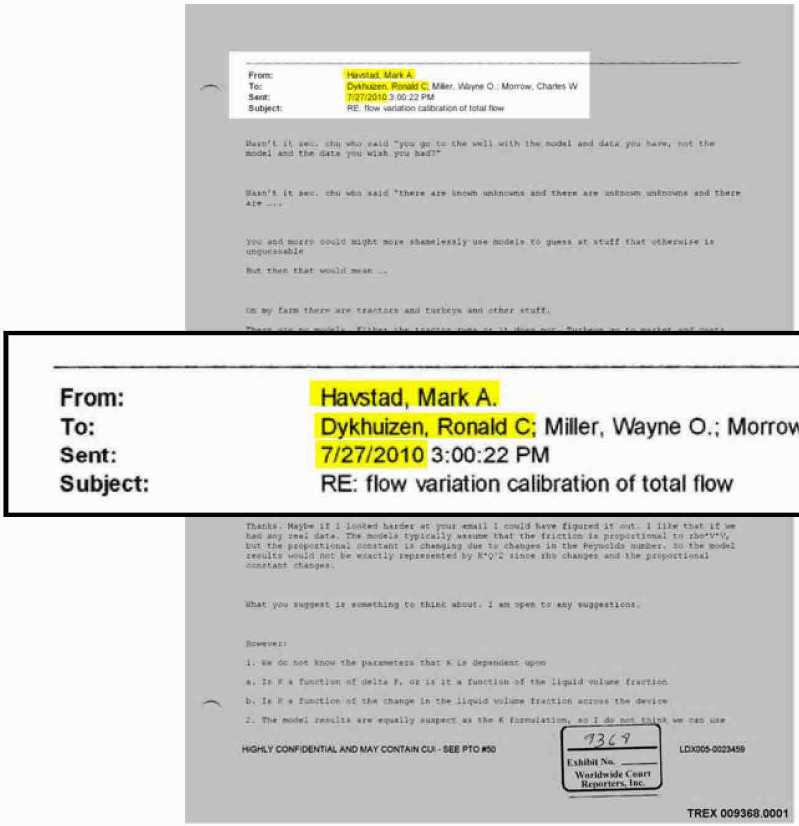
BP

9368.1.2



From: Havstad, Mark A.
To: Dykhuizen, Ronald C; Miller, Wayne O.; Morrow, Charles W
Sent: 7/27/2010 3:00:22 PM
Subject: RE: flow variation calibration of total flow

Wasn't it sec. chu who said "you go to the well with the model and data you have, not the model and the data you wish you had?"

Wasn't it sec. chu who said "there are known unknowns and there are unknown unknowns and there are ....

You and morro could might more shamelessly use models to guess at stuff that otherwise is unguessable

But then that would mean ...

On my farm there are tractors and turkeys and other stuff.

Thanks. Maybe if I looked harder at your email I could have figured it out. I like that if we had any real data. The models typically assume that the friction is proportional to rho*V^2, but the proportional constant is changing due to changes in the Reynolds number. So the model results would not be exactly represented by K*Q^2 since rho changes and the proportional constant changes.

What you suggest is something to think about. I am open to any suggestions.

However:

1. We do not know the parameters that K is dependent upon

a. Is K a function of delta P, or is it a function of the liquid volume fraction

b. Is P a function of the change in the liquid volume fraction across the device

2. The model results are equally suspect as the K formulation, so I do not think we can use

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