

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR AUDIT YMP-95P-04

OF

UNITED STATES GEOLOGICAL SURVEY

DENVER, COLORADO

DECEMBER 5 THROUGH 9, 1994

Prepared by:



Date: 11-3-94

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Audit Team Leader
Yucca Mountain Quality Assurance Division

Approved by:



Date: 11/7/94

Donald G. Horton
Director
Office of Quality Assurance

1.0 SCOPE

This performance based audit of United States Geological Survey (USGS) will be a limited scope audit, performed by a team of auditors from the Yucca Mountain Quality Assurance Division (YMQAD) and a technical specialist. The audit team will evaluate the effectiveness of selected processes, and the quality of the resultant products identified in Section 4.0 of this plan and will include a program evaluation of QA Program Elements 5.0, 12.0, 16.0, and 18.0.

2.0 AUDIT SCHEDULE

Pre-audit Team/Observer Meeting	8:30 a.m., December 5, 1994 Denver, Colorado
Pre-audit Conference	9:00 a.m., December 5, 1994 Denver, Colorado
Audit Activities	10:00 a.m. to 4:00 p.m. December 5, 1994
	8:00 a.m. to 4:00 p.m. December 6 through 8, 1994
	8:00 a.m. to 11:30 a.m. December 9, 1994
Post-audit Conference	2:00 p.m., December 9, 1994 Denver, Colorado

There will be a daily YMQAD Audit Team/Observer meeting at 4:00 p.m. and also a daily Audit Team Leader (ATL)/Observer/USGS management meeting starting at 8:15 a.m. to discuss potential deficiencies and establish needed liaison.

3.0 REQUIREMENTS TO BE AUDITED AND APPLICABLE REFERENCES

The requirements to be audited will be contained in a performance based checklist. This checklist will be developed from the latest available revision of USGS's approved and issued QA Program procedures, study plans, technical procedures and performance objectives established and agreed upon with the USGS.

The conduct of the audit will be guided by the documents (latest revision) listed below:

- Quality Assurance Procedure (QAP) 18.2, "Audit Program"
- QAP 16.1, "Corrective Action"

4.0 ACTIVITIES TO BE AUDITED

The audit team will evaluate the effectiveness of the following activities in meeting program requirements and management commitments and expectations.

- 1) Collection, traceability, and submittal of data related to air permeability studies (WBS No. 1.2.3.3.1.2.3).
- 2) Development and control of 3-D model of the unsaturated zone including use of air permeability data as input (WBS No. 1.2.3.3.1.2.9).

The products resulting from the above processes that have been selected for evaluation are air permeability data and the 3-D model of the unsaturated zone including associated software.

The evaluation of process effectiveness and product acceptability will be based upon:

- 1) Proper implementation of the critical process steps;
- 2) Use of trained and qualified personnel working effectively;
- 3) Documentation that substantiates quality of the products; and
- 4) Acceptable results and quality of the products.
- 5) QA Program Elements:
 - 5.0 Implementing Documents
 - 12.0 Measuring and Test Equipment
 - 16.0 Corrective Action
 - 18.0 Audits

5.0 AUDIT TEAM MEMBERS

Richard L. Maudlin, YMQAD, Las Vegas, Nevada, ATL
Robert L. Howard, YMQAD, Las Vegas, Nevada, ATL-in-Training
Kenneth O. Gilkerson, YMQAD, Las Vegas, Nevada, Auditor
Donald J. Harris, YMQAD, Las Vegas, Nevada, Auditor
Charlie C. Warren, YMQAD, Las Vegas, Nevada, Auditor
James Blaylock, U.S. Department of Energy, YMQAD, Las Vegas, Nevada, Auditor
Technical Specialist (TBD)

6.0 AUDIT CHECKLISTS

The following checklists will be used during the audit:

YMP-95P-04-01, Performance Based Checklist
YMP-95P-04-02, Technical Checklist