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CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

DEVIATION AND NONCONFORMANCE REPORT

PURCHASE ORDER NO.	PROJECT NO.	JOB REQUEST NO.	DNR NO.
	20-3704-022		90-003

ITEM NAME OR ACTIVITY	ACTIVITY PERFORMED BY
Thermohydrology Research Project	S. Svedeman, (04)

ITEM DESCRIPTION (S/N, MODEL, WELD, SITE, ELEMENT NAME, REGULATION, TEST, ETC.)

Separate Effects Experiment: Test #1 - Calibration of Densitometer

DESCRIPTION OF DEVIATION OR NONCONFORMANCE

See attached

PROBABLE CAUSE OF DEVIATION OR NONCONFORMANCE

Unfamiliarity with calibration systems requirements.

ORIGINATOR (NAME)	DATE
R.D. Brient RDB	3/9/90

ACTION TO CORRECT DEFICIENCY

ALUMINUM BLOCKS WILL BE MEASURED USING AN ACCEPTABLE MEASUREMENT TECHNIQUE

ACTION TO PREVENT RECURRENCE

MEASUREMENTS REQUIRING HIGHER LEVEL STANDARDS WILL BE MADE ACCORDING TO ACCEPTABLE METHODOLOGIES

CORRECTIVE ACTION TO BE TAKEN BY (NAME)	TARGET DATE FOR INITIATION
RGREEN RGG S. SVEDEMAN	3/26/90 OR COMPLETION 4/2/90

DISPOSITION	ACCEPT	REWORK	SCRAP	RETURN TO VENDOR	HOLD	OTHER (SPECIFY)
	[X]	[ ]	[ ]	[ ]	[ ]	[ ]

BASIS FOR DECISION OR NOTES

Use of the blocks as standards will be acceptable with the specified thickness verification

LIST OF ATTACHMENTS

STATUS: JWS 7/24/91 [✓] OPEN [ ] CLOSED

ELEMENT MANAGER (SIGNATURE)	DATE
John H Russell	3/26/90
DIRECTOR OF QA (SIGNATURE)	DATE
Bruce Mabrito	3/26/90

DISTRIBUTION:
DIRECTOR OF QA
ORIGINATOR
ELEMENT MANAGER (PROJECT FILES) DR. RUSSELL
PERSON RESPONSIBLE FOR CORRECTIVE ACTION Ron Green

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DNR 90-003 Description of Nonconformance

CQAM Section 12, "Control of Measuring and Test Equipment", requires that measurement standards have documented traceability to higher level standards. The notebook entries for the aluminum blocks used for the densitometer calibration do not provide an indication that their thickness ("calibration") was determined utilizing a calibrated dimensional measuring equipment.

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CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

M E M O R A N D U M

April 18, 1990

To: DNR File 90-003

From: Bob Brient BB

Subject: Close-out of DNR 90-003

Corrective action to close-out DNR 90-003 was verified based on the review of the Scientific Notebook entry addressing the nonconforming condition.

Aluminum blocks of various thicknesses were utilized to establish the response characteristics of the densitometer system through the range of interest. The initial thickness measurements of the blocks were made using an uncalibrated caliper, measuring to the nearest .001". Technical review determined that this level of accuracy was not necessary, and the blocks were remeasured with a scale (which does not require calibration) to the nearest .01"(a copy of the Scientific Notebook entry documenting this remeasurement is attached). The new measurements do not have any impact on the conclusions reached which were based on the initial measurements.

The exercise of correcting this nonconformance is adequate instruction to familiarize project personnel with instrument calibration requirements to preclude recurrence of the problem.

Approved by:

Bruce Mabrito
Director of QA

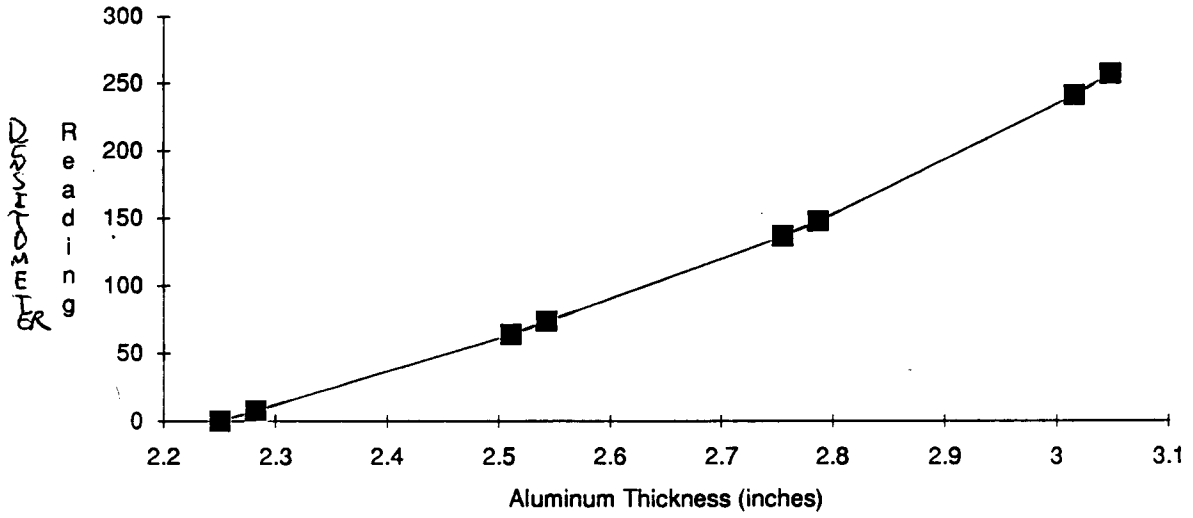
4/18/90
Date

cc: R. Green
J. Russell
S. Svedeman (04)

Attachment

4-13-90

SINCE THE AL PLATE THICKNESS WERE MEASURED WITH AN "UN-TRACEABLE" CALIPER SET, THE MEASUREMENTS WERE REPEATED WITH A CRAFTSMAN 6" SCALE (#40996 WITH 0.01" DIVISIONS. THE RESULTS ARE:
BLOCK #1 = 0.75", BLOCK #2 = 0.75", BLOCK #3 = 0.75"
BLOCK #4 = 0.50", BLOCK #6 = 0.26", BLOCK #7 = 0.03"



THESE READINGS MATCH FAIRLY WELL WITH THE PRIOR READINGS AND DO NOT CHANGE THE RESULTS IN ANY SIGNIFICANT WAY. THE CALIBRATION CHECK VERIFIES THE DENSITOMETER FUNCTIONS THROUGHOUT THE RANGE OF INTEREST IN THE EXPECTED MANNER. Steve Friedman 4-13-90