# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
# QUALITY ASSURANCE
# SURVEILLANCE REPORT

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SURVEILLANCE SCOPE:

CALIBRATION OF JOINTED ROCK TEST EQUIPMENT - SRM TASK 2

REFERENCE DOCUMENTS: N/A

STARTING DATE: 9/30/91 ENDING DATE: 10/3/91

QA REPRESENTATIVE: R.D. Brient

PERSONS CONDUCTING TEST / EXAM / ACTIVITY:
PROBE CALIBRATION: A. PICKENS (04)
PROFILOMETER CALIBRATION: M. Ahola (20), S. Hsuing (20), W. SMITHSON (30)

SATISFACTORY FINDINGS:

SEE ATTACHED

UNSATISFACTORY FINDINGS:

NONE

NONCONFORMANCE REPORT NO.: N/A

ATTACHMENTS: N/A

RECOMMENDATIONS / ACTIONS

NONE

APPROVED: _____
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: 10/7/91

DISTRIBUTION:
ORIGINAL - CENTER QA DIRECTOR MARITZ
ORIGINATOR BRIENT
PRINCIPAL ENGINEER - S. Hsuing
ELEMENT MANAGER - Chowdhury
M. Ahola W. PATRICK

CNWRA FORM QAP-8

**Satisfactory Findings:**

1. Proximity Probe Calibration

   a. Calibration Standards Used:

      Drum Micrometer, SwRI #2-1, calibrated 4/19/91, due 10/19/91.
      (Accuracy - .0001", required accuracy of 8 mm probe - .004")

      Starrett Venier height gage - calibration not required (exemption based on NQA-1, 12S-1, 3.3 "Commercial Devices")
      (Accuracy - .001", required accuracy for 25 mm Probe - .01")

      Fluke Model 87 Digital Multimeter, s/n 51502012, calibrated 8/13/91, due 8/13/92.

   b. Probes were connected to dedicated cables and amplifiers as systems, the same sets as previously used. Calibration was checked at 10+ points across the woking range, increasing displacements, then reversing and decreasing displacements to check for hysteresis effects.

   c. Calibrations of Probe numbers 1, 3, 5, and 6 were witnessed, with all points appearing to be well within accuracy limits.

2. Profilometer Calibration
   Asymtek Automove 102, s/n 0001648 with Keyence LC-2100 Laser Displacement Meter

   a. Calibration Standards Used.

      DoAll Gage Blocks Set # 88, s/n 4482, calibrated 2/11/91, due 2/11/94.

      DoAll Gage Blocks Set # 8-R, s/n 11161, calibrated 8/18/89, due 8/18/92.

      Dial Indicator, s/n BS #1, calibrated 6/11/91, due 12/11/91.

   b. Calibrations at each position on the x, y, and z axes were repeated three times to confirm repeatibility of measurements. Each axis was calibrated at 10+ points across the range of the instrument. Z axis calibrations checked the Laser Displacement meter and the Asymtek positioning system. X and Y axes calibration checked the positioning system.

   c. At the present time, no specific accuracy requirement has been established for the profilometer, however, based on the calibration the system appears to be accurate to about .005" in all axes.

3. No deviations from QA program requirements were identified.