

Interactive comment on “Quantifying alkane emissions in the Eagle Ford Shale using boundary layer enhancement” by G. Roest and G. Schade

G. Roest and G. Schade

gsroest@tamu.edu

Received and published: 23 March 2017

The authors' responses to Anonymous Referee #1 are below. Each response is provided below the Referee's original comments.

Specific comments:

"Section 2.1: I had a hard time figuring out how many sites were used in the analysis based on the description in Section 2.1 and Figure 1. Table S1 was helpful for me to understand - consider moving it to the main paper. Indicate that there are five total sites. Section 2.1 says there are "several sites in Corpus Christi, including Hillcrest and Oak Park" but only those two are indicated in Table S1. I would also use a different color and/or more prominent symbol for the TCEQ sites in Figure 1 - as it is the symbols are hard to find, especially ones inside the circles indicating large cities."

C1

Response: Table S1 has been moved to the main text as Table 1 and the selection of the two sites in Corpus Christi has been justified. Figure 1 has also been updated and is attached.

"Section 3.1: Mention Floresville. Even though the measurements didn't start until 2013, the signal is prominent in the figure."

Response: The elevated ethane mixing ratios from 2013-2015 have been added to the discussion.

"page 11, line 12: Specify that the emission rate displayed no trend *over the period 2013-2015*. (Otherwise seems inconsistent with results from Figure 2.)"

Response: This comment has been accepted and addressed in the text.

"There are many acronyms in this paper. Readability might be improved if the authors wrote some of them out instead. RNG (raw natural gas) and TG (tank gas), for example."

Response: Except for subscripts in equations, RNG and TG have been replaced with "raw natural gas" and "tank gas".

Technical comments:

"page 2, line 7: "associated with gas produced" instead of "associated gas produced""

Response: "Associated gas" is often used to refer to natural gas that is coproduced at oil wells. This change was not accepted. Instead, "associated gas" was italicized to indicate that it is a phrase.

"page 10, line 1: "significantly more constrained" instead of "significantly more constraint""

Response: This comment has been accepted and addressed in the text.

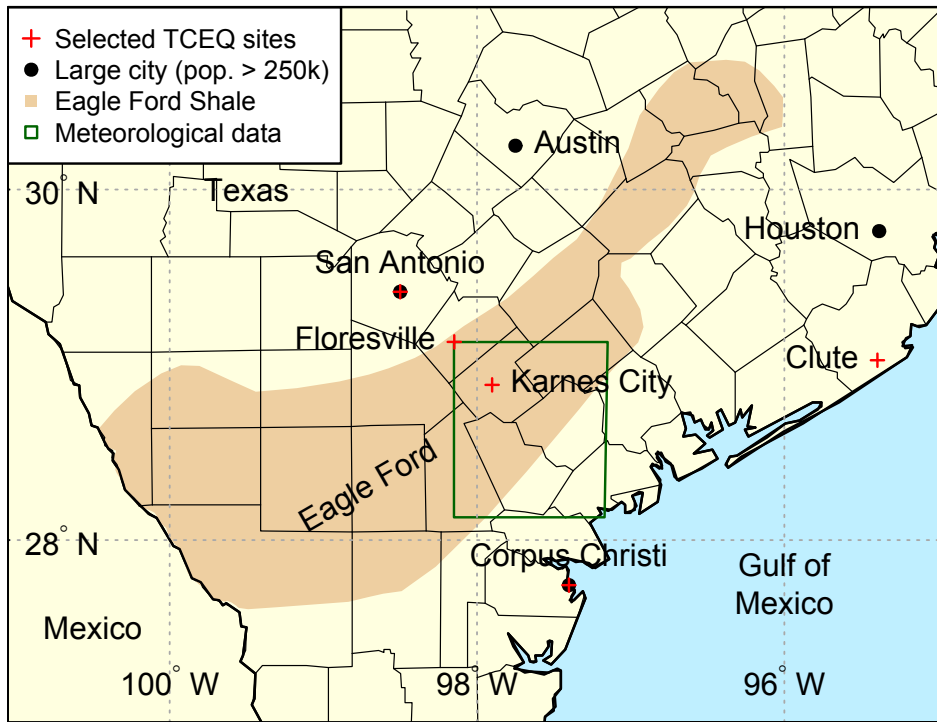


Fig. 1. Figure 1 in the manuscript has been updated to address the Referee's first comment.