", Geology 21, (1993).

Verified that LANL issued a memo on 11-4-96 (see attached) stressing that published data be technically accurate and free from any inconsistencies or errors and identifying sources for error in reporting and publishing data. This issue was also discussed with LANL staff during a FY 97 kick-off meeting on 11-26-96 (see attached agenda and overheads).

Based on this verification DR YM-96-D-108 is closed.

 FOR M. McDaniel 10/8/97
Mary G. McDaniel, QAR Date