

JUN 14 1987

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426.i/D1021/87/06/10/WF

- 1 -

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 revised Task Descriptive Summary for an evaluation of groundwater testing methodologies in unsaturated fractured rock. The revised Task Descriptive Summary redefines the proposed study so that unsaturated zone testing methodologies are studied with respect to their application at Yucca Mountain. This letter authorizes work to begin on this task, with Williams and Associates coordinating the study. If you have any questions on this study please contact William Ford (301-427-7527).

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 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

Enclosure:
As stated

cc: Lyle Davis, WW&L Inc.

87203539/5
WM Project: NW-10,11,16
PDR w/encl
(Return to WM, 623-SS)

WM Record File: D1021
LPDR w/encl

Wm-RES
WM Record File
D1021
NWCI

WM Project 10,11,16
Docket No. _____

PDR
XLPDR (B,N,S)

Distribution:

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through Nuclear Waste Consultants doing the technical aspects of the study. It is estimated that the work will take 275 man-hours.

SCHEDULE

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.

TASK DESCRIPTIVE SUMMARY

TITLE

Ground Water Testing Methodologies Applicable To Unsaturated Fractured Rock At Yucca Mountain

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 applicable to the Yucca Mountain proposed repository site. Further, the report should (1) identify and evaluate different methods of calculating hydrogeologic parameters from these techniques, (2) describe the accuracy of the technique for site characterization at Yucca Mountain, (3) identify whether the technique is under development or is proven technology, and (4) describe problems and advantages in using the technique at Yucca Mountain.

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, the method(s) of analysis applicable to the technique and identify the situations when the technique is applicable at Yucca Mt. The report should also include a summary table that identifies if the technique is under development, the range over which the technique is applicable, as well as problems and advantages with it's use at Yucca Mountain.

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

JUN 14 1987

426.1/D1021/87/06/10/WF

- 2 -

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

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

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

SUBJECT: REVISED TASK DESCRIPTIVE SUMMARY FOR AN EVALUATION OF
GROUNDWATER TESTING METHODOLOGIES IN UNSATURATED FRACTURED
ROCK

DATE:

DISTRIBUTION

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CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
HLTR/WFord	<u>WFB</u>	87/06/12
HLTR/JPohle	<u>JAP</u>	87/06/14
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(Mailed by the WMDCC)
6-17-87 11:00
Date / Time