

CESARE'17

*International Conference Coordinating Engineering for Sustainability and Resilience
Dead Sea, 3-8 May 2017*

Converting Low-grade Solid Wastes into Useful Products

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Keywords: Adsorption, Low-Grade Phosphate, Immobilization, Cobalt, Heavy metals

ABSTRACT

Utilization of solid wastes attracts the researcher's attention because it solves the environmental pollution problems, save the disposal costs and produce useful products that can generate profit. In this project, low-grade phosphates waste and immobilized low-grade phosphates particles were used to remove cobalt heavy metal from waste water effluent. The effect of pH, time, adsorption amount, concentration of cobalt, and particle size were investigated for both adsorbents. This study showed that the JLGP has high adsorption capacity towards the removal of cobalt ions from aqueous solutions. Results showed that the adsorption of cobalt ions onto JLGP increased as the amount of adsorbent, the surface area, the equilibrium PH and the ion concentration increase. On the other hand, results showed that the adsorption of immobilized low-grade phosphate waste was more efficient than that for non-immobilized waste.

*CESARE'17 – An International Conference
coorganised by the Schools of Engineering
of Jordan University of Science and Technology (JUST), the Aristotle University of
Thessaloniki (AUTH) and the University of Birmingham (UoB)*

