

From: Miller, Wayne O. [mailto:miller99@llnl.gov]
Sent: Thursday, August 05, 2010 5:07 PM
To: Ratzel, Arthur C; Bill.Lehr@noaa.gov
Cc: [REDACTED]; mcnut@usgs.gov; Dykhuizen, Ronald C
Subject: RE: Flow Rate Calculation

Tom

I asked Wayne Miller to respond to Bill Lehr's questions passed on to us earlier today by Marcia McNutt. I had also copied you but the email bounced - used Comcast.com instead of Comcast.net (oops!)

Below I've attached his response. I'll visit with Ron Dykhuizen and the rest of the Tri-Lab Flow Analysis Team and confirm that we responded to the questions related to compressibility appropriately. I also recall hearing the same numbers being mentioned in discussions with Paul Hsieh last week when we were trying to establish conditions for the reservoir that could help us with computing flow rates for times other than the shut-in period.

Art

From: Miller, Wayne O. [mailto:miller99@llnl.gov]

As I recall the reservoir rock compressibility of 6×10^{-6} /psi was the original estimate from BP. Paul Hsieh of USGS used this value, and also 12,18 in his reservoir studies. Higher values resulted in higher flow rates all else equal. It was a modeling parameter used to try and fit limited observed data. I recall Paul liked 12 the best, but any could be made to work with different reservoir assumptions such as size and aquifer drive. He discussed this in the July 30 round-table and the results are in the compiled presentation (also attached).

removal of the riser is about 5%. This estimate consistently used parameters that maximize the increase."

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Regards,
Wayne Miller

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