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CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO.: 20-3704-022

REPORT NO.: 90-015

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SURVEILLANCE SCOPE:

Observation of Separate Effects Experiment #6 Preparatory Activities.

REFERENCE DOCUMENTS: Thermohydrology Research Project Plan.

STARTING DATE: 10/31/90 ENDING DATE: 10/31/90

QA REPRESENTATIVE: R. D. Brient *RDB*

PERSONS CONDUCTING TEST / EXAM / ACTIVITY:

R. Green, P.I., S. Svedeman, Div. 04.

SATISFACTORY FINDINGS: Experiment #6 provides several refinements over previous experiments. It utilizes a small test cell (height and width), but 3 inches thick for better contrast for the densitometer. A collimator is used on the Gamma source and scanning time and sampling positions are optimized. The cell is instrumented with two tensiometers, plus two thermistors in the field of the cell, in addition to thermistors in the two heating plates.

Observations: 1) The densitometer linearity and calibration were verified using aluminum plate of known thickness as in previous tests. 2) Preparation of the bead media was witnessed, using 50/50 by volume of 40 um (size 2740) and 80 um (size 1420), and presaturating to 65% with D. I. water. The cell was packed with this media, and a "fracture" was emplaced at about one-half height using 3 ml. of 160um (size 812) beads. 3) Calibration of the densitometer positioner was verified by comparing the computer read-out to a 48" steel rule graduated in 1/64". Checks were made over a 20" range at 6 points. Maximum error was less than 1/32" in the horizontal axis, and was nil in the vertical axis. Required accuracy of these

~~UNSATISFACTORY FINDINGS:~~ measurements is on the order of 1/8".

UNSATISFACTORY FINDINGS: "None"

NONCONFORMANCE REPORT NO.: N/A

ATTACHMENTS:

RECOMMENDATIONS / ACTIONS None.

APPROVED: *[Signature]*
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: 11/5/90

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