

ABSTRACT

Flare gases, consisting of methane and other volatile organic compounds, are byproducts of oil and gas extraction. While flaring serves as a safety measure, it contributes to greenhouse gas emissions and releases pollutants that affect air quality and community health. This report examines the dispersion behaviours of flare gases under various weather conditions using the CALPUFF dispersion model, hosted by the Oman Meteorological Service. Experiments were conducted under different temperature and wind conditions to assess pollutant dispersion and transport. Our findings provide insights into the effects of wind and temperature on flare gas dispersion and the model's efficacy in simulating pollutant dispersion. The CALPUFF's algorithms and performance in simulating gases, particulate matter, and toxic substances are also critically discussed.

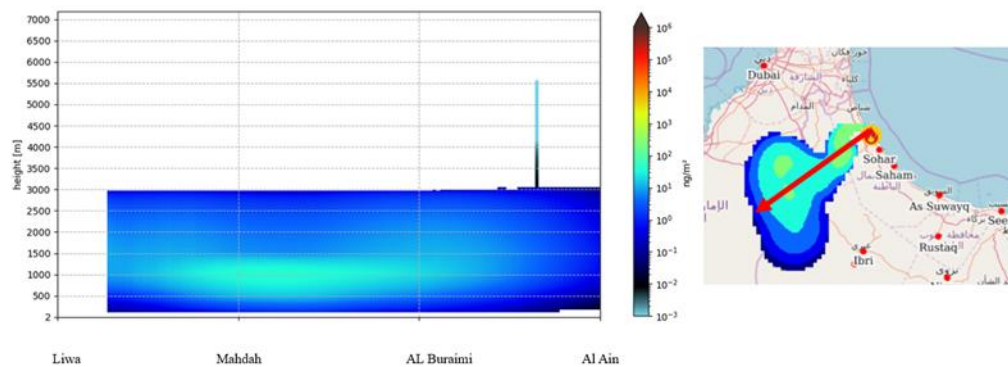


Figure 1 cross section graph of dispersed propane

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