BECHTEL SAIC COMPANY, LLC

QA: QA

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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-34 FOR BREACHED WASTE PACKAGE TESTING

Enclosed is the Surveillance Report BSCQA-02-S-34, conducted by the BSC QA Organization on June 11-12, 2002, at the Science and Engineering Testing facilities in Las Vegas, Nevada.

The scope of the surveillance was to evaluate compliance with selected requirements of Administrative Procedures AP-12.1Q, *Control of Measuring and Test Equipment and Calibration Standards*, and AP-SIII.1Q, *Scientific Notebooks*.

This surveillance found effective implementation of requirements and is considered complete and closed as of the date of this letter. A response to this surveillance report is not required.

If you have any questions, please contact either Kenneth T. McFall (702) 295-3453 or Robert P. Keele at (702) 295-2808.

D. T. Krisha

Donald T. Krisha, Manager
Quality Assurance

7/3/02
Date Signed

RFH:ml-0702023204

Enclosure:
Surveillance Report BSCQA-02-S-34

cc w/encl:
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James Blaylock, BSC, Las Vegas, NV
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David Chavez, Nye County, Tonopah, NV
Margaret Chu, DOE/HQ (RW-1) FORS
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cc w/encl:
A. T. Barnes, BSC, Las Vegas, NV
K. O. Gilkerson, BSC, Las Vegas, NV
Cliff Howard, SNL, Las Vegas, NV
R. P. Keele, BSC, Las Vegas, NV
K. T. McFall, BSC, Las Vegas, NV
Zane Walton, Science and Engineering Associates, Sante Fe, NM

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
QUALITY ASSURANCE SURVEILLANCE REPORT

QA: QA

QA Surveillance Number: BSCQA-02-S-34

Complete only applicable items.

1. Organization/Location	2. Subject	3. Date(s) Performed
Science and Engineering Testing/ Las Vegas, Nevada	Breached Waste Package Testing	06/11-12/2002

4. Surveillance Scope
Evaluate compliance with selected requirements of Administrative Procedures AP-12.1Q, "Control of Measuring and Test Equipment and Calibration Standards", and AP-SIII.1Q, "Scientific Notebooks"

5. Requirement(s) (Procedure, Specification, Drawing, etc.)
a.) AP-12.1Q, Revision 0, ICN 2, Sections 5.1.1.b, 5.1.2, 5.3.1.b, and 5.3.2.c

b.) AP-SIII.1Q, Revision 1, ICN 1, Sections 5.1.2, 5.1.3, 5.1.5, 5.1.8, 5.1.10, 5.3.1.a.1, 3, 5, 6, & 7, 5.3.1.b, c & d, 5.3.2.a, and 5.4.a.3, 4, 5, 8, & 9

6. Originator
Kenneth T. McFall

Team Members
Kenneth O. Gilkerson
Ajulena T. Barnes

SURVEILLANCE RESULTS

7. Description/Details
The purpose of this surveillance was to verify compliance with the selected requirements listed in Block 5 above. The activity evaluated was the "Breached Waste Package Test and Drip Shield Experiments" being conducted by Science and Engineering Associates (SEA) of Santa Fe, New Mexico in conjunction with Sandia National Laboratories (SNL). The purpose of the work is to provide input to the "Flux Splitting Model". The test configuration consists of a repository scale simulated drip shield with apertures located at the crown and 16.5, and 33 degrees down slope from the crown. Deionized water is weighed and applied to an aquarium diffuser and dripped onto the "drip shield" from a predetermined height at a rate of 3.8 grams/minute. The object is to gain information on the splash and rivulet patterns which occur when the water contacts the shield. The results obtained provide model input. The testing is being performed in the Low Bay Facility at the Atlas Complex at the Department of Energy facilities on Losee Road, Las Vegas, Nevada.

The Measuring and Test Equipment (M&TE) listed below comprise the full extent of the M&TE used in these studies and was examined to verify calibration compliance to AP-12.1Q.

(Continued on Page 2)

8. Persons (and their organizations) Contacted
Zane Walton, SEA, Principal Investigator
Clifford Howard, SNL, Manager EBS/Geotechnical Engineering

9. CAQ/NCR/TE Issued ☐ Yes ☑ No
CAQ/NCR/TE Number(s): N/A

Recommendation Issued ☐ Yes ☑ No
CIRS Number(s): N/A

10. Surveillance Conclusions ☑ SAT ☐ UNSAT

Based on the examination of objective evidence and interviews with knowledgeable personnel, the results of this surveillance indicate, that for the attributes examined, the activities associated with the Breached Waste Package Test and Drip Shield Experiments are being conducted in accordance with the Quality Assurance Program. There were no deficiency documents issued as a result of this surveillance.

	Signature	Date
11. Completed By (Originator) (Print Name) Kenneth T. McFall	Kenneth T. McFall	6/27/02
12. Reviewed By (Appropriate QA Manager) (Print Name) Robert P. Keele	Robert P. Keele	7/1/02
13. Approved By (QVM) (Print Name) Robert F. Hartstern	R F Hartstern	7/1/02

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
QUALITY ASSURANCE SURVEILLANCE REPORT

QA Surveillance Number: BSCQA-02-S-34

Complete only applicable items.

1. Organization/Location	2. Subject	3. Date(s) Performed
Science and Engineering Testing/ Las Vegas, Nevada	Breached Waste Package Testing	06/11-12/2002

BLOCK 7 Description/Details (Continued):

Manufacturer	Bechtel Control #	Last Calibration	Calibration Due Date
Humidity and Temperature Transmitters:			
Vaisala	998256	05/07/2002	05/07/2003
Vaisala	315820	07/25/2001	07/25/2002
Vaisala	9988236	05/07/2002	05/07/2003
Pressure Transducer:			
SETRA	007763	05/07/2002	05/07/2003
Scales:			
Mettler PJ360	301293	02/06/2002	08/06/2002
Mettler PM4000	307277	12/27/2001	06/27/2002
Multimeter:			
Fluke 702	007462	06/11/2001	06/11/2002

Note: The Fluke multimeter was withdrawn from service prior to 06/11/2002.

All the required calibration certificates were contained in the Scientific Notebook (SN) SN-M&O-SCI-043-VI (Volume 1). The documentation on the calibration certificates includes: unique identifiers, date calibrated, calibration due date, calibration data including calibration results for specific ranges and tolerances, procedure used to calibrate the M&TE including applicable standards, and personnel performing the calibrations. Calibration stickers or labels were attached to each M&TE item and contained the M&TE identifier, last calibration date, and calibration due date. The use and documentation of M&TE, as examined, for this investigation meet the reviewed requirements of AP-12.1Q.

Scientific Notebook SN-M&O-SCI-043-V1, "Breached Waste Package Test and Drip Shield Experiments", was examined for compliance with appropriate requirements from AP-SIII.1Q. The SN was located at the work site at the Atlas Complex and readily available for inspection. The SN complies with all of the requirements for physical structure, pagination, signatures and dates, table of contents, and corrections/changes to text and data. There were no loose materials or supporting addendum that required the use of a SN attachment. All SN initial entry information was included as required, including: work scope, objectives, primary tasks, methods, (M&TE), software, applicable standards and criteria, special skills and training, environmental conditions, accuracy and precision, and sources of error. A list of personnel anticipated to make entries in the SN along with examples of their signatures and initials was provided. An initial entry compliance review was performed and approved by the Responsible Manager. Ongoing/in-process entries to the SN comply with requirements for documenting the processes and results of the investigation. The SN was completed during the course of the investigations and SN-M&O-SCI-043-V2 was initiated. The SN V1 contains the required completion information and is ready for technical and compliance reviews. V1 of the SN instructs the reader to go to V2 of the SN for the continuation of the documentation of the scientific investigation. V2 of the SN references the reader back to V1 for specific traceability and initial entry information. The SN, as examined, meets the reviewed requirements of AP-SIII.1Q.

The following individuals' training records were examined to assure that they were trained to the two primary procedures involved with the conduct and documentation of this investigation:

Personnel	Date of AP-SIII.1Q Training	Date of AP-12.1Q Training
Sandra Dalvit-Dunn	05/06/1999	None *
John Del Mar	10/11/2001	None *
Zane Walton	02/16/2000	None *

* Training to AP-12.1Q for these SEA personnel has not occurred. John Del Mar and Zane Walton are actively performing and documenting the investigation's activities including the use of M&TE. They have not been trained to the M&TE procedure, nor are they required to be by their supervisor. The supervisor has not assigned the training because YMP has no training course for the implementation of AP-12.1Q as it applies to M&TE users. The investigators' lack of training to AP-12.1Q has not impacted their investigations because it is apparant from this surveillance's results that they have read the procedure and are aware of and are following the procedure's requirements.