



UNITED STATES
NUCLEAR WASTE TECHNICAL REVIEW BOARD
2300 Clarendon Boulevard, Suite 1300
Arlington, VA 22201

Panel on the Natural System
Crowne Plaza Hotel
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Las Vegas, NV 89109
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Unsaturated Zone Fluid Flow and Radionuclide Transport
Tuesday March 9, 2004

- 8:00 a.m. Call to order and introductory remarks**
Richard R. Parizek, Chair, Panel on the Natural System,
U.S. Nuclear Waste Technical Review Board
- 8:25 a.m. Geological evidence of past climatic and hydrologic regimes of the Great Basin**
[Eric McDonald](#),
Desert Research Institute
- 8:50 a.m. Questions and discussion*
- 9:05 a.m. Past, present, and future climate of Yucca Mountain**
[Saxon Sharpe](#),
Desert Research Institute
- 9:35 a.m. Questions and discussion*
- 9:55 a.m. Break**
- 10:10 a.m. Climate change and Yucca Mountain unsaturated zone hydrology**
[James Paces](#),
U.S. Geological Survey/Yucca Mountain Project
- 10:40 a.m. Questions and discussion*
- 11:00 a.m. Conceptual models of Yucca Mountain unsaturated zone flow**
[Alan Flint](#),
U.S. Geological Survey
- 11:30 a.m. Questions and discussion*
- 11:50 a.m. Public comments**
- 12:10 p.m. Lunch**

- 1:10 p.m. Session introduction**
Thure Cerling, member, Panel on the Natural System,
U.S. Nuclear Waste Technical Review Board
- 1:20 p.m. Role of secondary minerals in unsaturated zone radionuclide transport at the Peña Blanca analog site**
[William Murphy](#),
California State University, Chico
- 1:45 p.m. Questions and discussion*
- 2:00 p.m. Science and Technology program work at the Peña Blanca analog site**
[Ardyth Simmons](#),
BSC/Los Alamos National Laboratory
- 2:15 p.m. Questions and discussion*
- 2:25 p.m. Conceptual models and independent lines of evidence for evaluating DOE unsaturated zone model calculations**
[James Houseworth](#),
BSC/Lawrence Berkeley National Laboratory
- 3:05 p.m. Questions and discussion*
- 3:25 p.m. Break**
- 3:40 p.m. Sorption, matrix diffusion, and colloid-facilitated transport in unsaturated zone radionuclide transport models**
[George Moridis](#),
BSC/Lawrence Berkeley National Laboratory
- 4:10 p.m. Questions and discussion*
- 4:30 p.m. Unsaturated zone radionuclide transport predictions and abstractions for Total System Performance Assessment**
[Bruce Robinson](#),
BSC/Los Alamos National Laboratory
- 5:00 p.m. Questions and discussion*
- 5:20 p.m. Public comments**
- 5:50 p.m. Adjourn for the day**

Saturated Zone Fluid Flow and Radionuclide Transport

Wednesday March 10, 2004

8:00 a.m. Session introduction

Priscilla Nelson, Member, Panel on the Natural System,
U.S. Nuclear Waste Technical Review Board

8:10 a.m. Ground-water flow system of the Death Valley region

[Claudia Faunt](#),
U.S. Geological Survey/Yucca Mountain Project

8:40 a.m. Questions and discussion

9:00 a.m. Inyo County investigations of flow in fault zones south of Yucca Mountain

[John Bredehoeft](#),
The Hydrodynamics Group

9:30 a.m. Questions and discussion

9:50 a.m. Break

10:10 a.m. Ground-water flow system of the Yucca Mountain area

[James Winterle](#),
Center for Nuclear Waste Regulatory Analysis, Southwest Research Institute

10:40 a.m. Questions and discussion

10:55 a.m. Conceptual model of saturated zone flow and transport and independent lines of evidence for evaluating DOE saturated zone model predictions

[Ken Rehfeldt](#),
BSC/Los Alamos National Laboratory

11:25 a.m. Questions and discussion

11:40 a.m. Public Comments

12:00 p.m. Lunch

1:15 p.m. Session introduction

Daniel Bullen, Member, Panel on the Natural System,
U.S. Nuclear Waste Technical Review Board

1:25 p.m. Geochemical mapping of the ground-water system

[Gary Patterson](#),
U.S. Geological Survey/Yucca Mountain Project

1:40 p.m. Questions and discussion

1:50 p.m. Sorption, matrix diffusion, and colloid-facilitated transport in saturated zone radionuclide transport models

[Stephanie Kuzio](#),
BSC/Sandia National Laboratory

2:10 p.m. Questions and discussion

2:20 p.m. Saturated zone radionuclide transport predictions and abstractions for Total System Performance Assessment

[Bill Arnold](#),
BSC/Sandia National Laboratory

2:50 p.m. Questions and discussion

3:10 p.m. Break

3:30 p.m. Roundtable discussion

5:00 p.m. Public comments

5:30 p.m. Adjourn