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Recovery of sludge of waste water treatment plant: case study of Guelma station

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ABSTRACT/RESUME

Abstract: *The analysis of metal contamination of Guelma station's sludge has been determined by X-ray fluorescence spectroscopy. It helped to identifythe following constituents: Mg, Al, Si, P, S, Cl, K, Ca, Ti, V, Cr, Mn, Fe, Ni, Cu, Zn, Ga, As, Br, Rb, Sr, Y, Zr, Mo, Mg, Cd, Ba, Lu and Pb. These elements represent 47.96% of the total mass of sludge. The indicator elements of pollution existence are: zinc, lead, copper, chromium and nickel. Their content in the sludge treatment plant of Guelma are respectively: 1.61 mg/g, 0.49 mg/g, 0.45 mg/g, 0.18 mg/g and 0.09 mg/g. The assessment of nitrate ions concentration, chemical oxygen demand (COD) and pH was obtained after extraction in aqueous solution. The analysis showed that filtrate contained 0.09 mg/g of nitrate that its COD was 0.72 mg/g and its pH was 7.01.*