



Department of Energy

Washington, DC 20585

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EVALUATION OF RESPONSES TO DR YM-96-D-106 THROUGH DR YM-96-D-108 RESULTING FROM OQA AUDIT YM-ARP-96-014 OF LOS ALAMOS NATIONAL LABORATORY

The Office of Quality Assurance staff has evaluated the responses to Deficiency Reports YM-96-D-106 through YM-96-D-108. The responses have been determined to be satisfactory. Verification of completion of the remedial actions will be performed after the effective date provided. Any extension to this date must be requested in writing, with appropriate justification, prior to the date. Please send a copy of extension requests to Deborah Sult, OQA/QATSS, P.O. Box 98608, Mail Stop 455, Las Vegas, Nevada 89193-8608.

If you have any questions, please contact either Mario R. Diaz at (702) 794-1489 or Mary G. McDaniel at (702) 794-1468.

OQA:MRD-0373

for *Donald G. Horton*
Donald G. Horton, Director
Office of Quality Assurance

Enclosure:
DR YM-96-D-106 through
DR YM-96-D-108

cc w/encl:
T. A. Wood, DOE/HQ (RW-55) FORS
J. G. Spraul, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
B. R. Justice, M&O, Las Vegas, NV
M. J. Clevenger, M&O/LANL, Los Alamos, NM
Records Processing Center

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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Form Report
☒ Deficiency Report
NO. YM-96-D-106
PAGE 1 OF 2
QA: L

PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:

U S. Department of Energy/RW-0333P, Quality Assurance Requirements and Description (QARD), Revision 5

2 Related Report No.

YM-ARP-96-014

3 Responsible Organization:

Los Alamos National Laboratory (LANL)

4 Discussed With:

Frank Perry/Greg Valentine/Mike Clevenger

5 Requirement/Measurement Criteria:

QARD, Section III.2.4, Data Review, states: "A documented independent review of acquired and developed data shall be performed to confirm technical adequacy."

6 Description of Condition:

Contrary to the above, there is no objective evidence that an independent review of the following data was performed:

Xenolith Abundance Data reported in Table 1 of Valentine and Groves (1996, The Journal of Geology, Volume 104, Pages 71-90; "Entrainment of Country Rock During Basaltic Eruptions of the Lucero Volcanic Field, New Mexico"). These data were derived from field measurements recorded in notebook TWS-ESS-5-6-93-01.

³He age determination for Lathrop Wells Center reported in notebook TWS-INC-03-93-06, Page 129.

Interviews with the PIs for Study Plans 8.3.1.8.5.1 and 8.3.1.8.1.2 identified that the reviews of scientific notebooks conducted in accordance with LANL Quality Procedure-03.5 did not include verifying the accuracy of the calculations for LANL generated data.

7 Initiator

Mary G. McDaniel

Date 9/25/96

8 Is condition an isolated occurrence?

☐ Yes ☒ No ☐ Unknown; Must be Yes if PR

10 Recommended Actions: (Not required for PR)

Determine extent of condition. Perform and document independent review of data to confirm technical adequacy. Take necessary actions to ensure that such reviews are conducted for current and future scientific investigations.

11 QA Review:

QAR

Date

9/30/96

12 Response Due Date

20 working days from issuance

13 Affected Organization QA manager Issuance Approval: (QAR for PR)

Printed Name

Richard E. Spence

Signature

AD Kama

Date 10/3/96

22 Corrective Action Verified

QAR

Date

23 Closure Approved by: (N/A for PR)

AQAM

Date

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PR/DR NO. YM-86-D-106

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QA: L

PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

LANL YMP will perform and document an independent review of the data identified in the DR.

15 Extent of Condition: (Not required for PR)

The PI for volcanism studies will review the scientific notebooks for the LANL generated volcanism data to determine if an independent review has been performed and appropriately document. If it is determined that data have not been reviewed the PI will ensure that an independent review is performed and documented.

Completion Date: 12/27/96

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

The LANL TPO will generate a memo to all YMP PIs stating the need to conduct spot checks of calculations to assure technical adequacy. this will be completed by 11/22/96.

18 Corrective Action Completion Due Date:

12/27/96

19 Response by:

☒ Initial

F. Perry

☐ Amended

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

20 Response Accepted

QAR

Mary M. McDaniel

Date

11-6-96

21 Response Accepted (N/A for PR):

SAOQAM

11/19/96

Date

31 Oct 96

Exhibit AP-16.102

Rev. 07/15/96

10/31/96

EES-13-10-96-1317

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NO. YM-96-D-107

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QA: L

PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:

U.S. Department of Energy/RW-0333P, Quality Assurance Requirements and Description (QARD), Revision 5

2 Related Report No.

YM-ARP-96-014

3 Responsible Organization:

Los Alamos National Laboratory (LANL)

4 Discussed With:

Bruce Crowe/Andrew Burningham

5 Requirement/Measurement Criteria:

QARD, Section III.2.5.A, states: "Unqualified data may be used without qualification in scientific investigation and design activities. Traceability to its status as unqualified data shall be maintained."

6 Description of Condition:

Contrary to the above, the Volcanism Synthesis Report (1996 VSR), milestone 3781, Preface states that: "All of the data cited in Chapters 3, 4, and 6, and the revised sections of Chapter 2 are "Q" data, as defined by the Los Alamos Quality Assurance Program," however the following unqualified data sources were used for sensitivity calculations in Chapter 6.

- K-Ar ages from Fleck et al (1996)
- Structural controls and boundaries from Carr (1984) and Carr (1990).

Interview with PI for Study Plan 8.3.1.8.1.1 indicated that K-Ar ages from Fleck et al, served as input to the age values presented in Chapter 3, Table 1 and that the volume estimates presented in Chapter 3, Table 1 was unqualified data. In addition Fleck et al were cited in the revised sections of Chapter 2, for example Pages 2-19 through 2-21.

7 Initiator

Mary G. McDaniel

Date 9/25/96

8 Is condition an isolated occurrence?

☐ Yes ☐ No ☒ Unknown; Must be Yes if PR

10 Recommended Actions: (Not required for PR)

Determine and identify correct qualification status for various data reported in the 1996 VSR. Confirm that the correct qualification status has been identified for any data reported in the 1995 "Status of Volcanism Studies for the Yucca Mountain Site Characterization Project," LA-12908-MS, that have not be superseded by the 1996 VSR.

11 QA Review:

QAR

Date 9/28/96

12 Response Due Date

20 working days from issuance

13 Affected Organization QA manager Issuance Approval. (QAR for PR)

Printed Name

Richard E. Spence

Signature

[Signature]

Date 10/3/96

22 Corrective Action Verified

QAR

Date

23 Closure Approved by: (N/A for PR)

AOQAM

Date

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PR/DR NO. YM-96-D-107

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QA: L

PERFORMANCE/DEFICIENCY REPORT RESPONSE

14 Remedial Actions:

LANL YMP will assign a qualified individual to review the 1996 VSR to identify unqualified data, including unqualified source data and resultant unqualified developed data. The results of the review will be documented and the 1996 VSR corrected prior to finalization.

The LANL assigned reviewer will also review Appendices 1 and 2 for the 1995 VSR for those sections of the report which were not superseded by the 1996 VSR, to verify that the correct qualification status was identified for the data. The review will be documented. Any corrections required to Appendices 1 and 2 will be issued as a supplement to the record package for the 1995 VSR.

Completion Date: 7/30/97

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

F. Perry

☐ Amended

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

20 Response Accepted

QAR: *Marked M. Leland*

Date 11-6-96

21 Response Accepted (N/A for PR):

Handwritten: 11/19/96
Date 31 Oct 96

Exhibit AP-16.102

Rev. 07/15/96

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

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QA: L

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	
3 Responsible Organization: LANL		4 Discussed With: Frank Perry/Mike Clevenger	
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 ³ He 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. ⁴⁰ Ar/ ³⁹ Ar 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 Mary G. McDaniel Date 9/25/96		8 Is condition an isolated occurrence? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown; Must be Yes if PR	
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		12 Response Due Date 20 working days from issuance	
13 Affected Organization QA manager, Issuance Approval (QAR for PR) Printed Name <i>Richard E. Sance</i> Signature <i>[Signature]</i> Date <i>10/3/96</i>			
22 Corrective Action Verified QAR Date		23 Closure Approved by: (N/A for PR) AOQAM Date	

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WASHINGTON, D.C.

PR/DR NO. YM-96-D-108

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QA: L

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

Margaret McDaniel

Date

11-6-96

21 Response Accepted (N/A for PR)

AOQAM

11/19/96

Date

31 Oct 96

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