

## Monitoring CO<sub>2</sub> and H<sub>2</sub>S Emission in Live Austrian and UK Concrete Sewer Pipes

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**Abstract :** Corrosion of concrete sewer pipes induced by sulfuric acid is an acknowledged problem and a ticking time-bomb to sewer operators. Whilst the chemical reaction of the corrosion process is well-understood, the indirect roles of other parameters in the corrosion process which are found in sewer environment are not highly reflected on. This paper reports on a field studies undertaken in Austria and United Kingdom, where the parameters of temperature, pH, H<sub>2</sub>S and CO<sub>2</sub> were monitored over a period of time. The study establishes that (i) effluent temperature and pH have similar daily pattern and peak times, When examined in minutes scale, (ii) H<sub>2</sub>S and CO<sub>2</sub> have an identical hourly pattern, (iii) H<sub>2</sub>S instant or shifted relation to effluent temperature is governed by the root mean square value of CO<sub>2</sub>.

**Keywords :** concrete corrosion, carbon dioxide, hydrogen sulphide, sewer pipe, sulfuric acid

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