HLWYM HEmails

From: Paul Bertetti
Sent: Tuesday, September 26, 2006 2:43 PM
To: Philip Justus
Cc: John Bradbury; Eugene Peters; Randall Fedors
Subject: RE: QUESTIONS FOR DOE: on rock and rock properties correlation

Phil,

As Gene requested, I am sending you my comments and questions on some of the topics you mention below.

1. For SZ transport, one important factor is the length of alluvium along the expected flow path of groundwater. Understanding the stratigraphic relationships in Fortymile Wash south of YM is critical to the development of confidence in the flow path conceptual model used in TSPA. Questions would include:

How is the transition from flow in the volcanic tuff to alluvium defined? How does the character of volcanic layers underlying Fortymile Wash change spatially (i.e., what are the characteristics of the distal portions of the ash flow/fall layers?) Is enough stratigraphic information/detail known to determine if a significant component of flow occurs in the tuffs in the southern part of Fortymile Wash (nearer to US 95)?

2. The properties of alluvium units are not separated in any way. I'm not sure there needs to be further delineation with respect to transport. There are, however, basic questions about the adequacy of the distributions used to describe the uncertainty/variation in the alluvium. For instance, how have results of field tests corresponded to values used for porosity, effective porosity, density, and other alluvium properties?

3. The issue of layer correlation in the saturated zone is important in discussions of the potential continuity of layers and recognition of units that may be used to delineate structure in the southern part of Fortymile Wash. I would be interested to know how the DOE has ensured that consistent naming/recognition of layers has been applied to their conceptual model of Fortymile Wash layering (especially in the upper 1 km).

Paul

-----Original Message-----
From: Eugene Peters [mailto:EMP2@nrc.gov]
Sent: Tuesday, September 26, 2006 9:00 AM
To: Alexander Sun; Chandrika Manepally; Jude McMurry; Paul Bertetti; Stuart Stothoff
Cc: Jack Guttmann; Philip Justus; Randall Fedors
Subject: Fwd: QUESTIONS FOR DOE: on rock and rock properties correlation

See message from Phil Justus below. Randy is in training today and so might not get this in a timely manner. plese respond directly to Phil if you have input and copy Randy or me as appropriate.

Thx
Gene

From Phil Justus:
Modelers. Quickly developing situation. Request your off-the-top input. An On-site Rep visit (possible alternative: teleconference) may occur next week, Oct 5th. Focus is on Correlation of rock properties with lithostratigraphic layers. I'm collecting, categorizing and prioritizing your questions about DOE's changing rock unit correlations and to ensure that DOE's latest properties attributed to rock units are readily identified, such as by referencing "official" correlation charts (online?). Are you sure that DOE's lithostratigraphic charts are accurately correlated with rock property charts? Are the hydrostratigraphic units/thermo-mechanical/rockmass quality zones, for example, in DOE's models correlated with the lithostratigraphic units you are using? Do you have a question about the properties of various Quaternary alluvium units? Do you have a question about the identity and corresponding characteristics of rocks below the water table or below the Tram unit that are being recovered in Nye County wells? Are you using the stratigraphic charts in your lab and in your models that DOE considers current? How do you know? Please email me today, if possible (by noon?) preliminary questions for DOE on this

subject. Don't worry about being out of scope. I'll save some questions for follow-up interactions on detailed correlations, updating charts, making latest info accessible, etc. The basis for rock properties and their use in analyses is beyond the scope of this interaction (that's more in line with user group interactions and ISI topics). Feel free to have others address questions to me. Thanks. Phil

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Gene Peters
US Nuclear Regulatory Commission
Nuclear Materials Safety & Safeguards
HLWRS/TRD
(301) 415-5248

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Recipients:
"John Bradbury" <John.Bradbury@nrc.gov>
Tracking Status: None
"Eugene Peters" <Eugene.Peters@nrc.gov>
Tracking Status: None
"Randall Fedors" <Randall.Fedors@nrc.gov>
Tracking Status: None
"Philip Justus" <Philip.Justus@nrc.gov>
Tracking Status: None

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