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

SEP 25 1996

L. D. Foust
Technical Project Officer
for Yucca Mountain
Site Characterization Project
TRW Environmental Safety Systems, Inc.
Bank of America Center, Suite P-110
101 Convention Center Drive
Las Vegas, NV 89109

EVALUATION OF RESPONSES, VERIFICATION OF CORRECTIVE ACTIONS AND CLOSURE OF DEFICIENCY REPORTS (DR) YM-96-D-067 THROUGH YM-96-D-069 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) AUDIT YM-ARC-96-16 OF LOS ALAMOS NATIONAL LABORATORY

The YMQAD staff has evaluated the responses and verified the corrective actions to DRs YM-96-D-067 through YM-96-D-069 and determined the results to be satisfactory. As a result, these DRs are considered closed.

If you have any questions, please contact either Robert B. Constable at (702) 794-5580 or Hank T. Greene at (702) 794-1498.

Robert B. Constable for.

Richard E. Spence, Director
Yucca Mountain Quality Assurance Division

YMQAD:RBC-2704

Enclosure:
DRs YM-96-D-067 through
YM-96-D-069

cc w/encl:
T. A. Wood, DOE/HQ (RW-14) FORS
J. G. Spraul, NRC, Washington, DC
S. W. Zimmerman, NWPO, Carson City, NV
J. B. Tillman, LAAO, Los Alamos, NM
J. A. Canepa, M&O/LANL, Los Alamos, NM
M. J. Clevenger, M&O/LANL, Los Alamos, NM
N. Z. Elkins, M&O/LANL, Las Vegas, NV
R. L. Strickler, M&O, Vienna, VA
B. R. Justice, M&O, Las Vegas, NV
R. P. Ruth, M&O, Las Vegas, NV

cc w/o encl:
W. L. Belke, NRC, Las Vegas, NV
H. T. Greene, YMQAD/QATSS, Las Vegas, NV
D. G. Sult, YMQAD/QATSS, Las Vegas, NV
D. G. Horton, DOE/OQA, Las Vegas, NV

NH33/1
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9609300032 960925
PDR WASTE
WM-11 PDR
YMP-5

recip: NMSS/HLWR

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WASHINGTON, D.C.

8 ☐ Performance Report
☒ Deficiency Report
NO. YM-96-D-067
PAGE 1 OF 3
QA: L

PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:	2 Related Report No.
QARD, DOE/RW-0333P, Revision 5	YM-ARC-96-16

3 Responsible Organization:	4 Discussed With:
Los Alamos National Laboratory (LANL)	

5 Requirement/Measurement Criteria:

QARD, Paragraph 12.2.1A, states in part: Measuring and Test Equipment...shall be calibrated...against reference standards having traceability to nationally recognized standards."

QARD, Paragraph 12.2.1C, states in part: "The method and interval of calibration for each device shall be defined, based on the type of equipment stability characteristics, required accuracy, intended use...etc."

6 Description of Condition:

Contrary to the above, LANL weight set standard identifier 0347 used to calibrate Measuring and Test Equipment by ESH-9 does not have certification to a specific National Institute of Standards and Technology (NIST) Calibration Report. The calibration traceability stops at Sandia National Laboratories - Primary Standards Laboratory (PSL). In addition, this standard had its calibration expiration date extended by one and a half years to March 26, 1997, with no apparent approval under the LANL YMP QA program. The original calibration due date was September 26, 1995, and was extended by PSL to March 26, 1997. During this extended time ESH-9 used this standard in calibrating LANL-YMP equipment, i.e., Weight Set 0347 calibrated March 26, 1996.

7 Initiator	9 QA Review
Hank T. Greene Date 7/3/96	QAR Date 7/3/96
10 Response Due Date:	11 QA Issuance Approval
20 Working Days From Issuance	QAR (PR)/AOQAM (DR) Date 7/11/96

12 Remedial Actions:

a. Investigated impact on any work (see block 18).
b. Commenced efforts to obtain the serial number of the PSL master weight set that is in question.
c. Commenced investigation into the status of weight set #0347.

13 Remedial Actions Response By:	14 Remedial Action Due Date
Date	Date
15 Remedial Action Response Acceptance	16 PR Verification /Closure
QAR Date	QAR Date

Enclosure

OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY
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8
DR NO. YM-96-D-067
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DEFICIENCY REPORT

17 Recommended Actions:

1. Provide traceability to NIST Calibration Reports for all standards used in support of the LANL YMP QA program.

2 Evaluate impact of extending the interval of calibration by one and a half years for LANL weight sets. Provide acceptance of this extention (if required) under the LANL YMP QA program.

18 Investigative Actions:

When obtained, the PSL master set identification number will provide traceability to NIST. It is LANL YMP contention that the Primary Standards Laboratory (PSL) which is on the Qualified Suppliers List (QSL) is a nationally recognized calibration entity, and that traceability to National Institute of Standards and Technology (NIST) has been consistently provided to LANL YMP.

19 Root Cause Determination:

See block 18

20 Action to Preclude Recurrence:

See block 18

21 Response By: Michael D. Clevenger Date 8/9/96	22 Corrective Action Completion Due Date
23 Response Accepted QAR [signature] Date 9/18/96	24 Response Accepted AOQAM [signature] for Date 9-24-96
25 Amended Response Accepted QAR Date	26 Amended Response Accepted AOQAM Date
27 Corrective Action Verified QAR [signature] Date 9/18/96	28 Closure Approved by: AOQAM [signature] for Date 9-24-96

Exhibit AP-16.1Q.2

8/9/96 QES-13-08-96-1238

Rev. 07/03/95

PR/DR CONTINUATION PAGE

#81 continued

As to the question of the extension of the 0347 weight set calibration date: LANL YMP will investigate (to be accomplished by September 3, 1996), to determine what transpired, the extent of the conditions, and if there was any impact on the product. Based upon this investigation LANL YMP will determine root cause and if actions are necessary to prevent recurrence. A copy of the survey report will be submitted.

Los Alamos
NATIONAL LABORATORY
memorandum

Earth and Environmental Sciences Division
EES-13-Nuclear Waste Management R&D
Mail Stop J521, Los Alamos, NM 87545
Phone (505) 667-9708 Fax (505) 667-1934

To/MS: M. Clevenger, EES-13, MS J521
From/MS: J. Friend, LATA, MS J521 JCF
Phone/FAX: 7-3221/7-1934
Symbol: EES-13-09-96-1230
Date: September 3, 1996

Los Alamos YMP Survey Report for LA-SR-ESH-9-96-12

Attached is the completed report from the subject survey. Attachment 1 identified all objective evidence examined. Should you have any questions, please contact me at (505) 667-3221.

JF/cv

Attachments: a/s

CY:
J.A. Canepa, EES-13, MS J521
R.P. Ruth, M&O/Duke, MS 25
R.E. Spence, DOE/LV, MS 523
J.E. Young, LATA, MS J521
Survey File LA-SR-ESH-9-96-12
EES-13 File, MS J521

LOS ALAMOS NATIONAL LABORATORY

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

SURVEY REPORT LA-SR-ESH-9-96-12

(ESH-9, LOS ALAMOS, NM)

AUGUST 27, 1996

Prepared By: J. C. FRIEND [signature] Date: 8/30/96
Survey Team Leader

Approved By: Michael J. Clevenger Date: 30 Aug. 96
Verification Coordinator

EXECUTIVE SUMMARY

1.0 SURVEY SCOPE

This survey was conducted to investigate LANL YMP's use of weight set 0347 which was identified as being deficient in Office of Civilian Radioactive Waste Management (OCRWM) Audit YM-ARC-96-16 deficiency report (DR) YM-96-D-067. The survey investigated what had transpired, the extent of the condition, and if there was any impact on LANL YMP activities.

2.0 SURVEY RESULTS

Results of this survey indicate that weight set 0347 is acceptable for use on LANL YMP activities; that no other conditions of this type could be found; and there was no impact on any work performed by LANL YMP. Complete details of this survey are given in section 8.0 of this report.

3.0 CONCLUSIONS

Based on the results of this survey it can be concluded that the questions raised in DR YM-96-D-067 have been satisfactorily resolved. Root cause analysis and actions to prevent recurrence are not necessary for this isolated occurrence. No further actions appear to be necessary by LANL YMP with regard to the subject DR.

The survey team greatly appreciates the cooperation of the ESH-9 and QA personnel during the survey.

1.0 INTRODUCTION

This survey was conducted August 27, 1996 at ESH-9 Calibration Laboratory at Los Alamos National Laboratory Los Alamos, NM. The survey focused on a review of calibration documentation for LANL YMP weight set 0347.

2.0 INDIVIDUALS CONTACTED

Chris Pelchat	ESH-9 Calibration Technician
Jim Young	LANL YMP QA Liaison

3.0 SURVEY TEAM MEMBERS

John C. Friend, Survey Team Leader

4.0 SURVEY SCOPE

This survey was conducted to investigate LANL YMP weight set 0347 which was identified as being deficient in OCRWM Audit YM-ARC-16 deficiency report DR YM-96-D-067. The survey investigated what had transpired, the extent of the condition, and if there was any impact on LANL YMP activities.

5.0 OBJECTIVE EVIDENCE EXAMINED

See Attachment 1 for the objective evidence examined.

6.0 RECOMMENDATIONS

None

7.0 DEFICIENCIES

7.1 Performance Reports Initiated

None

7.2 Deficiency Reports Initiated

None

7.3 Corrective Action Request Initiated

None

7.4 Deficiencies Corrected During The Survey

None

8.0 SUMMARY OF SURVEY RESULTS

The survey team reviewed calibration data pertaining to weight set 0347 and weight set 0128 which was used to calibrate set 0347. Documentation was reviewed to assure traceability to NIST, equipment was identifiable, and that a history of the equipment was being maintained.

The survey team reviewed the documentation associated with the extension of the calibration due date for the 100 gram weight in set 0128 which included a technical justification for the extension. It was reported in the DR that no approval had been obtained from LANL YMP to extend the due date. This had occurred because set 0128 is used laboratory-wide and not just for YMP. Subsequent to the survey LANL YMP approval was obtained and has been documented on YMP calibration documents.

The survey team was able to obtain the identification number of the master standards used by Sandia National Laboratories' Primary Standards Laboratory (PSL) to calibrate set 0128. This information had been inadvertantly left off the calibration certificate provided by the PSL and had been noted in the DR.

The survey team had discussions with the LANL calibration technician and the LANL YMP QA Liaison and it was determined that this was an isolated occurrence which had no impact on any LANL YMP activities.

OBJECTIVE EVIDENCE EXAMINED

Calibration Documentation:

Weight Set 0347:
LANL Calibration History sheet, No. 000347-101-5, dated 3/26/96
Calibration Certificate, File No. 0347, dated 3/26/96
Calibration worksheets, File No. 0347, dated 3/12/96 & 3/26/96
QA Review Checklist, File No. 0347

Weight Set 0128:
LANL Calibration history sheet, No. 00128-100-03, dated 4/29/92
PSL technical justification for calibration due date extension on set 0128, File No. 4102
1992 PSL and LANL Calibration Certificates for set 0128
Note: Set 0128 is currently at NIST being calibrated since PSL did not know when they could do the calibration.

PRIMARY STANDARDS LABORATORY

Sandia National Laboratories, Albuquerque, New Mexico 87185

CERTIFICATE

File No. 4102
Partial Extension

Metric Weights (25kg - 1mg)
Troemner/Rice Lake
Type I
Serial No. 0128

Submitted by: Los Alamos National Laboratories
Los Alamos, New Mexico

Certified: March 26, 1992
Original Expiration: September 26, 1995
Extended Expiration: March 26, 1997 (100 gram weight ONLY)

At the request of the owner, certification of the value of the 100 gram weight ONLY is being extended, pending the PSL's ability to schedule calibration of the complete set. The mass of this weight was checked by double-substitution comparison to the PSL's master 100 gram check weight, which was recently calibrated by NIST. Since the value obtained agrees very well with the last-certified value, that certification is hereby extended, with unchanged uncertainty, to five years from the original calibration date.

For reference, the certified correction is +1.16 mg, and the certified uncertainty is ±0.10 mg.

Based on its history, this weight is expected to remain within the stated uncertainty throughout the certification period unless the weight is damaged or physically altered.

GJK

Technical Consultant: S. L. Anderson, 1541

GJK

Certified by: J. F. Kwak, 1541

Copy to:
Submitting Organization (2)
1541 File

PSL MASTER:
822/265185-95
SANDIA FILE #975
EXP. 5/15/2001
JLFriend 8/27/96

Michael J. Clemenger 27 Aug. 96
LANL YMP APPROVAL

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.	8 ☐ Performance Report ☑ Deficiency Report NO. YM-96-D-067 PAGE ____ OF ____ QA: L

PR/DR CONTINUATION PAGE

VERIFICATION OF CORRECTIVE ACTION FOR DR YM-96-D-067

Verified that LANL weight set standard identifier 0347 used to calibrate M&TE by ESH-9 does have certification to a specific NIST Calibration Report. This was verified by review of Los Alamos YMP Survey Report LA-SR-ESH-9-96-12, dated August 27, 1996. During this Survey, LA verified that the PSL Master Weight Set used to calibrate the ESH-9 standard SN 128 was PSL master:

822/255185-95
Sandia File #975
Exp. 5/15/2001
This provides acceptable traceability to NIST.

Also verified approval by LANL YMP, M. Clevenger of the calibration frequency extension as evidenced by his signature on PSL certificate attached to Survey Report LA-SR-ESH-9-96-12.

Results of this LA survey indicate that weight set 0347 is acceptable for use on LANL YMP activities, that no other conditions of this type could be found; and there was no impact on any work performed by LANL YMP. Root cause analysis and actions to prevent recurrence are not necessary since this seems to be an isolated occurrence.

Based on the objective evidence reviewed, this DR is closed.

Hank T. Greene, QAR — Date 9/18/96

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☒ Deficiency Report

NO. YM-96-D-068

PAGE 1 OF 3

QA: L

PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:	2 Related Report No.
QARD, DOE/RW-0333P, Revision 5 / AP-16.1Q, Revision 0	YM-ARC-96-16

3 Responsible Organization:	4 Discussed With:
Los Alamos National Laboratory (LANL)	M. Clevenger

5 Requirement/Measurement Criteria:

QARD, Paragraph 16.1, states in part: "...conditions adverse to quality are promptly identified and corrected as soon as practical."

AP-16.1Q, Paragraph 5.1.1(a), states: "Upon discovering a potential performance condition or deficiency, the Affected Organization completes the Initiator actions on the PR/DR Form.

6 Description of Condition:

Potential conditions adverse to quality have not been promptly documented on the Performance Report (PR) or Deficiency Report (DR) Form.

Examples:

- On May 3, 1996, a Measuring and Test Equipment item was found out of calibration and was not (to date) documented on a PR/DR form by the responsible Principal Investigator or equipment custodian.
- Between the dates April 4 through May 17, 1996, a Quality Assurance Survey (LA-SR-CST-13-96-02) was performed which identified two potential conditions adverse to quality. Neither of these have been documented (to date) on a PR/DR form and processed in accordance with AP-16-1Q, Revision 0.

7 Initiator	9 QA Review
Hank T. Greene Date 7/3/96	QAR Date 7/3/96
10 Response Due Date:	11 QA Issuance Approval
20 Working Days From Issuance	QAR (PR)/AOQAM (DR) Date 7/11/96

12 Remedial Actions:

A review of the system was performed to determine what had transpired during the subject time periods and to evaluate the timeliness of actions.

13 Remedial Actions Response By:	14 Remedial Action Due Date
Date	Date
15 Remedial Action Response Acceptance	16 PR Verification /Closure
QAR Date	QAR Date

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WASHINGTON, D.C.

DR NO. YM-96-D-068
PAGE 2 OF 3
QA: L

DEFICIENCY REPORT

17 Recommended Actions:

Prepare appropriate deficiency documents for those items identified as conditions adverse to quality.

18 Investigative Actions:

The results of our investigation identified conditions during the reivew of documentation of completed work. It was determined that it was not critical to immediately initiate the PR/DR documentation because no work had been performed since March 1996 and no work was being planned which would include the use of the M&TE deficiency to determine if it had a detrimental effect on work performed (see DR #YM-96-D-069). Los Alamos National Laboraotyr (LANL) Yucca Mountian Project (YMP) misunderstood the timeliness of generating a Performance Report/Deficiency Report (PR/DR).

19 Root Cause Determination:

See block 18

20 Action to Preclude Recurrence:

YMP personnel requiring additional training will be identified and trained to AP-16-1Q, where necessary.

21 Response By: Michael J. Clemenger Date 8/9/96	22 Corrective Action Completion Due Date
23 Response Accepted QAR Date 9/18/96	24 Response Accepted AOQAM R Blanchard for Date 9.24.96
25 Amended Response Accepted QAR Date	26 Amended Response Accepted AOQAM Date
27 Corrective Action Verified QAR Date 9/18/96	28 Closure Approved by: AOQAM R Blanchard for Date 9.24.96

Exhibit AP-16.1Q.2

Rev. 07/03/95

PR/DR CONTINUATION PAGE

#18 continued

A "DRAFT" report of Quality Assurance Survey #LA-SR-CST-13-96-2 was given to the auditor for information purposes only, and as such the auditor should not have used this document as a means of identifying a deficiency.

Los Alamos
NATIONAL LABORATORY
memorandum

Earth and Environmental Sciences Division
EES-13–Nuclear Waste Management R&D
Mail Stop J521, Los Alamos, NM 87545
Phone (505) 667-9768 Fax (505) 667-1934

To/MS: YMP Distribution MC
From/MS: M. Clevenger, EES-13, MS J521
Phone/FAX: 5-1454/7-1934
Symbol: EES-13-09-96-1266
Date: September 16, 1996

Prompt Identification of Conditions Adverse or Potentially Adverse to Quality

During a recent DOE YMP audit, two audit findings were issued to LANL YMP because conditions adverse or potentially adverse to quality had not been promptly documented.

This memo is being issued to all LANL YMP personnel as a reminder that any condition that appears to be adverse or potentially adverse to quality should be promptly documented in accordance with DOE AP 16.1Q, "Performance/Deficiency Reporting", or reported to any LANL YMP QA personnel for documentation.

If you should have any questions or need assistance, please do not hesitate to call me at 5-1454 or the QA staff at 7-3221.

MC/fr

Cy:
YMP Distribution List (attached)
EES-13 File, MS J521

YMP Distribution List

Aldrich, M. Jim, EES-1, D462
Bingham, Jerry, EES-13/TRW/LV, J902
Bish, David, EES-1, D469
Bolivar, Steve, EES-13/ER, J521
Boone, Stephanie, CST-7, J514
Bower, Katheryn, EES-5, F665
Brake, Thomas, EES-13/LV, J902
Brenner, Dana, CST-7, J514
Burningham, Andrew, EES-13/LV, J902
Bussod, Gilles, EES-13, J521
Callahan, Tim, EES-4, D443
Cambern, Kathryn, EES-13/LV, J902
Canepa, Julie, EES-13, J521
Carey, James, EES-1, D469
Chipera, Steve, EES-1, D469
Clark, David, CST-10, G739
Clevenger, Michael, ESH-14, J521
Coley, James, LS-7, M888
Cotter, Charles, CST-7, J514
Counce, Dale, EES-1, D469
Crowe, Bruce, EES-13/LV (DOE), J902
Dash, Zora, EES-4, D443
Day, John, LATA, M321
Dinsmoor, John, EES-13/LV, J902
Dixon, Paul, CST-7, J514
Eckhardt, Roger, EES-13, J521
Ekberg, Scott, CST-4, G739
Elkins, Ned, EES-13/LV, J902
Espinosa, Melissa, Albuquerque, NM
Fabryka-Martin, June, CST-7, J514
Friend, John, LATA, J521
Gable, Carl, EES-5, F665
Gallegos, Andy, LATA, J521
Goldie, Roger, ESH-5, K403
Griego, Gene, EES-13/LV (FOC), J900/735
Gundlach, Brad, LATA, J521
Habbersett, Robert, LS-1, M888
Harrington, Charles, EES-1, J521
Hersman, Larry, LS-2, M880
Hollins, James, EES-13/LV, J902
Homuth, Emil, EES-13/LV, J902
Hull, Robert, LATA, M321
Hyer, Diane, EES-13, J521
Janecky, David, CST-7, J514
Kalia, Hemendra, EES-13/LV, J902
Kinter, Kevin, EES-13/LV, J902
Kitten, Jason, CST-7, J514
Klein, Susan, CIS/IS-1, J521
Kluk, Emily, EES-1, D469
Kovach, Richard, EES-13/LV (FOC), J900/735
Kung, Stephen, CST-7, J514
Lemons, Wayne, CST-7, J514
Levy, Schon, EES-1, D462
Lyman, Mike, EES-13, MS J521
Maestas, Diedra, EES-13/LV, J902
Martinez, Eva, EES-13, J521
Martinez, Sandy, LATA, J521
Matthews-Merrit, Barbara, EES-13/LV, J902
McDonald, Lynn, EES-5, F665
Meijer, Arend, GCX Inc., Albuquerque, NM
Mitchell, Alan, EES-13/LV, J902
Morley, Richard, EES-13, J521
Musgrave, John, CST-7, J514
Noell, Alan, CST-7, J514
Oliver, Ronald, EES-13/LV, J902
Padilla, Michelle, CST-7, J514
Perry, Frank, EES-13, J521
Plummer, Mitchell, CST-7, J514
Pokorny, Eugene, EES-13/LV (FOC), J900/735
Reimus, Paul, EES-4, D443
Roach, Jeff, CST-7, J514
Robinson, Bruce, EES-5, F665
Rohrer, Ann, EES-13, J521
Romero, Frieda, EES-13, J521
Ruhala, Jania, EES-13, J521
Rumsey, Roger, BUS-2, J521
Rundberg, Robert, CST-11, J514
Ryan, Andy, EES-13, MS J521
Snow, Marjorie, EES-1, D469
Spoeneman, Joe, EES-13/LV (FOC), J900/735
Staples, Mike, EES-13, J521
Stimson, Shannan, CST-7, J514
Tait, Drew, CST-4, G739
Taylor, Mike, EES-13/LV (FOC), J900/735
Thompson, Alice, EES-13/LV, J902
Trease, Harold, CIC-3, B265
Trease, Lynn, EES-5, F665
Triay, Ines, CST-7, J514
Turin, Jake, EES-5, F665
Valentine, Greg, EES-5, F665
Vaniman, David, EES-1, D462
Vigil, Chanda, EES-13, J521
Ware, Doug, CST-7, J514
Watt, Julie, CST-7, J514
Weaver, Douglas, EES-13/LV, J902
Weaver, Sidney, CST-13, J514
West, Karen, EES-13, J521
Winter, Larry, EES-5, F665
Wolfsberg, Andrew, EES-5, F665
Wolfsberg, Laura, CST-7, J514
Young, Jim, LATA, M321
Zyvoloski, George, EES-5, F665

102 Copies Required

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT U.S. DEPARTMENT OF ENERGY WASHINGTON, D.C.	8 ☐ Performance Report ☑ Deficiency Report NO. YM-96-D-068 PAGE ____ OF ____ QA: L

PR/DR CONTINUATION PAGE

VERIFICATION OF CORRECTIVE ACTION FOR DR YM-96-D-068

Based on review of corrective action taken and LANL memo EES-13-09-96-1266, dated 9/16/96 issued by M. Clevenger, this DR is closed.

The referenced memo was a reminder to all LANL YMP individuals that any condition that appears to be adverse or potentially adverse to quality should be promptly documented in accordance with OCRWM AP 16.1Q or reported to and LANL YMP QA personnel for documentation. This memo adequately emphasized the need for prompt identification and documentation of conditions adverse to quality.

Hank T. Greene, QAR — Date 9/18/96

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

☐ Performance Report
☒ Deficiency Report

NO. YM-96-D-069

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QA: L

PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:	2 Related Report No.
LANL-YMP-96-12.3, Revision 2	YM-ARC-96-16
3 Responsible Organization:	**4 Discussed With:**
Los Alamos National Laboratory (LANL)	M. Clevenger / J. Canepa / *Inez Triay

5 Requirement/Measurement Criteria:

LANL-YMP-QP-12.3, Paragraph 6.6.2.6,

The Principal Investigator (PI) or custodian performs the following:

"If the Measuring and Test Equipment (M&TE) accuracy was out of tolerance before calibration and was used to collect data that is governed by LANL YMP QPs or DPs since its last calibrations, the PI or custodian initiates a Performance Report (PR) or Deficiency Report (DR) in accordance with AP-16.1Q to determine the validity of results obtained."

6 Description of Condition:

On May 3, 1996, M&TE Report for M&TE identifier PN817330 for microbalance C-31 indicated that the instrument was not within tolerance before calibration. Contrary to the requirement, the PI approved the M&TE Report without issuing a PR/DR form. One contributory cause for this deficiency could be the fact that this PI has not received any training on procedure AP-16.1Q.

* Inez Triay is the PI responsible for this M&TE. Numerous attempt were made to discuss this condition adverse to quality with Ms. Triay; however, all were unsuccessful, hence this deficiency was discussed with Ms. Julie Canepa, Laboratory Lead.

7 Initiator	9 QA Review
Hank T. Greene Date 7/3/96	QAR Date 7/3/96
10 Response Due Date:	**11 QA Issuance Approval**
20 Working Days From Issuance	QAR (PR)/AOQAM (DR) tm Date 7/15/96

12 Remedial Actions:

a. Investigated to determine extent.

b. Investigate the impact on previous work performed.

c. Checked to determine if necessary documentation was accurate.

13 Remedial Actions Response By:	14 Remedial Action Due Date
Date	Date
15 Remedial Action Response Acceptance	**16 PR Verification /Closure**
QAR Date	QAR Date

8

DR NO. YM-96-D-069.

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QA: L

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

DEFICIENCY REPORT

17 Recommended Actions:

1. Issue PR/DR in accordance with AP-16.1Q to determine the validity of results obtained. Evaluate extent of deficiency as it pertains to other M&TE.

2. Provide training to appropriate staff members in applicable procedures associated with their responsibilities; i.e., PIs and other employes working to the QA program should have training in AP-16.1Q.

18 Investigative Actions:

The PI was informed that the Cahn Micro Balance C31 PN#817330 was found to be out of tolerance during a schedule calibration check. As a result, an evaluation of the M&TE report was conducted and subsequently the percentage of out-of-califtration was determined (see mathematical determination below).

19 Root Cause Determination:

See block 18.

20 Action to Preclude Recurrence:

During our investigation of this deficiency it was determined that all YMP personnel were current in their training of implemented procedures. However, we will emphasize that all M&TE custodians will train to the current revision of QP-12.3. All M&TE custodians will be advised to contact their Quality Assurance Liaison (QAL) when issues of this nature are identified. The QAL will provide the necessary guidance to ensure the requirements of AP-16.1Q are properly implemented.

21 Response By: Michael J. Clemenger Date 8/9/96	22 Corrective Action Completion Due Date
23 Response Accepted QAR [signature] Date 9/18/96	24 Response Accepted AOQAM [signature] Date 9.24.96
25 Amended Response Accepted QAR Date	26 Amended Response Accepted AOQAM Date
27 Corrective Action Verified QAR [signature] Date 9/18/96	28 Closure Approved by: AOQAM [signature] Date 9.24.96

Exhibit AP-16.1Q.2

Rev. 07/03/95

PR/DR CONTINUATION PAGE

#18 continued

The M&TE custodian then reviewed all work which used measurements from this balance during the out of calibration period. A 2.6% out of calibration condition was found, however, it was determined that this condition did not effect the merit of the data. The PI further determined that none of the experiments should be rejected because of this out of calibration condition.

- The error percentage of 2.6 was determined by dividing the standard weight by the precalibration figure reported on the Calibration Certificate.

STD Wt.	/	Precalibration Reading	Error%
300.017	/	292.24	=2.66%
600.007	/	584.52	=2.64%
900.024	/	876.98	=2.62%
1200.05	/	1168.99	=2.65%

- The data of concern can be found in notebook #TWS-CST-02-94-02 "Dynamic Transport Task. The experiments of concern are Isotherm for CS and PST-1.ISCOL2.XLS, pages E104 through E-165, dated December 12, 1995 and ISCOL2.XLS, pages E-166 through E-200, dated March 1, 1996.

- Since the data was determined to be not affected, an additional DR will not be initiated.

- No similar instances of this type were found.

- The subject balance has been removed from LANL YMP (see Attachment 2)

YM-96-D-069
ATTACHMENT 1

Los Alamos
NATIONAL LABORATORY

Standards & Calibration Laboratory
Mail Stop D478, 667-4864

Calibration Certificate

BALANCE
Cahn C-31
Property No. 817330
Location: TA-48 Bldg. RC-1 Room 341B

File No. 016415

Certified: May 3, 1996
Expires: November 2, 1996

This instrument was calibrated on-site using equipment traceable to national standards. Under normal operating conditions, this item is expected to remain within the stated uncertainty for the duration of calibration interval.

Calibration Results

Instrument Received	Instrument Returned
[ ] In Tolerance	[X] In Tolerance
[X] Other	[ ] Other

Pre calibration data out of tolerance:

Standard Mass File No. 03432	Balance Reading Pre Calibration	Balance Reading Post Calibration
300.017 mg	292.24	300.00
600.007	584.52	600.00
900.024	876.78	900.00
1200.05	1168.99	1200.01

Tolerance

+/- 0.05 milligrams

Calibrated by: Michael A. Salazar MA

Reviewed by: Bernadette L. Salazar BS

Copy to: Jim Young, LATA, Mail Stop D462
ESH-09 File

M&TE REPORT

SECTION I. (PI completes)

1. M&TE Identifier: PN 817330
2. Description: Balance, Cahn; microbalance, C-31
3. Location: TA-48, RC-1, Rm 341-B
4. Capacity/Range: 0-1200 milligram
5. Tolerance Required: 0.05 milligram
6. Calibration Frequency: 6 month
7. Special Handling, Storage, and Maintenance Instructions: Calibrate or verify before/after moving
8. Assigned Custodian: Noell, A., CST (Print name)
9. A nationally recognized reference standard does not exist, and the basis for calibration is as follows: N/A
10. The accuracy of the reference standard equals the required calibration tolerance, and the basis for the calibration acceptance is as follows: N/A

NOTE: PIs signature only required when entering M&TE into Los Alamos YMP control/system or for subsequent changes to the information in SECTION I.

11. PI's: Triay, I. (Print name) _____ (Signature) _____ (Date)

SECTION II. (Calibrator completes, or information provided on separate documentation)

12. Calibration Procedure/Revision No.: LANL-EES13-DP-609, R1
13. Reference Standard Identifier: _____
14. Reference Standard Description: YMP weight set
15. Reference Standard Accuracy: see M&TE file
16. Accuracy before calibration: SEE Attached
17. Accuracy after calibration: SEE ATTACHED
18. ☐ M&TE was within tolerance before calibration. ☐ M&TE has been calibrated within the specified tolerance.
    ☒ M&TE was not within tolerance before calibration. ☐ M&TE could not be calibrated within the specified tolerance.
19. Calibrator: SEE ATTACHED (Print name) SEE ATTACHED (Signature) 5/3/96 (Date) 5/7/96

SECTION III. (PI or Custodian completes)

20. Calibration Status
    - ☐ M&TE calibration checked and within tolerance..
    - ☐ M&TE not used since last calibration.
    - ☐ M&TE not within tolerance required before calibration - DR _____ was initiated.
    - ☑ M&TE removed from Los Alamos YMP this date: 8-23-96 (AN 8-23-96)
    - ☐ M&TE not within tolerance before calibration - not used since last valid calibration.
    - ☐ M&TE's next calibration due date: _____
21. Custodian: Noell, A. (Print name) for Alan (Signature) Ines R Triay 5/3/96 (Date)

LANL-YMP-QP-12.3

Los Alamos
Yucca Mountain Site Characterization Project

YM-96-D-069 ATTACHMENT 2

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

8 ☐ Performance Report
☑ Deficiency Report

NO. YM-96-D-069
PAGE ____ OF ____
QA: L

PR/DR CONTINUATION PAGE

VERIFICATION OF CORRECTIVE ACTION FOR DR YM-96-D-069

Based on review of corrective action taken and LANL M&TE Report for PN 817330, revised 8/23/96, this DR is considered closed.

The corrective action taken has determined that this was an isolated case. Also, the M&TE custodian reviewed all work which used measurements from this balance during the out of calibration period and determining that this condition did not effect the merit of the data. The revised M&TE Report now states that this balance has been removed from LA YMP service on 8/23/96. No additional action is required.

Hank T. Greene, QAR

9/18/96
Date