The velocity is very dependent on the riser ID being correct, and the hold-up, but is probably the best line of estimation if we can measure the transport of a dispersion pulse and get gamma to clarify the hold-up.
From: Lockhart, Tim  
Sent: Mon May 03 17:18:07 2010  
To: Hill, Trevor  
Subject: Best estimate  
Importance: Normal  
Attachments: Flow estimation.ZIP  

Trevor  

Some of the data from Ian’s model has been updated (fluid model completion below the end of the drill string) so I re-ran the cases to generate the attached s/s which then uses that data to give a flowrate estimate as a function of pressure at the ROP, temperature at the ROP and Dn of the drillpipe and velocity of either liquid or mixed phase in the riser – which is currently 19.5 inch ID in the model.  

The velocity is very dependent on the riser ID being correct, and the hold-up, but is probably the best line of estimation if we can measure the transport of a dispersion pulse and get gamma to clarify the hold-up.  

The temperature is dependent on the Dn value assumed for the tubing.