HLWYM HEmails

From: Shannon Colton [scolton@swri.edu]
Sent: Tuesday, September 26, 2006 1:20 PM
To: 'Deborah Waiting'; Darrell Sims
Subject: FW: QUESTIONS FOR DOE: on rock and rock properties correlation

Debbie and Darrell,

Here's what I sent Phil FYI.

--Shannon
-----Original Message-----
From: Shannon Colton [mailto:scolton@swri.edu]
Sent: Tuesday, September 26, 2006 11:25 AM
To: 'Philip Justus'
Subject: RE: QUESTIONS FOR DOE: on rock and rock properties correlation

Phil,

I have not used rock properties specifically, but I have had situations where hydrostratigraphic units needed to be correlated with lithostratigraphic units. I have used the correlation chart from the Multiscale Thermohydrologic Model (ANL-EBS-MD-000049 REV 02, October 2004) for work on several projects for those correlations, and checked with other team members to make sure that our correlations are consistent. In my experience, there have been a number of inconsistencies between various sources being used when we initially check with each other about what to use. I am not sure how we determine whether or not we are using the latest correlation chart. Note, too, that hydrostratigraphic units don't clearly correlate to lithostratigraphic units in many cases. A hydrostratigraphic unit can be distributed among several lithostratigraphic units, such that you cannot simply say that a particular lithostratigraphic unit includes a particular group of hydrostratigraphic units or vice versa. This has been a problem, for example, when trying to determine hydrostratigraphic unit thicknesses based on the GFM3.1 or GFM2000 models, where the lithologic contacts do not clearly correspond to hydrogeologic contacts.

I am very much interested in how the lithologic units are being identified for Nye County wells, particularly the tuffs underlying alluvium in the Fortymile Wash and Amargosa Valley area. A recent abstract by Spengler et al., (2006) from the International High-Level Radioactive Waste Management Conference shows lithologic units (including tuffs) identified by those authors, but after reading the abstract and looking at lithologic logs from the Nye County EWDP web site, it is still not clear to me how Spengler et al., (2006) were selecting the lithologic unit contacts.

I'm glad that you will be asking about the GFM2000 and GFM3.1 models--i.e. which will be used for the LA. I would also like to point out that while working on the recent three-dimensional site-scale model update, I found a number of inconsistencies in unit thicknesses between borehole data used in GFM2000, GFM3.1, and the P51 workbooks which were supposed to be summary Excel workbooks to use as a basis for well data in both GFM models. I would like to understand why those inconsistencies exist.

I am looking into LSO listings from Sept. 21, 2006. Some of the listings I'm interested in include (on p. 53) the GFM2000, MM3.0, and Rock Properties Model.

Sorry I didn't get this back to you this morning. I hope that we can talk about this later. Please feel free to call when you get a chance, or we can discuss it further at the meeting Debbie is arranging.

Thanks,
Shannon

Shannon L. Colton, Scientist (210)522-6837
CNWRA, SwRI fax: (210)522-5155
6220 Culebra Road mailto:scolton@swri.org

San Antonio, TX 78238-5116

-----Original Message-----
From: Philip Justus [mailto:PSJ@nrc.gov]
Sent: Tuesday, September 26, 2006 9:35 AM
To: Shannon Colton
Subject: Fwd: QUESTIONS FOR DOE: on rock and rock properties correlation

Shannon. John S told me you are gathering LSN/LSO sources related to this subject. Please take some time to share your queries, this morning, if possible, but accepted when ready. Phil

>>> Philip Justus 09/26/2006 9:47 AM >>>
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

Hearing Identifier: HLW_YuccaMountain_Hold_EX
Email Number: 393

Mail Envelope Properties (009701c6e190$0f48b040$c7c8a281)

Subject: FW: QUESTIONS FOR DOE: on rock and rock properties correlation
Sent Date: 9/26/2006 1:20:27 PM
Received Date: 9/26/2006 1:20:37 PM
From: Shannon Colton

Created By: scolton@swri.edu

Recipients:
"'Deborah Waiting'" <deborah.waiting@swri.org>
Tracking Status: None
"Darrell Sims" <dsims@cnwra.swri.edu>
Tracking Status: None

Post Office: cnwra.swri.edu

Files	**Size**	**Date & Time**
MESSAGE	5418	9/26/2006 1:20:37 PM

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received: