From: "Griffiths, Stewart" <skgriff@sandia.gov>
To: "Dykhuizen, Ronald C" <rcdykhu@sandia.gov>
Cc: "Griffiths, Stewart <skgriff@sandia.gov>
Bcc:
Date: 08/11/10 12:25:13 pm
Subject: Re: well flow rates and total discharge
Attachments:

Thanks Ron.

I do assume that the parameters do not change with conditions, and I do also understand the perils of simple "curve fitting" and using the results outside the range of applicability. But I do not think either of these are the case here.

Sounds like maybe you have interpreted rho* as related to the static head. It is not. This "density" has almost no relevance to shut in conditions, but is instead influenced mostly by flow rates when they are highest. The nearly shut-in conditions with little flow influence mostly the estimated reservoir pressure, and I determine this only without the static head (its not needed for any of the calculations).

As for "curve fitting," the model reproduces all pressures through the shut in very well, I think, and those conditions span all of the conditions relevant to the 87 days except for the varying reservoir pressure. So I don't see any significant

I like your approach, and I use it often to interpret experimental measurements. However, if the parameter that I find is non-physical (i.e. a heat transfer problem where a negative emissivity provides the best fit of the data), then one might question the model. The model at that point becomes a curve fitting exercise, and if one has enough free parameters, then you can fit any data set (even if the model is bad). Extrapolation of such a model beyond the range of the data then is very suspect.

I do not think you fully understood my question. I suspected that the density was simply a fitting factor.

Why do you report such small error (+/- 80) on the flow rates? This appears in 4 places on slide 5. Is that what you determine? I do not know anybody that would justify such a small number.

I like your approach, and I use it often to interpret experimental measurements. However, if the parameter that I find is non-physical (i.e. a heat transfer problem where a negative emissivity provides the best fit of the data), then one might question the model. The model at that point becomes a curve fitting exercise, and if one has enough free parameters, then you can fit any data set (even if the model is bad). Extrapolation of such a model beyond the range of the data then is very suspect.

Another question from your original slide presentation:

Why do you report such small error (+/- 80) on the flow rates? This appears in 4 places on slide 5. Is that what you determine? I do not know anybody that would justify such a small number.

11435

Exhibit No. _____
Worldwide Court
Reporters, Inc.

CONFIDENTIAL

SNL144-007429

TREX 011435.0001