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**Poster Title: Phosphate Removal and Recovery using Drinking Water Plant Waste Residuals**

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**Abstract**

In this study, inexpensive calcium carbonate obtained as a waste material from drinking water treatment plants was used as an adsorbent for phosphate removal and recovery from water. We found that the calcium carbonate absorbent has great potential for considerable phosphate sorption and the calcium carbonate associated phosphate can be used directly as an agricultural amendment (fertilizer) without further treatment. The adsorption behavior of phosphate on calcium carbonate was investigated *via* a series of batch experiments under different experimental conditions such as xxx. The phosphate adsorption kinetics were studied onto calcium carbonate at various loading rate of the adsorbent (0.1 - 2 g) from 5 min to 5 days. The results showed that adsorption of phosphate was time dependent. Particle analysis by scanning electron microscopy (SEM) showed that calcium carbonate (?) particles were porous, irregular shaped and aggregated in the range of 1 to 10 µm. X-ray powder diffraction (XRD) results confirmed that the phosphates were not incorporated into the calcite and dolomite crystal lattice.