

QAAOR1  
6/27/88

QA AUDIT OBSERVATION REPORT  
WMPO AUDIT # 88-04  
U.S. GEOLOGICAL SURVEY  
JUNE 8 - 17, 1988

SUMMARY

The audit team, under the direction of Mr. Henry Caldwell conducted the audit in a professional, organized, and knowledgeable manner. This is especially commendable since, in addition to their normal audit responsibilities, the team also dealt courteously and effectively with the dozen or so assigned observers during the audit.

The programmatic and technical aspects of the USGS QA program were audited. The QA auditors and technical specialists performed their investigations in accordance with written check lists for each programmatic and technical area audited. The conclusions reached were based on a solid foundation of facts. Details of the audit are as follows:

a) Activities Audited

The programmatic elements audited included criteria 1 through 8, 10 through 13, and 15 through 18. Technical areas included SIP's 3343G-01, 3331G-01, 3370G-02, 3333G-03, and 3310G-01. See attachment # 1, audit plan, for additional details as to the scope of the audit.

b) Audit Team Preparation

Individual audit notebooks were issued to each auditor, technical specialist and observer. The contents of the notebook included the audit plan, audit team assignments, detailed programmatic and technical audit checklists, blank standard deficiency report forms and the USGS QA Program Plan. Related USGS QA administrative and technical procedures were also available for use during the audit. A checklist for HQ observation of WMPO QA audits was also included in the audit notebooks and a completed copy is attachment # 2 to this report.

c) Pre-Audit Conferences

Pre-audit conferences were held on June 9 at the USGS facilities at the Nevada Test Site and on June 13 at the USGS Offices in Denver, Colorado. The audit team leader identified, to USGS, the

scope and objectives of the audit, introduced the audit team members, including observers, and established lines of communication between the audit team and USGS.

d) Audit Activities

The audit team began the audit at the USGS Test Site Facilities on June 9 and 10, and resumed the audit at the USGS offices in Denver on June 13. During the audit, the observers were afforded the opportunity to address their questions to the auditee through the WMPO auditors and technical specialists. Inquiry forms, attachment # 3 were provided for this purpose.

In-depth caucuses were conducted by the audit team leader at the conclusion of each day's audit activities to monitor the progress of the audit and to establish a schedule for the next day's activities. The observers were included in the daily caucuses. After each daily team caucus, the audit team leader met with USGS management to keep them progressively informed of deficiencies/observations as they were identified.

On Thursday, June 16, the audit team leader determined that the programmatic portion of the audit could not be completed on June 17 as scheduled and advised USGS that the programmatic portion of the audit would be continued into the next week resuming on Tuesday, June 21.

e) Post Audit Conferences

On June 17, the audit team leader conducted a conference with USGS to provide them with a status report of the findings and observations identified to date and to officially advise USGS that the audit had not been concluded and would be continued into the following week. A post audit conference will be conducted at the conclusion of the audit.

The NRC observers requested the WMPO audit team leader to arrange separate meetings of the NRC with the USGS and the WMPO audit team. The purpose of these meetings was for the NRC observers to convey their conclusions regarding the audit. Both meetings were held prior to the audit team's conference with the USGS described above.

The NRC meeting with USGS was open to the audit team and observers. At this meeting the NRC expressed their concerns over the status of development and implementation of the USGS QA program. Additional work was needed by the USGS before the NRC

could accept the QA program. NRC representatives noted a favorable change of attitude by some USGS scientific personnel toward the QA program and noted that the scientific personnel interviewed during the audit appeared to have "bought - into" the QA program.

Following their meeting with the USGS, the NRC met privately with the audit team and observers. The NRC expressed satisfaction with the way the audit team conducted the audit but expressed concern that the check lists used during the audit were too programmatic and compliance oriented. The NRC encouraged WMPO to be structuring future audit checklists to evaluate the effectiveness of the QA program in addition to compliance. The NRC acknowledged that, at the current stage of development and implementation of the USGS QA program, compliance audits are in order but as the QA program matures more emphasis should be placed on auditing to determine how effective the QA program is in controlling the quality of activities.

f) Conclusions

Since the audit was not completed on June 17 as scheduled, and since the CER representative did not observe the conclusion of the audit, it is premature to express final conclusions as to the results of the audit. It was noted however that much work is needed by the USGS especially in the implementation of the QA program before WMPO can conclude that an acceptable QA program is in place and being implemented. Evidence of this surfaced when it was noted that required procedure revisions and instrument calibrations were accomplished a week or less before the audit was scheduled to begin.

As stated in the summary on page 1 of this report, the audit was effectively conducted. The following recommendations are provided to assist WMPO in making even further improvements to their audit program.

- o The audit team organization employed for the first time during this audit, and described in attachment # 4, was very effective and should be retained for future audits of major program participants including WMPO internal audits.
- o The audit check lists should be reviewed both for length and content. In some cases the check list was too detailed and lengthy.

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- o It was noted that the auditors who worked in pairs were able to get into more depth in investigating problem areas than those who worked alone. Auditors should work in pairs, to the extent practical. This is especially true under the conditions where audit team observers and representatives of the auditee may outnumber the auditor by as much as 8 to 1.

g) Postscript

A telephone conversation with the WMPO lead auditor, Henry Caldwell, on 6/27/88 disclosed that the audit team identified a total of 22 deficiencies in the USGS QA program. These are reported in standard deficiency reports (SDR's). 5 SDR's were severity level 1, 15 in severity level 2 and 2 in severity level 3. Chiefly because of the 5 SDR's in severity level 1, Henry stated that the audit team is recommending to WMPO Project Management that a stop work order be issued on USGS.

VMPO QUALITY ASSURANCE AUDIT PLAN

AUDIT 88-04

8 - 17 June 1988

1.0 Purpose and Scope

The purpose of this audit is to evaluate the effectiveness of the U. S. Geological Survey (USGS) Quality Assurance Program Plan (QAPP) with respect to the requirements of NNWSI NVO-196-17, Revision 5, and to verify the implementation of the Quality Assurance Program as it relates to the NNWSI Project.

2.0 Organization To Be Audited

U. S. Geological Survey (USGS)  
\* NTS Mercury, Nevada  
\* Denver, Colorado

3.0 Audit Schedule

Pre-Audit Team Meeting(1)	2:00p.m.	3 June 1988	Las Vegas, NV
Pre-Audit Team Meeting(2)	1:30p.m.	8 June 1988	Las Vegas, NV
Nevada Test Site(NTS)Entrance	9:00a.m.	9 June 1988	Mercury, NV
NTS Audit Activities	8:30a.m. - 4:30p.m.	10 June 1988	Mercury, NV
Pre-Audit Conference	9:00a.m.	13 June 1988	Denver, CO
Audit Activities	8:30a.m. - 4:30p.m.	14-16 June 1988	Denver, CO
Post-Audit Conference	10:00a.m.	17 June 1988,	Denver, CO

4.0 Requirements To Be Audited & Applicable References

The requirements to be audited are contained in the programatic and technical checklists. These checklists were developed from the following documents:

- \* NNWSI NVO-196-17, Rev. 5
- \* USGS QAPP and Implementing Procedures

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

- \* VMPO QMP 18-01 Rev 2
- \* VMPO QMP 16-03 Rev 1
- \* DOE Procedure on Observer Protocol
- \* NRC Draft QA Procedure For Observing DOE/OGR ELWR Program Audits
- \* DOE/EQ(OGR) Observation of VMPO Quality Assurance Audits (DRAFT)
- \* Objectives For The Technical Phase of The Quality Assurance Audit
- \* NNWSI Audit Observer Inquiry Rev 0, May 1988

5.0 Activities To Be Audited

The activities to be audited during this audit include:

Audit Plan 88-04

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Programmatic Elements:

- 1.0 Organization
- 2.0 Quality Assurance Program
- 3.0 Scientific Investigation and Design Control
- 4.0 Procurement Document Control
- 5.0 Instructions, Procedures and Drawings
- 6.0 Document Control
- 7.0 Control of Purchased Items and Services
- 8.0 Identification and Control of Items, Samples and Data
- 10.0 Inspection(Surveillances)
- 11.0 Test Control
- 12.0 Control of Measuring and Test Equipment
- 13.0 Handling, Shipping and Storage
- 15.0 Control of Nonconforming Items
- 16.0 Corrective Action
- 17.0 Quality Assurance Records
- 18.0 Audits

Technical Areas:

SIPs: 3343G-01, 3331G-01, 3370G-02, 3233G-03, & 3310G-01

<u>ACTIVITY</u>	<u>TITLE</u>
8.3.1.2.2.3.2	Site Vertical Borehole Studies(UZ-1 Monitoring)
8.3.1.2.3.1.2	Site Potentiometric-Level Evaluation
8.3.1.5.2.1.5	Studies of Calcite and Opaline Silica Vein Deposits
8.3.1.17.4.1.2	Monitor Current Seismicity
8.3.1.2.1.2.1	Surface-Water Runoff Monitoring
8.3.1.2.1.2.2	Transport of Debris by Severe Runoff

6.0 Audit Team Members

Henry E. Caldwell	Audit Team Leader	SAIC, Las Vegas, NV
Daniel A. Klimas	Lead Auditor	SAIC, Las Vegas, NV
James E. Clark	Auditor Trainee	SAIC, Las Vegas, NV
Stephen P. Hans	Auditor	SAIC, Las Vegas, NV
Robert H. Klemens	Auditor	SAIC, Las Vegas, NV
Vendell B. Mansel	Auditor	DOE/VMPO, Las Vegas, NV
Steven P. Nolan	Auditor	SAIC, Las Vegas, NV
David Cummings	Lead Technical Specialist	SAIC, Las Vegas, NV
S. J. Chern	Technical Specialist	SAIC, San Diego, CA
Keith M. Kersch	Technical Specialist	SAIC, Las Vegas, NV
Jerry L. King	Technical Specialist	SAIC, Las Vegas, NV
Steven R. Mattson	Technical Specialist	SAIC, Las Vegas, NV
WILLIAM CAMP	AUDITOR	SAIC, LAS VEGAS, NV.

Requirements of WMPO QMP-18-01, Revision 1

1. Sect. 3.4 ... Is the audit team leader certified to develop and perform an audit, report audit findings, and to follow-up and evaluate corrective actions? **YES. HENRY CALDWELL. HIS QUALIFICATIONS WERE EXAMINED DURING THE ASSESSMENT OF SAIC'S AUDIT PROGRAM PERFORMED BY CER MAY**
2. Sect. 4.1.6 Are conditions adverse to quality evaluated and reported on Standard Deficiency Reports (SDRs) per QMP-16-03? **YES**
3. Sect. 5.2.2 Are the requirements of this section met?
4. Sect. 5.3.1 Was a pre-audit conference held per this section? **YES**
5. Sect. 5.4.1 Were pre-prepared audit checklists used in the conduct of the audit? **YES. CHECK LISTS WERE VERY LENGTHY**
6. Sect. 5.4.1 Is objective evidence examined and documented for compliance with the checklist requirements? **YES**
7. Sect. 5.4.1.1 Is each "not applicable" or "not audited" entry on the checklist explained? **YES**
8. Sect. 5.4.1.2 Is reference to specific deficiencies noted on the checklist by documenting the sequential number of the SDR rough draft (or number of the observation)? **YES**
9. ARE THE LEAD TECHNICAL SPECIALISTS AND TECHNICAL SPECIALISTS REQUIRED TO BE QUALIFIED AS AUDITORS OR LEAD AUDITORS? NOT AS AUDITORS QUALIFICATION REQMTS PER QMP 02-02.
10. WHEN TECHNICAL SPECIALISTS IDENTIFY DEFICIENCIES WHO PREPARES THE SDR. THIS CAN BE THE SDR &

HQ OBSERVATION OF WMPO QUALITY ASSURANCE AUDITS

Audit No. 88-04  
Audited Organization USGS  
and Location LAS VEGAS / DENVER  
Date of Audit 6/8 - 6/17/88  
Observer E.W. SOLEK

General Observation Areas

1. Was the content of the Audit Plan and Checklist adequate?  
AUDIT PLAN - YES  
CHECKLISTS - TOO DETAILED TO PROVIDE FLEXIBILITY  
TO THE AUDITOR
2. Did the audit team have adequate knowledge of the audited organization (i.e., scope of work, procedures, policies, etc.)?  
YES
3. a) If appropriate, were technical areas as well as QA programmatic areas audited? b) Was the extent and depth of review of the technical areas adequate? c) Were the technical specialists knowledgeable in the areas being audited?  
a) YES b) YES c) YES, EXCEPTIONALLY SO.
4. Were known problem areas identified from previous audits investigated?  
YES. AUDITOR BILL CAMP HAS A LIST OF SDR'S  
TO VERIFY ADEQUACY OF CORRECTIVE ACTION.
5. Was the scope of the audit clearly presented to the audited organization?  
CLEARLY PRESENTED AT THE PRE AUDIT MEETINGS AT SITE  
IN LAS VEGAS AND EXTREMELY WELL PRESENTED AT THE  
PRE-AUDIT MEETING IN DENVER.
6. Were the audit results clearly communicated to the audited organization?  
YES, IN DAILY MEETINGS AND IN POST AUDIT  
CONFERENCES.
7. Did the auditor obtain commitments from the audited organization to correct noted discrepancies?  
NOT DURING THE PERIOD OBSERVED BY CER  
BUT AUDIT HAD NOT BEEN CONCLUDED
8. If applicable, were all 18 criteria of 10CFR50, Appendix B covered?  
YES. ALL BUT CRITERIA 9 & 14 WHICH WERE NOT  
NOT APPLICABLE TO USGS.



Attachment # 4

WMPO QUALITY ASSURANCE AUDIT TASK ORGANIZATION

WMPO  
PROJECT MANAGER

WMPO  
PROJECT QUALITY  
MANAGER

AUDIT MANAGER

AUDIT TEAM (1)  
LEADER

LEAD TECHNICAL (2)  
SPECIALIST

LEAD AUDITOR (3)

TECHNICAL (4)  
SPECIALIST

AUDITORS (5)

- (1) o Responsible for the overall planning, conduct, and reporting of audits.
- o Reports to manager of audits on administrative and operational matters.
- o Is in charge of the audit team from activation to deactivation.
- (2) o Responsible to the audit team leader for the planning, preparation, and conduct of the technical phase of the audit (see "objectives" attached).
- o Directs the activities of assigned technical specialists in accordance with the guidelines set forth in audit plans and associated checklists.