D1021

PDR-1
LPDR- Wm-10 (2)
Wm-11 (2)
Wm-16 (2)

5/1/87

426.1/D1021/87/04/27/WF

Mark J. Logsdon, Project Manager
Nuclear Waste Consultants Inc.
Suite 14
8341 S. Sangre de Cristo Rd.
Littleton, CO 80127

Dear Mr. Logsdon:

Please find enclosed a draft Task Descriptive Summary for a proposed evaluation of groundwater testing methodologies in unsaturated fractured rock. We would like both Williams and Associates and Nuclear Waste Consultants to conduct the technical aspects of this study. Because Williams and Associates was assigned the lead in field testing, they will have the responsibility of coordinating this study. Before beginning work on this project I would like you and your group to review this draft. If you have comments on how this study should be conducted, the objective of the study, or its content, please contact William Ford (301-427-7527) by May 22, 1987.

The action taken by this letter is considered to be within the scope of the current contract NRC-02-85-009. No changes to costs or delivery of contacted 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

Enclosure:
As stated

Wm-RES
WM Record File
D1021
NWCI

WM Project 10, 11, 16
Docket No.
PDR ✓
LPDR ✓ (B, N, S)

Distribution:

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WM Project: WM-10, 11, 16
PDR yes
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WM Record File: D1021
LPDR yes

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PDR WMRES EECNWCI
D-1021 PDR

3988

DRAFT

TITLE

Ground Water Testing Methodologies Applicable To Unsaturated Fractured Rock

OBJECTIVE

A compilation and assessment of unsaturated ground water testing methodologies is needed to enhance the NRC staff capability to review the site characterization plan. Because, unsaturated fractured rock has not been studied as heavily as many other hydrogeologic environments, the types of hydrogeologic testing techniques available may be experimental or require new and innovative approaches. For example, if it is determined that much of the needed data on the unsaturated zone cannot be collected through deep bore holes using existing technologies, the collection of data from shaft sinking and drifting activities will play a large role in demonstrating compliance with applicable regulations. This report should describe the hydraulic and water chemistry sampling techniques currently available for the unsaturated zone. Further, the report should identify and evaluate different methods of calculating hydrogeologic parameters from the raw testing data, describe the accuracy of the technique, identify whether the technique is under development, describe problems and advantages with it's use, and the associated uncertainty.

TECHNICAL APPROACH

This report will be prepared by conducting a brief literature review and by meeting with the U.S. Nuclear Regulatory Commission Research contractors currently conducting unsaturated zone testing research at the University of Arizona.

PRODUCT DESCRIPTION

The product report should include a brief description of each technique and the method(s) of analysis applicable to the technique. The report should also include a summary table that identifies if the technique is under development, the range over which the technique is applicable, problems and advantages with it's use, and to the extent feasible, associated uncertainty.

MANPOWER

Resources required for this report should include the expertise of both technical assistance contractors. Because, Williams and Associates were assigned the lead in field testing, this report should be coordinated by Williams and Associate, with Williams and Associates and Water Waste and Land through Nuclear Waste Consultants doing the technical aspects of the study. It is estimated that the work will take 275 man-hours.

SCHEDULE

DRAFT

If this work is begun in June it is estimated that a first draft should be completed by the beginning of August and a final draft by the end of August.

MAY 01 1987

426.1/D1021/87/04/27/WF

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

LETTER TO: Mark J. Logsdon, Project Manager
Nuclear Waste Consultants
Suite 14
8341 S. Sangre de Cristo Rd.
Littleton, CO 80217

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

SUBJECT: COMMENTS ON GROUND WATER TESTING METHODOLOGIES OF UNSATURATED FRACTURED ROCK

DATE:

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