



QA: QA

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Science & Engineering Testing  
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1180 Town Center Drive  
Las Vegas, NV 89144

**BECHTEL SAIC COMPANY, LLC (BSC) QUALITY ASSURANCE (QA) SURVEILLANCE  
REPORT BSCQA-02-S-18 OF ALCOVE 8 TESTING ACTIVITIES, ENHANCED  
CHARACTERIZATION OF THE RESPOSITORY BLOCK**

Enclosed is the Surveillance Report BSCQA-02-S-18, conducted by BSC QA on March 27 through April 11, 2002, at the Yucca Mountain Site Characterization Project Site and the U. S. Geological Survey (USGS), Summerlin, Las Vegas office.

The purpose of the surveillance was to evaluate implementation of selected requirements identified in Administrative Procedure AP-12.1Q, *Control of Measuring and Test Equipment and Calibration Standards*, and AP-SIII.1Q, *Scientific Notebooks*.

The surveillance resulted in the issuance of Quality Observation USGS(B)-02-O-008 identifying that contrary to AP12.1Q, Revision 1, ICN 1, Section 5.1.6, entries to the Scientific Notebook were not being made within the next business day or work day.

This surveillance is considered complete and closed as of the date of this letter. A response to this surveillance record is not required.

If you have any questions, please contact either Richard L. Weeks at (702) 295-0629 or John S. Martin at (702) 295-2832.

A handwritten signature in black ink that reads 'D. T. Krishna'.

Donald T. Krishna, Manager  
Quality Assurance

A handwritten date '5/9/02' written in black ink over a horizontal line.

Date Signed

RFH:bw-0509022592

Enclosure:  
Supplier Surveillance Report BSCQA-02-S-18

WM-11  
NM5507

May 9, 2002

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cc w/encl:

L. H. Barrett, DOE/HQ (RW-2) FORS  
G. K. Beall, BSC, Las Vegas, NV  
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Alan Kalt, Churchill County, Fallon, NV  
D. T. Krisha, BSC, Las Vegas, NV  
Josie Larson, White Pine County, Ely, NV  
Robert Latta, NRC, Las Vegas, NV  
R. R. Loux, State of Nevada, Carson City, NV  
S. W. Lynch, State of Nevada, Carson City, NV  
George McCorkell, Esmeralda County, Goldfield, NV  
S. P. Mellington, DOE/YMSCO, Las Vegas, NV  
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Ram Murthy, DOE/OQA, Las Vegas, NV  
Irene Navis, Clark County, Las Vegas, NV  
Andrew Remus, County of Inyo, Independence, CA  
Judy Shankle, Mineral County, Hawthorne, NV  
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Lola Stark, Lincoln County, Caliente, NV  
N. H. Williams, BSC, Las Vegas, NV  
B. L. Wilson, BSC, Las Vegas, NV  
Mickey Yarbro, Lander County, Battle Mountain, NV

cc w/encl:

R. W. Craig, USGS, Las Vegas, NV  
R. E. Fray, BSC, Las Vegas, NV  
J. E. Gebhart, BSC, Las Vegas, NV  
David Hudson, USGS, Las Vegas, NV  
J. S. Martin, BSC, Las Vegas, NV  
W. B. Scott, USGS, Las Vegas, NV  
R. L. Weeks, BSC, Las Vegas, NV

ORIGINAL  
red

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
QUALITY ASSURANCE SURVEILLANCE REPORT

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QA Surveillance Number:  
BSCQA-02-S-18

Complete only applicable items.

1. Organization/Location U.S. Geological Survey (USGS), Las Vegas <small>(See Addendum 1)</small>	2. Subject Alcove 8 Testing Activities, Enhanced Characterization <small>(See Addendum 2)</small>	3. Date(s) Performed 03/27 through 04/11/2002
4. Surveillance Scope Evaluate compliance to selected requirements in Administrative Procedures (AP) AP-12.1Q and AP-SIII.1Q.		
5. Requirement(s) (Procedure, Specification, Drawing, etc.) AP-12.1Q, Revision 0, ICN 2, "Control of Measuring and Test Equipment and Calibration Standards", Sections 5.1.2, 5.3.1, 5.3.2, 5.5.1, 5.5.2, 5.5.4, and 5.5.5.  AP-SIII.1Q, Revision 1, ICN 1, "Scientific Notebooks", Sections 5.1.2, 5.1.3, 5.1.6, 5.1.7, 5.1.8, 5.1.10, 5.3.1c & d, 5.4, and 5.5.2		6. Originator <u>Richard L. Weeks</u>  Team Members <u>N/A</u>

SURVEILLANCE RESULTS

7. Description/Details  
The purpose of this surveillance was to evaluate implementation of selected requirements identified in AP-12.1Q, "Control of Measuring and Test Equipment and Calibration Standards", and AP-SIII.1Q, "Scientific Notebooks". The surveillance was performed at Alcove 8 located in the ECRB and at the USGS offices in Las Vegas. The activities evaluated are described in Field Work Package FWP-ESF-96-04, "Moisture Studies in the ESF" and Scientific Investigation Test Plan SITP-02-UZ-003, "Test Plan For: Alcove 8 Flow and Seepage Testing". The evaluation was limited to test activities described in Volume 5 of Scientific Notebook (SN) SN-USGS-SCI-0120 and one page in Volume 3 of the same SN.

Alcove 8 was visited on March 27 and April 8, 2002 for the purpose of examining Measuring and Test Equipment (M&TE) being utilized for the seepage test. Examined M&TE were found to be properly labeled and required information was written on labels. M&TE listed below were examined in Alcove 8 to verify required information was documented. The M&TE Master list contained unique identification (ID), description of M&TE, date calibrated, recalibration due date, calibration tolerance, and retrievability status. The calibration status of examined M&TE was current and calibration documentation included unique ID, date calibrated, calibration data, recalibration date, procedure used to calibrate the M&TE, identification and traceability to the calibration standards used for the calibration, results of calibration, specified range and tolerance and whether M&TE met those tolerances, and personnel performing calibrations. Labels attached to examined M&TE were found to provide required information including name of supplier, initials of person attaching label, date calibrated, due date of next calibration, and unique ID of M&TE.

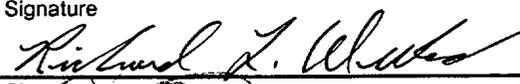
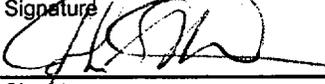
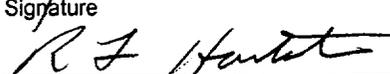
(See Addendum 3)

8. Persons (and their organizations) Contacted Anne Apgar, Stoller/USGS David Hudson, USGS Tom Kostalek, USGS Shawn Otto, Stoller/USGS Toni Washington, Epsilon/USGS	9. CAQ/NCR/TE Issued <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Recommendation Issued <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CAQ/NCR/TE Number(s): <u>QO USGS(B)-02-O-008</u>  CIRS Number(s): _____
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10. Surveillance Conclusions  SAT  UNSAT

Summary and conclusion of evaluation of AP-12.1Q requirements. M&TE examined in Alcove 8 were labeled as required and all calibrations were current. The PI maintains an M&TE list for all instruments used for this test. This list includes the location and date(s) during which the M&TE were used while collecting data. This information facilitates the requirement (AP-12.1Q, Section 5.6) to document use of M&TE. The PI's M&TE list was compared to the M&TE Master list that is maintained by the M&TE Custodian in USGS Denver office and found to be comparable. Calibration documentation was examined and found to be satisfactory. As listed in Block 7 above, Bechtel Calibration Reports were examined and found to provide required information. M&TE that was placed in long-term storage was documented as required. Measuring and Test Equipment (M&TE) Calibrated Equipment Storage Datasheets and Measuring and Test Equipment Justification forms were examined and found to be complete.

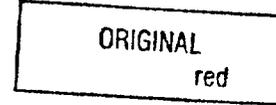
(See Addendum 4)

11. Completed By (Originator) (Print Name) Richard L. Weeks	Signature 	Date 5-6-02
12. Reviewed By (Appropriate QA Manager) (Print Name) John S. Martin	Signature 	Date 5-8-02
13. Approved By (QVM) (Print Name) Robert F. Hartstern	Signature 	Date 5/8/02

**Addendum 1**

QUALITY ASSURANCE SURVEILLANCE REPORT ADDENDUM  
QA Surveillance Number: BSCQA-02-S-18 03/27 through 04/11/2002

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BLOCK 1 Continued:  
Vegas, NV and Science & Engineering Testing, Las Vegas, NV

**Addendum 2**

BLOCK 2 Continued:  
of the Repository Block (ECRB)

**Addendum 3**

BLOCK 7 Continued:  
The following listing delineates M&TE examined:

- GSE Electronic Scale - serial number (s/n) 1598
- GSE Scale - s/n 8413
- GSE Scale - s/n 8428
- Serta Transducer - s/n 1334953
- Serta Transducer - s/n 1337238
- Thermistor - s/n THERM002
- Thermistor - s/n THERM006
- Data Logger - s/n 13558
- Data Logger - s/n 7855
- GSE 350 Data Logger - s/n 007792
- GSE 350 Data Logger - s/n 007928
- GSE 350 Data Logger - s/n 007790
- GSE 350 Data Logger - s/n 992310

The surveillance was continued at the USGS Las Vegas office for the purpose of examining calibration documentation for M&TE that was examined in Alcove 8. Bechtel Calibration Reports, Measuring and Test Equipment Justification form, Measuring and Test Equipment (M&TE) Calibrated Equipment Storage Datasheets and M&TE lists were examined. Below is a list of M&TE and corresponding documentation that was examined.

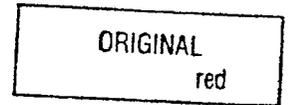
M&TE serial number	Bechtel Calibration Report No.	M&TE Calibrated Equipment Storage Datasheet
8413 (GSE Scale)	1000025074	N/A
8428 (GSE Scale)	1000025075	N/A
1334953 (Serta Transducer)	1000021360	form completed
1337238 (Serta Transducer)	1000021364	form completed
THERM002 (Thermistor)	1000022073	N/A

The Principal Investigator (PI) maintains a list of M&TE used at the Site. M&TE examined during the surveillance were listed on the PI's list and included all required information. Additionally, the list included information regarding date and location of usage of specific M&TE. This list was compared to the M&TE Master list that is maintained by the USGS Denver office M&TE Custodian and found to be comparable. The Measuring and Test Equipment Justification form for M&TE examined was taped into Volume 3 of the SN, page 133. The Measuring and Test Equipment Justification form lists types and models of M&TE that have been approved for storage. M&TE Calibrated Equipment Storage Datasheets, for the two transducers listed above that had been released for use, were examined and found to be complete. The M&TE Calibrated Equipment Storage Datasheets included the unique ID of the M&TE, brief description, serial number, date of calibration, date placed in storage, date removed from storage, and signature of person removing M&TE from storage.

SN SN-USGS-SCI-0120, "Crossover Alcove -Seepage into Niche 3 and Tracer Testing", Volume 5, was examined to verify compliance to selected requirements. It was verified that the SN is maintained in a pre-bound, paginated book. Printed copies of daily entries are taped into the SN with clear tape and are signed or initialed and dated across the boundary of the attachment and the SN. Entries were initialed by personnel making entries and date provided. Corrections to the SN were as required. The Table of Contents was current. Volume 5 included a revised initial entry and a copy of the approved Compliance Review and was taped to the SN. The in-process entries included discussions of daily work activities and lists of M&TE.

**Addendum 4**

BLOCK 10 Continued:  
Summary and conclusions of evaluation of AP-SIII.1Q requirements. SN SN-USGS-SCI-0120, Volumes 3 and 5, were examined during the surveillance. Quality Observation USGS(B)-02-O-008 was issued to document that daily entries had not been entered in the pre-bound SN, Volume 5, in a timely manner; however, the daily entries were entered in a laptop computer. AP-SIII.1Q, Section 5.1.6, requires daily entries to be made in the SN no later than the



ADDENDUM 4 Continued

BLOCK 10 Continued:

next business day or workday. The Condition Adverse to Quality was corrected during the surveillance by printing information contained in the laptop computer and taping it into the SN. All materials taped into the SN were per requirements. It was verified that a Compliance Review was performed and included in Volume 5 to document amendments to Initial Entry. The Table of Contents was current and personnel permitted to make entries, including signature and initials, were documented in Volume 5. In-process entries included dates and initials of personnel making entries and discussions of work being performed.

Based on this surveillance, the USGS is effectively implementing the requirements evaluated with the exception of Quality Observation USGS(B)-02-O-008 which was issued to address non-compliance to the requirement for making daily entries in the SN.

This condition adverse to quality did not have a negative impact since the daily entry information was maintained on the computer.

Compliance to requirements regarding M&TE were effective. The database being maintained by the PI was up-to-date and provided useful information for keeping track of M&TE.