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CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

TRIP REPORT

SUBJECT: Trip to Yucca Mountain
(20-5708-861)

DATE/PLACE: November 24-26, 1996
Las Vegas, NV

AUTHOR: S. Stothoff

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PERSONS PRESENT:

The trip to Yucca Mountain (YM) November 24 and 25, 1996, was attended by S. Stothoff and D. Groeneveld [Natural Resources, Inc. (CNWRA Consultant)]. Informal technical discussions in Las Vegas on November 26, 1996, were also attended by A. Flint, L. Flint, and J. Hevesi [United States Geological Survey (USGS)], as well as C. Glenn (NRC).

BACKGROUND AND PURPOSE OF TRIP:

CNWRA has retained two consultants, D. Groeneveld and D. Woolhiser, to aid in characterizing aspects of shallow infiltration not considered in current CNWRA modeling efforts. Groeneveld is considering aspects of infiltration related to current and possible future vegetation, while Woolhiser is considering aspects of infiltration related to overland flow. The planned intent of the trip was to orient the two consultants to YM and to foster scientific interchange between the consultants and CNWRA staff. Unfortunately, D. Woolhiser was unable to make the trip due to illness. As part of the trip, an informal technical discussion with USGS staff (working for YM Project) familiarized Groeneveld with measurements and modeling of vegetation at YM, which he compared with similar efforts in Owens Valley, CA.

SUMMARY OF PERTINENT POINTS:

A one-day field examination of Bare Mountain, Solitario Canyon and YM familiarized Groeneveld with vegetation and soil characteristics at YM. A second day was spent discussing with USGS staff measurement and modeling techniques appropriate for arid-zone vegetation. Planning activities for work to be performed by Groeneveld was also conducted.

SUMMARY OF ACTIVITIES:

A one-day field examination of YM-area vegetation and soil characteristics was followed by an informal technical discussion with USGS staff regarding the impact of vegetation on shallow infiltration.

CONCLUSIONS:

Overall Impressions

The trip was extremely useful in orienting Groeneveld to the YM site and work that has been performed by the USGS related to shallow infiltration characterization. The trip was also useful for planning future activities with Groeneveld.

Noteworthy Highlights

A cursory field examination revealed a site in Bare Mountain that might be a good surrogate for YM for the purposes of estimating vegetation changes that might be expected under pluvial conditions. The site is located approximately one-half mile northwest of Fluorspar Canyon Road, in a region of bedded tuffs with augmented runoff due to exposed rock surfaces and somewhat higher elevation than YM.

Examination of trenches exposing the Solitario Canyon Fault provided indications that vegetation may have extended at least 2 m into the subsurface under pluvial conditions. Field examination in YM washes briefly addressed topography control of vegetation, surface cover of vegetation, fracture densities, and depth of soil cover.

Discussions with USGS staff were quite informative and frank regarding data collection techniques and modeling approaches for arid-zone vegetation impacts on infiltration. Particularly fruitful discussions centered on modeling techniques for vegetation, including seasonality, rooting depths, and adaptivity of vegetation to soil moisture conditions.

PROBLEMS ENCOUNTERED:

None

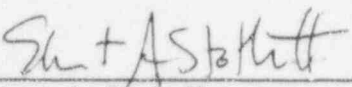
PENDING ACTIONS:

None

RECOMMENDATIONS:

None

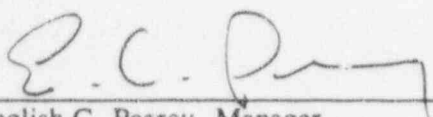
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Stuart A. Stoithoff
Research Scientist

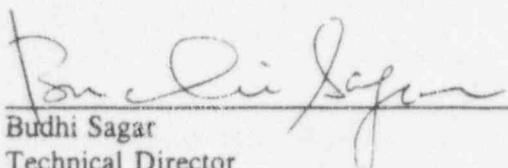
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Budhi Sagar
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