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**BECHTEL SAIC COMPANY, LLC (BSC) QUALITY ASSURANCE (QA) SURVEILLANCE
REPORT BSCQA-02-S-26 OF ROCK MODULUS TESTING / SLOT TEST # 1**

Enclosed is the Surveillance Report BSCQA-02-S-26, conducted by the BSC QA Organization on April 24-May 9, 2002, at the Yucca Mountain Site Characterization Project (YMP) Exploratory Studies Facility (ESF).

The purpose of this surveillance was to evaluate compliance to selected requirements in 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 Richard L. Weeks at (702) 295-0629 or John S. Martin at (702) 295-2832.

A handwritten signature in black ink, appearing to read 'D. T. Krishna'.

Donald T. Krishna, Manager
Quality Assurance

5/22/02
Date Signed

RFH:bw-0522022749

Enclosure:
Supplier Surveillance Report BSCQA-02-S-26

Handwritten initials:
Dms507
wm-11

May 22, 2002

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cc w/encl:

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OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
QUALITY ASSURANCE SURVEILLANCE REPORT

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QA Surveillance Number:
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Complete only applicable items.

1. Organization/Location Science and Engineering Testing Project/ESF	2. Subject Rock Modulus Testing / Slot Test #1	3. Date(s) Performed 04/24/2002 through 05/09/2002
4. Surveillance Scope Evaluate compliance to selected requirements in Administrative Procedures AP-12.1Q and AP-SIII.1Q.		
5. Requirement(s) (Procedure, Specification, Drawing, etc.) 1) AP-12.1Q, Revision 0, ICN 2, Sections 5.1.2, 5.3.1, 5.3.2, 5.5.1, 5.5.2, 5.5.4, and 5.5.5. 2) AP-SIII.1Q, Revision 1, ICN 1, Sections 5.1.2, 5.1.3, 5.1.5, 5.1.6, 5.1.7, 5.1.8, 5.1.10, 5.3.1a through d, 5.4, and 5.5.2 3) AP-5.2Q, Revision 0, ICN 2, Attachment 3, Item 1.5 4) Quality Assurance Requirements and Description (QARD), Revision 11, Section 4.2.1 C. 5) Work Instruction TCO-WI-0092r01		6. Originator <u>Richard L. Weeks</u> Team Members <u>John K. Devers</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 specific activity evaluated was the slot test being performed in the Main Drift of the Exploratory Studies Facility (ESF). The activities evaluated are described in Field Work Package (FWP)-ESF-02-001, "Geotechnical Rock Properties Testing" and Scientific Investigation Test Plan (SITP)-02-SSD-001, "Rock Modulus Testing". The evaluation was limited to test activities described in Volume (V) 1 of Scientific Notebook (SN)-SNL-SCI-027-V1, "Pressurized Slot Testing for Determination of In Situ Rock Mass Modulus, Strength and Thermal Expansivity Values of Tptpll Lithostratographic Unit.

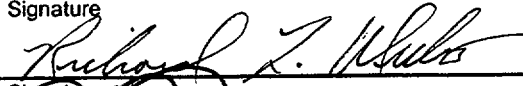
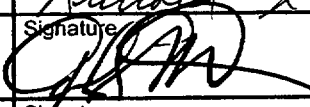

The slot test was being performed in the Main Drift of the ESF at approximately Construction Station (CS) 57+77. The testing area for the slot test was visited initially on April 24 and again on May 1 and May 8. Specific activities evaluated included Measuring and Test Equipment (M&TE) being utilized for this test, M&TE documentation, and implementation of requirements governing the use of the scientific notebook.

(See Continuation Page)

8. Persons (and their organizations) Contacted Tim George, SNL, Principal Investigator David Bronowski, SNL, Scientist Ron Taylor, SNL, Scientist/Technician Asha Kalia, BSC, Staff Scientist (M&TE Custodian) Robert Sievert, BSC, Technologist (M&TE Custodian)	9. CAQ/NCR/TE Issued <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Recommendation Issued <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	CAQ/NCR/TE Number(s): <u>N/A</u> CIRS Number(s): <u>N/A</u>
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10. Surveillance Conclusions SAT UNSAT

In conclusion, this surveillance revealed that personnel are performing the slot testing activities in a satisfactory manner and are effectively implementing the evaluated requirements. There were no Conditions Adverse to Quality identified during this surveillance.

11. Completed By (Originator) (Print Name) Richard L. Weeks	Signature 	Date 05-21-02
12. Reviewed By (Appropriate QA Manager) (Print Name) John S. Martin	Signature 	Date 5-21-02
13. Approved By (QVM) (Print Name) Robert F. Hartstern	Signature 	Date 5-21-02

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QUALITY ASSURANCE SURVEILLANCE REPORT

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BLOCK 7. Description/Details (Continued)

1) M&TE listed below were examined to verify that required information was documented. The calibration documentation of examined M&TE was current and included unique identification (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. The evaluated M&TE is maintained by two different M&TE Custodians on two different M&TE Master Lists. Each M&TE Master List was examined and contained unique ID, description of M&TE, date calibrated, recalibration due date, calibration tolerance and retrievability status. Additionally, calibration documentation was examined at the BSC offices located in Las Vegas. Calibration Reports generated by Bechtel Nevada, listed below, were examined and found to be complete. The Calibration Reports included the unique ID of M&TE, date calibrated, calibration data, recalibration due date, procedure used to calibrate the M&TE, identification of traceability to the calibration standards used for the calibration, results of calibration and statement of acceptability, as-found condition of the M&TE, specified range and tolerances and whether M&TE met those tolerances, and personnel performing calibration. The activities evaluated for this surveillance did not require M&TE to be maintained in long-term storage.

The M&TE listed below were examined.

Type of M&TE	Serial Number	Bechtel #	Date of Cal.	Date of Recal.	Bechtel Calibration Report #
Displacement transducer	021984	008810	03-05-02	03-05-03	1000024587 (MOL.20020403.0300)
Displacement transducer	021980	008806	03-12-02	03-12-03	1000024583 (MOL.20020403.0296)
Displacement transducer	021981	008807	03-12-02	03-12-03	1000024584 (MOL.20020403.0297)
Displacement transducer	021985	008811	03-05-02	03-05-03	1000024588 (MOL.20020403.0301)
Displacement transducer	1201-17415	008832	02-20-02	02-20-03	1000024609 (MOL.20020403.0285)
Displacement transducer	1201-17416	008833	02-21-02	02-21-03	1000024610 (MOL.20020403.0286)
Displacement transducer	1201-17413	008830	02-25-02	02-25-03	1000024607 (MOL.20020403.0283)
Displacement transducer	1201-17414	008831	02-19-02	02-19-03	1000024608 (MOL.20020403.0284)
Displacement transducer	1201-17407	008824	02-20-02	02-20-03	1000024601 (MOL.20020403.0277)
Displacement transducer	1201-17409	008826	02-20-02	02-20-03	1000024603 (MOL.20020403.0279)
Fluke 702	6545229	007581	06-07-01	06-07-02	Not Examined
Fluke 123 Scopmeter	DM 6882010	007583	01-17-02	01-17-03	Not Examined

2) SN-SNL-SCI-027-V1, "Pressurized Slot Testing for Determination of In Situ Rock Mass Modulus, Strength and Thermal Expansivity Values of Tptpl Lithostratographic Unit", was examined to verify compliance to selected requirements identified in AP-SIII.1Q. The SN was on location during each of three visits to the test location. The SN is bound, paginated, all entries are dated and signed, the Table of Contents was adequate and up-to-date, and corrections were made as required. The SN is very neat and legible. A copy of the Compliance Review was taped into the SN and it was verified that all compliance review initial entry information was provided. In-process entries were up-to-date as of 5-9-02 (date the surveillance was completed). Page 7 of the SN refers to supplemental information that is contained in Supplemental Volume Number 1 titled, "Gauge Calibration Records, Equipment Descriptions, and Miscellaneous Records Supporting Information for Scientific Notebook Number SN-SNL-SCT-027, V1".

3) It was also verified that WIL-X-Cement grout was approved for use and is listed on Attachment II, "TFMs Evaluated for Use Within the ESF in Support of Subsurface Testing Activities", in Determination of Importance Evaluation BAB000000-01717-2200-00011 Revision 03, Determination of Importance Evaluation for Exploratory Studies Facility (ESF) Subsurface Testing Activities. The WIL-X-Cement grout is used to grout in rods that support displacement transducers.

4) It was verified that Bechtel Nevada is an approved vendor for calibration services of M&TE listed above.