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ASSESSMENT AND TREATMENT OF FLUE GAS RELEASED INTO THE ATMOSPHERE (A CASE STUDY OF KRPC)

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ABSTRACT

The paper seeks to redress problems of dispersing hydrocarbons at a continuous rate and in large concentrations into the atmosphere. The flare stack is a point if interest because it accounts for up to seventy percent of the emissions into the atmosphere. The assessment of flue gas to ascertain the type and concentrations of waste gases present before been flared to the atmosphere, and it treatment using granular activated carbon and cow manure compost both incubated with thiobacillus; (a bacteria) was carried out, at a retention time of 30 minutes.

The results obtained show that in both cases water formed a fairly stable emulsion with the dissolved gases in the packed bed, high reduction in the concentration of gaseous contaminants to FEPA allowable thresh-hold limits. Granular activated carbon (GAC) has more affinity for sulphur base gases such as H_2S, SO_2 and also NH_3. The cow manure compost (CMC) has better reduction in the concentrations of some gases that are carbon related. The aftermath of the treatment is left with a biomass which can be de-emulsified and act as sources for biochemical substrate for pharmaceutical companies, feed stock for fertilizers companies.