

May 28, 2002

Dr. English C. Percy, Manager
Geohydrology & Geochemistry
Center for Nuclear Waste Regulatory Analyses
6220 Culebra Road
Building 189
San Antonio, Texas 78228-0510

SUBJECT: REVIEW AND APPROVAL OF INTERMEDIATE MILESTONE
20.01402.561.230: "Revised analytical compositions of Pore Water collected
from Yucca Mountain, Nevada, and Vicinity" [CNWRA Ticket 2002 0097]

Dear Dr. Percy:

The Intermediate Milestone, "Revised analytical compositions of Pore Water collected from Yucca Mountain, Nevada, and Vicinity" (IM 1402.561.230) submitted to the U. S. Nuclear Regulatory Commission on May 10, 2002, has been reviewed by the NRC staff. This product is programmatically and technically acceptable.

Reported pore water at Yucca Mountain contain charge imbalances, unequilibrated aqueous speciation relationships, and erratic variability with depth in some species concentrations. This report provides a table of "corrected" pore water compositions from a variety of locations at Yucca Mountain (Appendex B). It is noted that these tables provide and document the individual revised groundwater compositions used to support work reported in an earlier deliverable/publication (Appendix A - "Thermodynamic Interpretations of chemical Analyses of Unsaturated Zone water ...") that was presented at the annual meeting of the Materials Research Society. Also, it is noted that this effort was co-authored by NRC staff. This collegial effort is applauded, and I view such an activity as a great benefit to both the NRC and the Center.

Further, I note that the results of this work will be used to evaluate DOE responses to several Near-Field Environment Technical Exchange agreements (e.g., ENFE 1.05, 2.04, 2.08, 2.09 and 2.10), as well as waste package agreements that relate to water chemistry. Also, I recognize that these data are being used to support performance assessment modeling. Finally, I note that this milestone was delivered over one month early.

Overall, the Center staff are commended for this effort, and for the integration of these results with CNWRA and NRC waste package and performance assessment staff. As a possible future activity, the CNWRA staff should consider evaluating the importance of the corrected pore water compositions by doing some off-line computer runs using both the original data set and the corrected data, and comparing the results.

If you have any questions concerning this review, please contact me at (301) 415-7284

(djb@nrc.gov).

Sincerely,
/RA/

David J Brooks
Program Element Manager
High-Level Waste Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

If you have any questions concerning this review, please contact me at (301) 415-7284 (djb@nrc.gov).

Sincerely,

/RA/

David J Brooks
Program Element Manager
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