

HLWYM PEmails

From: Bradbury, John
Sent: Wednesday, October 17, 2007 1:06 PM
To: Paul Bertetti; Patrick Laplante; Hill, Brittain; Pohle, Jeffrey; Rubenstone, James; Compton, Keith; Fedors, Randall; McCartin, Timothy
Cc: Guttman, Jack
Subject: Additional Background for Cambric Meeting
Attachments: Comparison of Cambric Experiment to Yucca Mountain Conceptual Model.doc

Attached is a table comparing some aspects of the Cambric site and YM conceptual model.

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From: Bradbury, John

Created By: John.Bradbury@nrc.gov

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Comparison of Cambric Experiment to Yucca Mountain Conceptual Model.doc		

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Options

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Comparison of Cambric Experiment to Yucca Mountain Conceptual Model

Characteristic	Cambric Experiment Tompson et al, 2006 Maxwell et al, 2006	Yucca Mountain
Geologic Medium	Alluvium	Alluvium
Depth to Water Table	220m	100m
Pumping rate	968 acre feet/yr	3000 acre feet/yr
Surface disposition of water	1D (1mile long trench)	2D (500 acres) = 3 pivot points (using examples from OFR 03-104)
Pumping Duration	16 years	? time to reach steady state
Contaminants	H3, Cl36, Kr85, C14, I129, Ru106, Tc99, (Sr90, Cs137, Pu238,239 undetected) Np237	C , Cl , Ni, Se, Sr , Zr, Mo, Nb, Tc , Pd, Ag, Sn, I , Cs , Sm, Pb, Ra, Ac, Th, Pa, U, Np , Pu , Am, Cm
Residence Time in Vadose Zone	3-5 years for H3, and presumably Cl36, Tc99, and I129; 32 years for Np237	Estimated to be 100 years for nonretarded radionuclides; 4100 years for Np with Kd of 6.35mL/g (from SZ FEP AMR, 2005)
Recycling on pumping	60% of H3 after 16yrs	C recycled/ C open $\leq$ 1.5 at steady state estimated (from SZ FEP AMR, 2005)