

# **Fugitive Emission Management Program (FEMP) Effectiveness Assessment – Phase I Clearstone Engineering**

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Fugitive emissions from UOG operations has motivated a tremendous number of research initiatives ranging from leak detection and measurement technology development to inventory estimation and regulatory management strategies. Publications that provide the most insight into the effectiveness of FEMP to detect, document, and reduce the risk of small leaks becoming large leaks are summarized in Table ES1. These studies are typically based on field measurements with the leak detection method, number of sites surveyed and key findings summarized in columns 3 to 5 of Table ES1 plus critical observations presented in columns 6 to 11. A critical review of each publication was completed to determine whether it addressed the following FEMP effectiveness knowledge gaps?

- Did the facility maintenance program repair the leaks detected and then confirm component

screening concentrations were less than 500 ppmv?

- What was the cost to repair or replace the leaking component documented?
- What was the minimum detection limit of the survey method applied?
- Was a reference method applied to confirm 100% of the leaking components were detected by the primary survey method?
- What impact does survey frequency have on reducing leak magnitude and frequency?
- Was abnormal process venting assessed and distinguished from equipment component leaks?

Final Report