



Department of Energy  
Washington, DC 20585

QA: L

JAN 30 1997

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for Yucca Mountain Site  
Characterization Project  
U.S. Geological Survey  
1261 Town Center Drive  
Building 4, Room 423, M/S 423  
Las Vegas, NV 89134

ISSUANCE OF DEFICIENCY REPORT (DR) YM-97-D-023 AND PERFORMANCE  
REPORT (PR) YM-97-P-003 RESULTING FROM OFFICE OF QUALITY ASSURANCE  
(OQA) SURVEILLANCE YMP-SR-97-006

Enclosed are DR YM-97-D-023 and PR YM-97-P-003, generated as a result of OQA  
Surveillance YMP-SR-97-006.

Please provide responses to these deficiencies that meet the applicable requirements of  
Administrative Procedure 16.1Q, Performance/Deficiency Reporting. Send the original of your  
responses to Deborah Sult, OQA/QATSS, P.O. Box 98608, Mail Stop 455, Las Vegas,  
Nevada 89193-8608. Responses to the deficiencies are due 20 working days from issuance.  
Extensions to due dates must be requested in writing with appropriate justification prior to the  
due date.

If you have any questions, please contact either James Blaylock at (702) 794-1420 or  
John R. Doyle at (702) 794-1465.

Donald G. Horton, Director  
Office of Quality Assurance

OQA:JB-0754

Enclosure:  
DR YM-97-D-023 and  
PR YM-97-P-003

cc w/encl:  
J. O. Thomas, NRC, Washington, DC  
S. W. Zimmerman, NWPO, Carson City, NV  
T. H. Chaney, USGS, Denver, CO  
Records Processing Center = "5"

cc w/o encl:  
W. L. Belke, NRC, Las Vegas, NV  
J. R. Doyle, OQA/QATSS, Las Vegas, NV  
D. G. Sult, OQA/QATSS, Las Vegas, NV  
R. W. Clark, DOE/OQA, Las Vegas, NV

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

8  Performance Report  
 Deficiency Report  
NO. YM-97-P-003  
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PERFORMANCE/DEFICIENCY REPORT

1 Controlling Document:  
Quality Assurance Requirements and Description (QARD) DOE/RW-033P Revision 5

2 Related Report No.  
YM-SR-97-006

3 Responsible Organization:  
United States Geological Survey

4 Discussed With:  
Martha Mustard, Jon Woolverton

5 Requirement/Measurement Criteria:  
QARD Subsection 16.2.5 "Follow-up and Closure Action" states:  
"The QA organization shall verify implementation of corrective actions taken for all reported conditions adverse to quality and close the related corrective action documentation in a timely manner when actions are complete."  
Remedial Actions to Performance Report (PR) USGS-96-P001, Block 12, item 1, commit to revise Hydrologic Procedure (HP) 56 that "Field Notebooks will be official records in the future. (See HP-56, Revision 4-M1, approved April 15, 1996)."

6 Description of Condition:  
Contrary to the above requirement.  
A review of HP-56, Revision 4-M1, Paragraph 10.0 reveals that "Documents generated by implementing this procedure are non-record materials."  
This is contrary to the remedial actions called out in PR USGS-96-P008, closed out April 15, 1996.

7 Initiator  
John R. Doyle *John R. Doyle* Date 4/15/97

9 Is condition an isolated occurrence?  
 Yes  No  Unknown; Must be Yes if PR

10 Recommended Action: (Not required for PR)  
Revise HP-56 to include Field Notebooks and any other necessary records to be captured as QA Records.

11 QA Review:  
QAR *John R. Doyle* Date 4/15/97

12 Response Due Date  
20 working days from issuance

13 Affected Organization QA Manager Issuance Approval: (QAR for PR)  
Printed Name Donald G. Horton Signature *Donald G. Horton* Date 1/29/97

22 Corrective Action Verified  
QAR Date

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

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

8  Performance Report  
 Deficiency Report  
 NO. YM-97-D-023  
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**PERFORMANCE/DEFICIENCY REPORT**

1 Controlling Document: Study Plan 8.3.1.2.2.4 Revision 3	2 Related Report No. YM-SR-97-006
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3 Responsible Organization: U.S. Geological Survey	4 Discussed With: Pete Striffier, Deborah Edwards; Martha Mustard
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5 Requirement/Measurement Criteria:  
 Study Plan 8.3.1.2.2.4, "Characterization of Yucca Mountain Unsaturated Zone in the Exploratory Studies" Revision 3

Section 3.8.3.1, second paragraph, states in part: "...During sample collection, the sample gas will be pumped at a flow rate of 500-ml./minute."

In addition, Section 3.8.3.1 (2), states in part: "...The second method involves allowing the CO2 gas to flow into a 250-ml. or 500-ml flow-through glass container, 3- or 10-liter Tedlar bags, or 2.1-liter aluminum cylinders."

Section 3.8.3.1, last paragraph, states in part: "...gas sample methods are detailed in technical procedure HP-56."

6 Description of Condition:

Item 1. In accordance with the above study plan, the flow rate measurement during sample collection would be required to be taken to assure a flow rate of 500-ml/min. This would require that calibrated instrumentation be installed. However, technical procedure (HP) YMP-USGS-HP-56, "Gas and Water Vapor Sampling from Unsaturated-Zone Boreholes" Revision 4 Modification 1 Paragraph 2.2.2.2 stipulates that flow meters used for sample collection are not required to be calibrated. As a result, at the present time, samples collected from Borehole ESF-NAD-GTB#1 located in North Ghost Dance Fault Alcove (Alcove #6) of the Exploratory Studies Facility cannot be verified to have been collected at the required flow rate of 500-ml./min.

Item 2. Contrary to requirement 2, CO2 samples collected as a result of Item 1 sampling and CO2 calibration standards utilized for the calibration of Infrared Gas Analyzer (IRGA EGM-1. SN. 155) are collected and transported in rejected Mylar party balloons.

7 Initiator John R. Doyle <i>John R. Doyle</i> Date 1/15/97	9 Is condition an isolated occurrence? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown; Must be Yes if PR
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10 Recommended Action: (Not required for PR)

- \* Perform those remedial actions to correct the deficiencies identified above. (Revise YMP-USGS-HP-56 to conform to Study Plan requirements.)
- \* Investigate to determine the extent of like conditions.
- \* Identify those actions necessary to correct deficiencies found through investigation.
- \* Provide an evaluation as to the validity of data obtained from Measuring and Test Equipment which was not calibrated.
- \* Provide Root Cause determination.
- \* Determine those actions necessary to preclude recurrence.

11 QA Review QAR <i>John R. Doyle</i> Date 1/15/97	12 Response Due Date
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13 Affected Organization QA Manager Issuance Approval: (QAR for PR) Printed Name	Signature <i>[Signature]</i>	Date 1/29/97
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22 Corrective Action Verified QAR	Date	23 Closure Approved by: (N/A for PR) AOQAM	Date
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