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MEMORANDUM FOR: Philip S. Justus, Section Leader
Geology/Geophysics Section
Geotechnical Branch
Division of Waste Management

WM Record File

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WM Project 11
Docket No. _____
PDR ✓
LPDR ✓

FROM: Benjamin J. Rice
Geology/Geophysics Section
Geotechnical Branch
Division of Waste Management

Distribution:

(Return to WM, 623-SS)

SUBJECT: TRIP REPORT - NNWSI HYDROLOGY DATA REVIEW -
USGS OFFICES, DENVER FEDERAL CENTER, DENVER, COLORADO
JULY 23-27, 1984

I attended the NNWSI Hydrology Data Review in Denver from Monday, July 23 to Thursday, July 26, 1984. Included in this report is a summary of the data I reviewed while there. Attached is a list of participants.

Monday, July 23:

A pre-meeting was held at the Holiday Inn-West in Golden, Colorado at 3:00 p.m. Discussions centered on preparing for the review of data during the remainder of the week. Jeffrey Pohle (NNWSI Project Manager for Hydrology) suggested that NRC staff and contractors split into groups and review specific areas of data. I chose to review geophysical well log data.

Tuesday, July 24:

An orientation meeting was conducted by Bill Dudley of the USGS at their offices in the Denver Federal Center. Bill Wilson of the USGS assigned members of his staff to specific areas of data interest. Jim Robison (USGS) was assigned to test hole and water well data; I was informed that borehole geophysical log data would be made available through him.

Data reviewed -

- 1. Televiewer Log (Videotape) of well UZ-1

This unsaturated zone well is located in the vicinity of well G1 in drill hole wash. The videotape was presented by Parviz Montazer.

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Notes - Total depth 1200 feet; hole diameter 36 inches down to 200 feet and 17.5 inches from 200 feet to bottom; fractures evident - most oriented vertically or near vertically; several major zones of lithophysae - lithophysae range from 2 cm to 20 cm in diameter

2. Water Table Well - WT-2

This particular water table well is located within the repository location. These geophysical well log data were received from Jim Robison.

Notes - The following logs were reviewed:

Caliper, Induction Electric, Epithermal Neutron - Porosity, Density-Borehole Compensated, Fluid Density for Water Location, Geophone Survey, Dielectric, and Spectralog Gamma Ray. All surveys were conducted by Birdwell Corporation except for the Dielectric and Spectralog Gamma Ray. These two surveys were done by Dresser-Atlas Corporation. The same suite of borehole geophysical surveys were conducted at each of the remaining water table wells.

Wednesday, July 25:

Data reviewed -

1. Well H-1 Geophysical Logs

This well is located near the northern boundary of the repository location. Lithologic logs (well cuttings) and the drilling history (field notebook and summary) were also provided. I compared the geophysical and lithologic logs with the USGS published data in open-file-report 83-141 and the USGS published interpretation of these data in open-file-report 83-4032. These data were also received from Jim Robison.

Notes - Total depth of well is 1829 meters (6000 feet); drilling

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completed November 1980; the following geophysical logs were reviewed: Caliper, Density-Borehole Compensated, Neutron, Gamma Ray - Neutron, Water Locator, Magnetometer, 3-D Velocity, Electric, Induction, Spectralog, and Temperature; all logs were conducted by Birdwell Corporation.

2. Franklin Lake Playa

NRC team members reviewed data from the Franklin Lake Playa study. The playa is located approximately 60 kilometers south of Yucca Mountain near Eagle Mountain. The USGS is attempting to characterize the hydrologic properties of the flat. The State of California is conducting geologic field studies of the region also. Several shallow wells are being monitored by the USGS. Neutron log data is available for each of these wells. A single seismic refraction survey line has been conducted to identify the depth to the water table. Because of time limitations, I reviewed neither the Neutron log nor the seismic survey data.

Thursday, July 26:

At Jeff Pohle's request, prior to my departure, I itemized the data I reviewed during the previous two (2) days. I later discussed plans for the upcoming geology data review for NNWSI, with King Stablein. My requests for specific data included the following: The latest geologic map of the Yucca Mountain area, seismic exploration, gravity, magnetics, and electrical surveys. I also requested that the trip include a site visit to Yucca Mountain, G-Tunnel, surface trenches, and the On-site Core Library.

JS

Benjamin J. Rice
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Enclosure:
As stated

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ROOM: CONFERENCE ROOM

WRD MEETING (B. Wilson)

DATE: July 24, 1984

NAME	AGENCY (IF USGS, JUST SHOW DIVISION)
BILL DUDLEY	USGS/WRD
BENJAMIN RICE	NRC
ROY E. WILLIAMS	NRC CONSULTANT
JEFFREY PENCE	USNRC
Geoffrey Jones	GeoTrans / NRC CONSULTANT
David R. Bues	GeoTrans / NRC consultant
James W. Mercep	GeoTrans / NRC consultant
William P. Nelson	USGS/WRD
Parviz Montazer	" "
Rick Wendell	"
Leonard E. Wolitz	"
Joe Downey	USGS/WRD
Joe Wilmon	USGS/WRD
JOE WILMON	USGS
Elmer W. Baly	USGS/GD
SYLVIE OLNEY	NRC
Jim Robison	USGS/WRD
Dick Blankinship	USGS/WRD
Paul Prestholt	NRC - OLR - NWOST
BENJAMIN RICE	NRC
William M. Ellison	Williams & Assoc - NRC consultant
Mike GLOSA	SAT - LV
William P. Nelson	Williams & Assoc - NRC consultant

ROOM: _____

DATE: _____

NAME

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(IF USGS, JUST SHOW DIVISION)

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