

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

QUALITY ASSURANCE AUDIT PLAN

FOR AUDIT NO. YMP-93-01

OF

U.S. GEOLOGICAL SURVEY

DENVER, COLORADO

OCTOBER 19 THROUGH 23, 1992

Prepared by: Kenneth T. McFall Date: 9/10/92
Kenneth T. McFall
Audit Team Leader
Yucca Mountain Quality Assurance Division

Approved by: D. G. Horton Date: 9/11/92
Donald G. Horton
Director
Office of Quality Assurance

1.0 SCOPE

This audit, performed by a team of auditors from the Yucca Mountain Quality Assurance Division (YMQAD), will evaluate the U.S. Geological Survey (USGS) Quality Assurance (QA) Program to determine whether it meets the requirements and commitments imposed by the Office of Civilian Radioactive Waste Management. This will be done by verifying implementation and effectiveness of the system in place, as well as verifying compliance with requirements.

In addition to a follow-up on any open Corrective Action Requests (CARs), a representative sample of deficiencies identified during previous QA audits and surveillances of USGS will be included in the scope of this audit to determine the effectiveness of USGS corrective actions.

The programmatic and technical elements to be audited, as well as those programmatic elements not included in this audit, are identified in Section 4.0 of this plan.

2.0 AUDIT SCHEDULE

Pre-Audit Team/Observers Meeting	8:30 a.m., October 19, 1992 Denver, Colorado
Pre-Audit Conference	9:00 a.m., October 19, 1992 Denver, Colorado
Audit Activities	10:00 a.m. to 4:00 p.m. October 19, 1992
Audit Activities	8:15 a.m. to 4:00 p.m. October 20 - 22, 1992
Audit Activities	8:15 a.m. to 10:00 a.m. October 23, 1992
Post-Audit Conference	11:00 a.m., October 23, 1992 Denver, Colorado

There will be a daily YMQAD audit team/observer caucus meeting starting at 4:15 p.m. and also a daily Audit Team Leader/observer/USGS 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 the programmatic and technical checklists. These checklists will be developed from the latest available revision of the following documents:

- o USGS Quality Assurance Program Description Document and implementing procedures
- o Applicable Yucca Mountain Site Characterization Project Office Administrative Procedures-Quality

The conduct of the audit will be guided by the documents listed below:

- o Quality Assurance Administrative Procedure (QAAP) 18.2, Revision 5, "Audit Program"
- o QAAP 16.1, Revision 4, "Corrective Action Requests"

4.0 ACTIVITIES TO BE AUDITED

Programmatic Elements

- 4.0 Procurement Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Materials, Parts, and Components
- 15.0 Nonconforming Materials, Parts or Components
- 19.0 Software Quality Assurance
- 20.0 Scientific Investigations*

The following programmatic elements were considered during development of this audit scope and determined to be not applicable since USGS currently has no activities for which these elements apply:

- 10.0 Inspection
- 11.0 Test Control
- 14.0 Inspection, Test, and Operating Status

* For the purposes of this audit, Program Element 3.0 will be combined with Program Element 20.0.

Technical Areas

- 8.3.1.2.2.7.1 Gaseous-Phase Chemical Investigations
- 8.3.1.2.2.7.2 Aqueous-Phase Chemical Investigations
- 8.3.1.4.2.1.1 Stratigraphic Studies
- 8.3.1.4.2.2.1 Geologic Mapping of Zonal Features
- 8.3.1.14.2 Studies to Provide Soil and Rock Properties of Potential Locations
of Surface and Subsurface Access Facilities
- 8.3.1.2.3.1.2 Site Potentiometric-Level Evaluation
- 8.3.1.2.3.1.3 Analysis of Single and Multiple-Well Hydrologic Stress

If the audit team identifies a need to verify additional program elements/technical areas during the audit, they will be added to the audit scope and verified accordingly.

5.0 AUDIT TEAM MEMBERS

Kenneth T. McFall, Audit Team Leader, YMQAD, Las Vegas, Nevada
Richard L. Maudlin, Auditor, YMQAD, Las Vegas, Nevada
Thomas J. Higgins, Auditor, YMQAD, Las Vegas, Nevada
Cynthia H. Prater, Auditor, YMQAD, Las Vegas, Nevada
James Blaylock, Auditor, YMQAD, Las Vegas, Nevada
Robert E. Harpster, Lead Technical Specialist, YMQAD, Las Vegas, Nevada
Keith M. Kersch, Technical Specialist, SAIC, Las Vegas, Nevada
Thomas W. Bjerstedt, Technical Specialist, YMPO, Las Vegas, Nevada

6.0 AUDIT CHECKLIST

The following checklists will be used to perform the audit:

- YMP-93-01-01, Programmatic Checklist
- YMP-93-01-02, Technical Checklist