



**Department of Energy**  
Yucca Mountain Site Characterization  
Project Office  
P. O. Box 98608  
Las Vegas, NV 89193-8608

WBS 1.2.3  
QA: N/A

**NOV 23 1992**

J. Russell Dyer, Director, Regulatory & Site Evaluation Division, YMP, NV

**ARCHIVE CORE**

There is no designated "archive core" as such in the Yucca Mountain Site Characterization Project collection.

The paragraphs that follow discuss some of the reasons that archiving core is not required.

1. Enclosure 1 is a partial listing of potential Principal Investigator (PI) requests for core from the G, SD, and UZ boreholes to be drilled during site characterization. The PIs have shown interest in only 21 to 25 percent of the G core, 38 to 54 percent of the SD core, and 25 to 39 percent of the UZ core. Some 75 to 79 percent of the G core, 46 to 62 percent of the SD core, and 61 to 75 percent of the UZ core remains to be allocated at some later date.
2. Procedures presently in place require video tapes of the the core prior to processing and after the core has been removed for the PI. A video record exists for all "new" core; additionally, a lithologic log prepared by the Sample Management Facility/Sample Overview staff exists for all core.
3. Enclosure 2 is a print out of core usage from previously drilled boreholes. Core specimens removed from USW G-4, for example, total some 13.4 percent; only some 403 of 3001 feet of core have been removed for study. Some 86 percent of the core remains for future study if required.
4. The Sample Overview Committee has discussed the need for archive core. In the opinion of the SOC, to be effective a 100 percent split, i.e., one third archive, two thirds sample, should be made. The HQ core is too small to split for archive and have samples remaining of sufficient size for some PIs. Additionally, some hydrologic, geochemistry, and age dating studies would be compromised if the core was sawed for archiving. The considered opinion of the SOC was to rely on the Quality Assurance (QA) process; if unacceptable, redrill the borehole to collect additional core.

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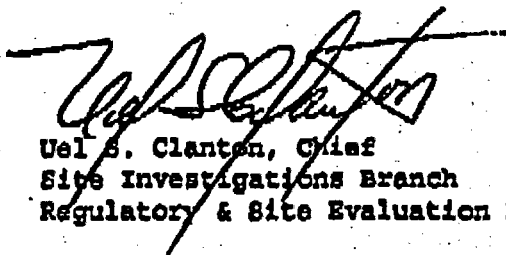
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5. A second borehole could be drilled to acquire core from a specific interval if suitable core did not remain in the collection. The upper interval could be hammer drilled quickly; a coring bit would then be installed to acquire the needed core. Note that even though we are using state-of-the-art techniques to package core for hydrological, geochemical and dating studies, we have concern as to our ability to maintain core in a pristine state for ten or more years. The hydrological, geochemical, and aged dating studies are considered to have the highest probability for additional study.
6. Finally the U.S. Department of Energy QA program has been approved by the U.S. Nuclear Regulatory Commission. The QA program is considered to provide adequate documentation for all samples that are being tested/analyzed. The QA program should mitigate any need for replicate samples and the need to repeat the test/analysis at some later date.

If you have any questions, please call me at 794-7943.



Uel S. Clanton, Chief  
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RSED:USC-1156

## Enclosures:

1. Listing of Core Requests
2. List of Removed Specimens

## cc w/o encls:

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