

NOAA Mobile Laboratory Measures Oil and Gas Emmissions

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A van capable of continuous real time measurement of CH₄, CO₂, CO, Water Vapor, Ozone, NO, NO₂, Volatile Organic Compounds (VOCs) (including aromatics) and other trace gases was driven in the oil and gas fields of the Uintah Basin in northeastern Utah. Compressor stations, processing plants, oil and gas well heads, separators, condensate tanks, evaporation pond disposal facilities, holding tanks, hydraulic fracturing sites, gas pipelines and more were studied using the van. The mobile measurements provide a powerful tool to get to the source of emissions and reveal the unique chemical signature of each of the stages and components of oil and gas production as well as overall basin and background gas concentrations. In addition to a suite of gas analyzers, the van includes a meteorological system, GPS tracking, flask sampling system, and a battery power system. Aspects of the vans hardware, sampling methods and operations are discussed along with a few highlights of the measurements.



Figure 1. The Van is shown on roads near Oil and Gas operations and a coal power plant in the Uintah Basin near Vernal, Utah.