GAS MAPPING LIDAR™ METEC ROUND 1 RESULTS

The development of Gas Mapping LiDAR™ was funded, in part, by an award from the Department of Energy's (DoE's) Advanced Research Programs Agency – Energy (ARPA-E). As an ARPA-E awardee, Bridger Photonics, Inc. (Bridger) conducted "Round 1" single-blind testing of their Gas Mapping LiDAR™ technology at the Methane Emissions Technology Evaluation Center (METEC) in Colorado Springs, CO. During these tests, Gas Mapping LiDAR™ was tasked with identifying 17 leaks and one null (no emission intended), the location of the leak sources, and the leak rates (emission fluxes) for each leak.

For these tests, Gas Mapping LiDAR™ correctly identified all 17 issued leaks with no false positives and no false negatives, and identified the one null, across three well pads. Gas Mapping LiDAR™ located all issued leaks to within a one-meter (3.28-foot) radius of the source. Figure 1(left) shows example localization results. The figure shows METEC's Well Pad #1 from the top view (center section) and side views (three adjacent sections) with a 0.25-meter grid spacing. The yellow dots represent the actual locations of the leaks and the green dots represent the analytical determinations of the location from Gas Mapping LiDAR™. When only a green dot is visible, the METEC actual location and the Gas Mapping LiDAR™ determination were within the same grid cell.

Furthermore, Gas Mapping LiDAR™ quantified all 17 issued leaks to within 50% of the METEC uncertainty range (2/3 within 20%). Figure 1(right) shows the quantification results for all leaks issued in ascending order, which was not the order of emission. The light blue bars represent the flow rate uncertainty for METEC's actual emissions. The dark blue dots represent the analytical determination of the leak rate from Gas Mapping LiDAR™.

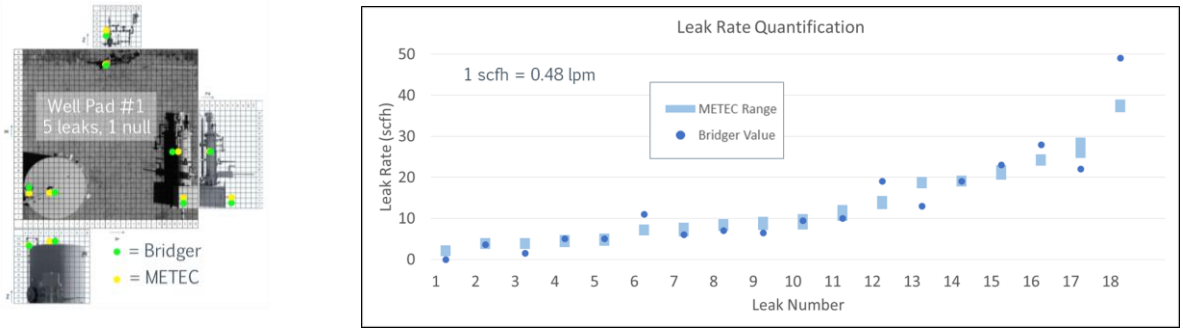

Figure 1. Left: Round 1 localization results for Well Pad #1 showing actual locations (yellow) and Bridger measured locations (green). Right: Round 1 quantification results showing METEC emission uncertainty range (light blue bars) and Bridger emission measurements (dark blue dots) for a null and 17 leaks.