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ENERGY INSTITUTE
COLORADO STATE UNIVERSITY

Peter Roos
Bridger Photonics
2310 University Way
Building 4-4
Bozeman, MT 59715

Dear Peter Roos,

Ethan Emerson and I have conducted our review of Bridger Photonics' white paper, entitled "Characterization of Emission Source Localization Accuracy for Bridger Photonics' Gas Mapping LiDAR." Several comments were made on the initial draft that was sent to us, several changes based on our commentary were made and our final review is as follows:

Bridger Photonics' whitepaper, entitled "Characterization of Emission Source Localization Accuracy for Bridger Photonics' Gas Mapping LiDAR," presents an evaluation and accuracy assessment of localizing methane plume origins from airborne platforms. Through single-blind controlled methane releases, the technology's performance was assessed against calibrated real-time-kinetic (RTK) geodetic coordinates, demonstrating that the GML technology can accurately localize emission sources within 2 meters of their actual positions. Our independent assessment, based on data provided by Bridger Photonics, acknowledges the robust dataset, the rigorous testing program, and the data processing protocols employed, which collectively underscore the technology's reliability in locating plume origins. However, we have identified several limitations in their analysis:

1. The plumes used in this testing procedure are cold-vent, low-pressure sources and do not reflect the full spectrum of emissions occurring on oil and gas sites.
2. Wind conditions during the tests were classified as 'non-turbulent' and within 'simple wind fields'. No localization assessment was performed with any obstructions to the plume, thus the testing conditions are not fully representative of conditions likely to be encountered on more complex oil and gas facilities.
3. The whitepaper does not address whether there are any lockout conditions (environmental or operational) that might prohibit accurate plume localization, e.g., wind speeds less than 0.2 m/s.

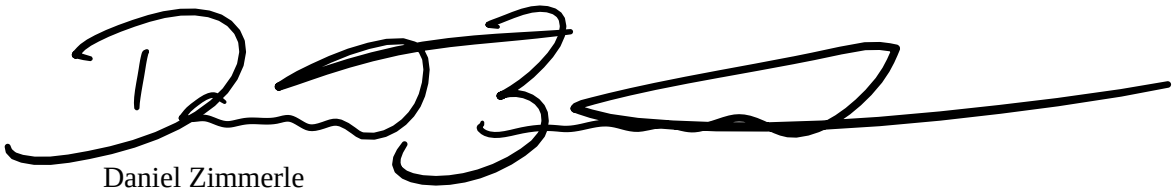
Additionally, we note a couple of caveats to our own assessment:

- We did not observe the test firsthand and cannot attest to the quality of the operations.
- The analysis was technically not single-blind, as the same company conducted both the releases and the analysis. However, we do not have evidence to suggest that the integrity of a single-blind process, as discussed by the company, was compromised.

In conclusion, our assessment of this technology, based on the whitepaper, suggests that it represents a significant amount of rigorous work and analysis. This work demonstrates that Bridger Photonics' Gas Mapping LiDAR can spatially locate the origin of methane emission plumes within a 2-meter radius.

Please feel free to contact me with any questions or concerns: dan.zimmerle@colostate.edu / 970-581-9945. Please understand we cannot offer financial assistance, but we look forward to your visit and exploring potential collaboration.

Sincerely,



Daniel Zimmerle
METEC Director