

### Alkaline Wastewater Neutralization Using LFG

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A lab scale apparatus is used for removal Carbon dioxide (CO<sub>2</sub>) from Landfill Gas (LFG) mixture using chemical absorption technique. Various liquid solvents were used and gaseous LFG mixture was passed through these solvents. The absorptive capacity of the liquid solvents and absorption kinetics were studied by obtaining the respective 'breakthrough curves'. Aqueous solutions of sodium hydroxide (NaOH) were used initially to demonstrate the robustness of the experimental apparatus. Alkaline wastewater proved to be highly effective CO<sub>2</sub> absorbent due to its high alkalinity which arose from the presence of ammonia. Effective CO<sub>2</sub> loading and breakthrough curves were also obtained for aqueous ammonia solution which is a promising absorbent for removal of CO<sub>2</sub> from LFG.