

## **Alternative Test Method Application Summary:**

### **Alternative Test Method – Detect and Localize Methane Emissions using Gas Mapping LiDAR™ Technology**

**Minimum Detection Threshold:  $\leq 15$  kg/hr with 90% Probability of Detection**

#### **Submission Details**

Company name	Bridger Photonics, Inc.
Submission point of contact name	Asa Carre-Burritt
Product name	Gas Mapping LiDAR™
Technology type	Airborne mobile remote sensor
Target applicability	Broadly applicable across the sector
Target emission rate threshold	15 kg/hr
Target spatial resolution	Area-level
Request number	ALTTECH-19
Request numbers for connected alternative test method applications	ALTTECH-14 (1 kg/hr), ALTTECH-15 (2 kg/hr), ALTTECH-16 (3 kg/hr), ALTTECH-17 (5 kg/hr), ALTTECH-18 (10 kg/hr)

#### **Summary of Submitted Documents**

##### **Documentation**

<b>Document Name(s) with Extension</b>	<b>Document Description</b>
GML_15kg_hr_ATM_Application_Summary_1.1.pdf	Alternative test method application summary (this document).

##### **Description of Technology**

<b>Document Name(s) with Extension</b>	<b>Document Description</b>
GML_Description_of_Technology.pdf	The description of measurement technology as required by 40 CFR 60.5398b(d)(3)(iii).

##### **Formal Alternative Test Method**

<b>Document Name(s) with Extension</b>	<b>Document Description</b>
GML_15kg_hr_Alternative_Test_Method_1.1.pdf	Test method application document, which includes a cover letter, a breakdown of required information, and the formal alternative test method.

### Supporting Documentation

Document Name(s) with Extension	Document Description
Article_Bell_Single-Blind_Testing.pdf	Peer-reviewed research article describing the detection limits and quantification accuracy of GML as determined by single-blind testing.
Article_Johnson_Blinded_Evaluation_of_GML.pdf	Peer-reviewed research article that assessed GML detection sensitivity and quantification accuracy through fully-blinded field testing.
Article_Conrad_Robust_Probabilities_of_Detection.pdf	Peer-reviewed research article describing a new continuous probability of detection function and quantification uncertainty model for GML developed using fully-blinded and single-blind testing results.
Article_Thorpe_Deployment_Invariant_GML_POD.pdf	Research article preprint describing a model developed to assess GML probability of detection for individual Target Area scans across widely varying measurement conditions, as based on fully-blinded and single-blind testing results. Reported are detection sensitivities achieved by GML during prior measurements within major North American oil and gas production basins.
White_Paper_Bridger_Localization_Characterization.pdf	White paper describing GML emission source localization performance determined through controlled release testing.
Review_METEC_GML_Localization_White_Paper.pdf	Third party review of Bridger's white paper describing testing of GML emission source localization performance.

### Version Log

Revision	Date	Change Summary
1.0	5/23/24	Initial submission

1.1	6/1/24	Addition of the description of technology as a standalone document. Updates to page numbering and minor formatting changes in the formal test method document.
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