

D1020

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LPDR-WM-10(2)
WM-11(2)
WM-16(2)

OCT 28 1987

426.1/D1020/87/10/19/WF

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Dr. Roy E. Williams
Williams and Associates, Inc
P.O. Box 48
Viola, Idaho 83872

WM-Res
WM Record File
D1020
WEA

WM Project 10, 11, 16
Docket No. _____

PDR
XLPDR (B, A, S)

Distribution:

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Dear Dr. Williams:

This letter contains our comments on the Draft Report; "A Summary Of Groundwater Testing Methodologies Applicable To Unsaturated Fractured Rock At Yucca Mountain". Our major comments on this report are:

1. The report should be updated with respect to new information on testing technology we have received this fall.
2. To make the report more usable, it is requested that when a method is known by more than one name, the second name should be listed. It is suggested that alternative names might be listed between the "METHOD" and "PARAMETERS MEASURED" headings as a sentence that begins with the phrase "This method is also known as...". Further, the Table of Contents should also contain any alternative names.
3. It is suggested that a description of the "Dry Resistivity Probe" be included as one of the methods discussed in the report. This is a technique that has been used with success in unsaturated dry fractured rock, but has not been used at Yucca Mountain. William Ford has suggested how information on this method may be obtained in phone conversations with Jim Osiensky.

Our editorial comments on this report are:

1. YUCCA MOUNTAIN APPLICABILITY: It is stated on page 3 that "Soil moisture blocks were not investigated by Rasmussen and Evans (1987). It is doubtful that blocks made of ceramic, gypsum or nylon available currently could be placed in contact with fractured tuff in such a way as to obtain sufficient transfer of water from the moisture block to the matrix. However, other porous materials may be available that could maintain sufficient contact with volcanic tuff; it may be worthwhile investigating such materials". The first sentence of this paragraph should be deleted, since this report should not confine itself to the Rasmussen and Evans report. The last sentence should also be deleted, since it is not the objective of this report to recommend future research on these techniques. This report should describe the present state of technology and research.
2. YUCCA MOUNTAIN APPLICABILITY: It is stated on page 3 that "It may be possible to obtain small pore-water samples with pore-water extraction methods; however, the methods may not be practical under

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the high tensions that exist at Yucca Mountain". This conclusion disagrees with field and laboratory tests conducted by the U. S. Geological Survey, which demonstrate that it is possible to obtain pore-water samples from the unsaturated zone at Yucca Mountain. Results of these tests were presented at the spring meeting of the American Geophysical Union in Baltimore, and the NRC Appendix 7 visit with the U. S. Geological Survey in July. Therefore, this conclusion in the report may not be valid and it is recommended that it be deleted.

Please send us another draft for our review, which addresses the comments above. Please contact William Ford (301-427-7527), if you have any questions.

The action taken by this letter is considered to be within the scope of the current contract NRC-02-85-008. No changes to costs or delivery of contracted products are authorized. Please notify me immediately if you believe this letter would result in a change to costs or delivery of contracted products.

Sincerely,

ORIGINAL SIGNED BY

Jeffrey A. Pohle, Project Officer
Technical Review Branch
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

OCT 28 1987

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LETTER TO: Dr. Roy E. Williams
Williams and Associates, Inc
P.O. Box 48
Viola, Idaho 83872

FROM: Jeffrey A. Pohle, Project Officer
Technical Review Branch
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

SUBJECT: REVIEW OF DRAFT REPORT: "A SUMMARY OF GROUNDWATER TESTING
METHODOLOGIES APPLICABLE TO UNSATURATED FRACTURED ROCK AT
YUCCA MOUNTAIN"

DATE:

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CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
HLTR/WFord	<u>W Ford</u>	87/10/27
HLTR/JPohle	<u>J Pohle</u>	87/10/27
HLTR/DChery	<u>D Chery</u>	87/10/28

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