

**U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**NUCLEAR WASTE TECHNICAL REVIEW BOARD
FULL BOARD MEETING**

**SUBJECT: CLOSING REMARKS ON
DOE PRESENTATIONS**

PRESENTER: ARDYTH M. SIMMONS

**PRESENTER'S TITLE
AND ORGANIZATION: ACTING TEAM LEADER, GEOCHEMISTRY
U.S. DEPARTMENT OF ENERGY
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT OFFICE**

**PRESENTER'S
TELEPHONE NUMBER: (702) 794-7998**

**JULY 12-13, 1994
DENVER, COLORADO**

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Status of Radionuclide Transport Investigation

1. Solubility and speciation

- Np carbonate, phosphates**
- Speciation modeling**
- Finish undersaturation experiments, Np, Pu, Am**
- Some work on Tc**

2. Sorption

- UZ**
- Fractures**

3. Colloid transport - complete work to satisfy strategy

4. Source term - improved understanding of timing and release rates and waste form degradation

Status of Radionuclide Transport Investigation

(Continued)

- 5. Influence of EBS materials - progress in developing testing matrix and materials, ongoing work with cements, diesel fuel**

- 6. Transport model - incorporating mineral dissolution, partially coupled reactive transport**

- 7. PA**

Focus of Future Work

- 1. Field scale transport tests - P-tunnel and Calico Hills**
- 2. Closure on strategies**
 - Validation of Kd approach**
 - Solubility of key radionuclides**
 - Potential significance of colloid transport**
- 3. Evaluate ^{14}C transport**
- 4. Model transport with full set of radionuclides**

Focus of Future Work

(Continued)

- 5. Improved model of waste package degradation and influence of EBS materials on total system performance**
- 6. Improved understanding of coupled thermomechanical-hydrologic-chemical processes**
- 7. Improved source term model - fuel dissolution and diffusive release**