

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION  
QUALITY ASSURANCE SURVEILLANCE REPORT OF THE  
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
AT DRILL SITE NRG-6  
SURVEILLANCE YMP-SR-93-009  
CONDUCTED DECEMBER 17, 1992

ACTIVITIES SURVEILLED:

FIELD LOGGING, HANDLING, AND DOCUMENTING  
BOREHOLE SAMPLES

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Date: 1/11/93

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Date: 1/11/92

Approved by:  For  
Donald G. Horton  
Director  
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Date: 1/20/93

## 1.0 EXECUTIVE SUMMARY

This report contains the results of the Office of Civilian Radioactive Waste Management (OCRWM) Quality Assurance (QA) Surveillance YMP-SR-93-009. This surveillance was conducted on December 17, 1992, at the drill site borehole NRG-6 to assess compliance to the procedural requirements of Branch Technical Procedure BTP-SMF-008, Revision 3, Interim Change Notice 1, "Field Logging, Handling and Documenting Borehole Samples." This investigation revealed that thorough and meticulous care is exercised in the characterization, identification and general handling of the core and subsequent core samples. No Corrective Action Requests were generated as a result of this surveillance.

## 2.0 SCOPE

Surveillance YMP-SR-93-009 was performed on December 17, 1992 to assess the procedural implementation and compliance to the requirements of BTP-SMF-008. The purpose of this procedure is to define the method by which borehole samples and specimens at surfaced-based borehole sites will be documented, handled, logged, photographed and packaged as part of the Yucca Mountain Site Characterization Project (YMP). It applies to Drilling Support (DS) staff of the Sample Management Department.

## 3.0 SURVEILLANCE TEAM

Fred H. Lofftus, Quality Assurance Engineer, Yucca Mountain Quality Assurance Division (YMQAD), Surveillance Team Leader

Cynthia H. Prater, Quality Assurance Specialist, YMQAD

The surveillance team collaborated on all aspects of the surveillance. There was no specialization by team members.

## 4.0 PERSONNEL CONTACTED

Claude G. Scroggins, SAIC, Shift Supervisor  
Mark D. Edwards, SAIC, Geologist  
Christopher J. Hermes, SAIC, Geologist  
Stephen M. Webber, SAIC, Senior Geologist  
Diane Y. Hattler, SAIC, Senior Geologist

## 5.0 SURVEILLANCE RESULTS

This surveillance was performed to assess compliance to procedural requirements of BTP-SMF-008 as they pertain to the field logging, handling and documentation of borehole cores, as part of the study to characterize the Yucca Mountain site. This surveillance was conducted at the surface-based drill site of borehole NRG-6 on December 17, 1992.

Upon reaching the drill site, the Surveillance Team learned that core from Run 42 had been pulled and the remainder of the shift would be spent reaming the hole. The DS staff had taken custody of the core from Run 42 and was currently processing it in the DS logging trailer.

The core was laid out in a polystyrene bed parallel to a scale marked in 0.1-foot intervals. The recovered core measured 4.6 feet in length and started at a depth of 119.7 feet and ended at 124.3 feet which matched the core from the previous run. The method and manner in which the core was laid out on the logging table allowed the team to observe the lithologic and structural logging, videotaping, and packaging of the borehole sample. The team verified that this had been done in compliance with BTP-SMF-008, Steps 4 through 22. Steps 23 through 25 pertain to the completion of the Field Specimen Removal Checklist and Contract form and were not applicable to this core run.

At the request of a U.S. Geologic Survey Principal Investigator (PI), a specimen was removed from the sample per a posted letter in the logging trailer (reference: letter dated November 17, 1992, Robert W. Craig to John H. Peck). The team verified that the handling and packaging of the specimen was in accordance with the written instructions from the PI and BTP-SMF-008, Steps 7 and 8.

The team verified that the preparation for shipment of Run 42 to the Sample Management Facility was in compliance with Steps 26 through 28. The temporary storage of the sample and specimen was also in compliance with the requirements of BTP-SMF-008, Step 34.

The team verified that entries made in the Daily Activities Log were legible and concise (Step 36) and that the requirements in Steps 37 through 39 were completed.

It should be noted that the manner in which the core was laid out, marked for orientation, identified for specimen removal, artificial breaks, etc., is an indication of the thorough, meticulous care taken by the DS staff to assure the integrity of the resulting data. Cooperation given to the writers in the performance of this surveillance was excellent.

## 6.0 RECOMMENDATION

It is recommended that personnel qualifications of individuals contacted during this surveillance be examined during the next audit.

Administrative Procedure AP-6.4Q, Revision 2, Step 2, Note, requires that the PI attach a letter to the Specimen Removal Request explaining any special handling requirements. It is recommended that the requirement to provide special instructions that pertain to the disposition of samples, not be handled with a letter. Two possible suggestions are: 1) require PIs to complete a form, which is part of AP-6.4Q, that provides special instructions for handling, storage and shipping of samples; or 2) include the special instructions in the Test Planning Package.