

From: [Nygaard, Kris J](#)
To: [Carpenter, Thomas](#)
Subject: Follow-Up to the EPA SAB Questions Directed to Dr. Nygaard (Incident Frequency Data)
Date: Wednesday, June 15, 2016 4:33:27 PM

Dear Mr. Carpenter, following my comments and the questions directed to me during yesterday's EPA SAB meeting, immediately below is the direct link to the Kell (August 2011) Report "*State Oil and Gas Agency Groundwater Investigations And Their Role in Advancing Regulatory Reforms A Two-State Review: Ohio and Texas*" that I mentioned I would provide the reference to the SAB.

I specifically direct the SAB's attention to address specific statistics questions to Page 37 Figure 12 (Ohio) and Page 75 Figure 32 (Texas).

<http://www.gwpc.org/sites/default/files/State%20Oil%20%26%20Gas%20Agency%20Groundwater%20Investigations.pdf>

I also presented at a National Academies workshop (May 2013) and included in my archived presentation (on slide 29) is my summary interpretation of incident frequency based on the Kell report. The link to this archived presentation (publicly available on the National Academies website) is:

http://sites.nationalacademies.org/cs/groups/dbassesite/documents/webpage/dbasse_083404.pdf

The total incident rate documented in the Kell report is approximately 0.1% with the majority of the incidents associated with surface incidents. Note the data in the Kell report spans 25 years in Ohio and 16 years in Texas and is associated with approximately 220,000 drilled wells.

The 0.1% incident rate suggested by this report is conservative. Current rates are expected to be lower as regulations have been strengthened from 2011-2016.

Thank you in advance for sharing this information with the EPA SAB members, and I appreciated the opportunity to share my comments with the EPA SAB yesterday.

Sincerely,

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