



**DEPARTMENT OF ENERGY**  
Office of Civilian Radioactive Waste Management  
Office of Geologic Disposal  
Yucca Mountain Site Characterization Project Office  
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Las Vegas, NV 89193-8608

WBS 1.2.11  
QA

**DEC 17 1993**

Larry R. Hayes  
Technical Project Officer  
for Yucca Mountain  
Site Characterization Project  
U.S. Geological Survey  
101 Convention Center Drive  
Suite 860  
Las Vegas, NV 89109

ISSUANCE OF SURVEILLANCE RECORD YMP-SR-94-012 RESULTING FROM YUCCA MOUNTAIN  
QUALITY ASSURANCE DIVISION (YMQAD) SURVEILLANCE OF U.S. GEOLOGICAL SURVEY  
(USGS) OPERATION OF AIR PERMEABILITY BOREHOLE TESTING PROGRAM AT UZ-16  
(SCP: N/A)

Enclosed is the record of Surveillance YMP-SR-94-012 conducted by the YMQAD at  
the USGS field trailer facility at the location of Borehole UZ-16, Area 25, at  
the Yucca Mountain Site, Nevada, on December 8, 1993.

The purpose of the surveillance was to review implementation of USGS technical  
procedures establishing Methods of Testing air permeability at Borehole UZ-16.

This surveillance is considered completed and closed as of the date of this  
letter.

If you have any questions, please contact either Robert B. Constable at (702)  
794-7945 or Robert E. Harpster at (702) 794-7365.

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:RBC-1254

Enclosure:  
Surveillance Record YMP-SR-94-012

9312300156  
PDR WASTE  
WM-11

PDR

*Add [unclear] to the [unclear]*  
*NH03 11*  
*WM-11*  
*102.7*

Larry R. Hayes

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DEC 17 1993

cc w/encl:

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R. W. Clark, HQ (RW-3.1) FORS  
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Eureka County Board of Commissioners,  
Yucca Mountain Information Office, Eureka, NV  
Lander County Board of Commissioners, Battle Mountain, NV  
Jason Pitts, Lincoln County, Pioche, NV  
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P. A. Niedzielski-Eichner, Nye County, Chantilly, VA  
L. W. Bradshaw, Nye County, Tonopah, NV  
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OFFICE OF  
RADIOACTIVE WASTE MANAGEMENT  
U.S. DEPARTMENT OF ENERGY  
WASHINGTON, D.C.

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

<sup>1</sup>ORGANIZATION/LOCATION:  
USGS/NTS

<sup>2</sup>SUBJECT:  
GAS PEM. IN UZ-16

<sup>3</sup>DATE: 12/08/93

<sup>4</sup>SURVEILLANCE OBJECTIVE:  
Verify compliance with selected portions of USGS technical procedures.

<sup>5</sup>SURVEILLANCE SCOPE: Study Plan 8.3.1.2.2.3  
YMP-USGS-QMP-5.05,R3  
NWM-USGS-HP-241T-R0  
NWM-USGS-HP-247,R0  
NWM-USGS-HP-251,R0  
NWM-USGS-HP-56,R3  
NWM-USGS-HP-271,R0  
NWM-USGS-HP-272,R0

<sup>6</sup>SURVEILLANCE TEAM:  
Team Leader:  
Robert E. Harpster  
Additional Team Members:  
\_\_\_\_\_  
\_\_\_\_\_

<sup>7</sup>PREPARED BY:  
Robert E. Harpster 12/12/93  
Surveillance Team Leader      Date

<sup>8</sup>CONCURRENCE:  
RC Spivey 12/13/93  
QA Division Director      Date

SURVEILLANCE RESULTS

<sup>9</sup>BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:  
SEE ATTACHED - PAGE 2 of 2

<sup>10</sup>SURVEILLANCE CONCLUSIONS:  
SEE ATTACHED - PAGE 2 of 2

<sup>11</sup>COMPLETED BY:  
Robert E. Harpster 12/16/93  
Surveillance Team Leader      Date

<sup>12</sup>APPROVED BY:  
RC Spivey 12/17/93  
QA Division Director      Date

ENCLOSURE

## **<sup>9</sup>BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS**

On December 8 1993, a surveillance was performed of the United States Geological Survey's (USGS) operation of air permeability testing program, field trailer at the UZ-16 borehole location at the Yucca Mountain Site.

The following personnel were contacted during the surveillance:

Gary Le Cain, USGS, Principal Investigator (PI)  
Jon Woolverton, USGS, Quality Assurance Specialist  
Jerry Walker, USGS, Hydrologist

Observations were made at the testing program field trailer as the PI explained the procedures used for air permeability testing.

It was verified during the surveillance that the PI has a commanding knowledge of the instruments, calibration, records and testing methodology. The PI had designed and constructed and/or supervised construction of the testing system.

Specifically observed:

Proper control to temperature in the environment of the electronic equipments. Proper controlling procedures on site verbal verification of training for staff. Existing staff are either testing program designer, constructors or procedure authors. Identifying numbers on instruments and equipment for control, and calibration purposes. Identification of proposed predetermined testing depths and geologic units. Completion of the scientific notebook plan in accordance with procedures.

At time of surveillance no air permeability testing was occurring. However, because of a non operating pressure transducer the packer and testing assembly was removed from the hole for replacement of the transducer. Calibration records were checked for the specific non operating transducer; were found to be in accordance with the requirements.

During the surveillance page numbering and minor additions were made to update the scientific notebook.

## **<sup>10</sup>SURVEILLANCE CONCLUSION:**

Observations made during the surveillance at the air permeability borehole test site verified compliance with selected portions of USGS Technical Procedures. Persons interviewed were qualified and trained for their job assignments. Future surveillances should be made during actual testing, so that the implementation of the methodology could be observed, also the process of the calibration of the mass flow controllers should be witnessed. Within the scope of this surveillance all operations observed are in accordance with the QA program.

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cc w/encl:

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