

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION  
QUALITY ASSURANCE SURVEILLANCE REPORT OF  
THE YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE  
AT DENVER, COLORADO

SURVEILLANCE NO. YMP-SR-93-011

CONDUCTED JANUARY 13 THROUGH 15, 1993

ACTIVITIES SURVEILLED:

SCP ACTIVITY 8.3.1.2.2.6.1

GASEOUS PHASE CIRCULATION STUDY

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**1.0 EXECUTIVE SUMMARY**

During YMP Audit YMP-92-13 of the U. S. Geological Survey, SCP Activity 8.3.1.2.2.6.1 was found to be deficient in implementing quality assurance requirements. The YMQAD audit team did not initiate a CAR since a USGS audit team had initiated USGS CAR 92-04 to document the deficiencies found during USGS Audit No. USGS-92-02. The YMQAD performed this surveillance to follow up on the USGS verification and closure of USGS CAR 92-04. The surveillance was conducted in Denver, Colorado from January 13 to 15, 1993.

No deficiencies were identified during the surveillance. The surveillance team concurs with the actions taken during the verification and closure of USGS CAR 92-04.

**2.0 PURPOSE AND SCOPE**

The purpose of the surveillance was to review closure of USGS CAR 92-04 and verify implementation/corrective action taken for Program Elements 3, 5, 8, and 12, which were deemed inadequate/ineffective in SCP activity 8.3.1.2.2.6.1 during the USGS audit. Program Element 2, Training, was also verified for the PI and technical supporting staff that are scheduled to resume the activity.

**3.0 Surveillance Team**

James Blaylock - Surveillance Team Leader  
Keith K. Kersch - Technical Specialist

John Buckley of the U.S. Nuclear Regulatory Commission observed the surveillance.

**4.0 Personnel Contacted During Surveillance**

**Primary Contacts:**

Dave Appel	USGS	Chief HIP
Martha Mustard	USGS	Hydrologist
Michael Chornack	USGS	Hydrologist (Acting PI)
Alice Lykins	USGS	QA Specialist
Jon Wolverton	USGS	HIP QA Specialist

**Incidental Contacts:**

Ardele Whiteside	SAIC
Darrell Porter	SAIC
Larry Hayes	USGS
Dwight Hoxie	USGS
Jim Ziemba	SAIC
Ed Weeks	USGS

## 5.0 Surveillance Results

The surveillance focused on training and qualification of technical staff, Management Agreements for technical staff not directly reporting to the Technical Project Officer, data issues to include calibration and standards, and vendor qualification.

The current Principal Investigator (PI) for SCA 8.3.1.2.2.6.1, Gaseous Phase Circulation Study, is Michael Chornack. Technical supporting staff includes E. Weeks, D. Thorstenson, and H. Haas.

Training and qualification documentation was verified for the four individuals identified above. Qualification and training documentation for three of the four individuals was complete. Documentation of Training for H. Haas consists only of orientation types of training. Management and technical procedural training needs to be completed prior to Dr. Haas performing quality affecting work. USGS management will also review the training for all individuals prior to resumption of field sample/data collection activities to assure that such training is comprehensive. The surveillance team determined that the PIs training was comprehensive and suggested to USGS management that supporting technical staff training should be as comprehensive, consistent with the technical staff member's support role.

Two Management Agreements (MA) have been executed in support of this activity. The MA for E. Weeks covers the period November 10, 1992 through September 30, 1993 and was executed between the USGS YMP and the Water Resources Division (WRD). Likewise, an MA for D. Thorstenson was executed with National Research Program (NRP) for the time period June 1, 1992 through May 31, 1994. The MAs were concise with respect to the areas of expertise each individual was bringing to the investigation.

The last issue is that of data collected during calendar year 1991. As part of the verification of USGS CAR 92-04, a determination was made that the data was unqualified. This made moot the calibration and standards deficiencies identified in the CAR.

USGS has taken steps to prevent problems with the activity in the future. The Southern Methodist University (SMU) Carbon Laboratory was qualified and added to the USGS Vendor List, although the Carbon Laboratory may move from SMU in the near future. Dr. Haas is the Director of the Carbon Laboratory and a part-time USGS employee. The USGS acknowledged that the laboratory will have to be requalified if and when it moves from SMU.

Two Technical Data Information Forms (TDIF) were generated for the unqualified data. These forms were dated December 8, 1992 and December 9, 1992 and explicitly state that the data is to be used in the future only as corroborative data to the new data that will be collected with the resumption of this activity. This satisfactorily addressed an element of USGS CAR 92-04.

**6.0 RECOMMENDATION**

The training of the PI was comprehensive and appeared complete. The PI is responsible for the implementation of quality assurance requirements during the collection, analysis, and publication of activity results. The surveillance team recognized that the activity has not resumed and that some training needs to be completed. USGS management needs to consider the comprehensiveness of the training required of technical staff below the PI level.

The QA Program has no requirement applicable to raw data or unqualified data. The surveillance team believes minimal controls to include knowledge of distribution and identified constraints associated with data use should be documented.